A Political Push for Scientific Cooperation

Working groups established 2 years ago at the Versailles summit are playing an important political role in science policy matters

Paris. On 9 June, the leaders of the West's industrial nations informally took a small but significant step toward harmonizing their science and technology policies by endorsing the activities of the working groups* that have spent the past 2 years exploring plans for closer collaboration in fields ranging from nuclear fusion to fish farming.

The working groups had been set up at the prompting of French President François Mitterrand when he played host to the summit meeting in Versailles, France, in the summer of 1982. Much of the initial skepticism from the other six countries involved (Canada, Italy, Great Britain, Japan, West Germany, and the United States) had subsided by the time of last year's meeting in Williamsburg, when it was realized that Mitterrand's proposals, when stripped of their Gallic rhetoric, reflected a growing political undercurrent in favor of a greater integration in technology strategies (*Science*, 17 June 1983, p. 1252).

This initial impression has been confirmed over the past year. None of the working groups had any major achievements to announce to the London summit; nor had they all been equally successful. Nevertheless, sufficient progress, sometimes unexpected, has been made to convince all seven governments, as well as the eighth member of the summit group, the Commission of the European Economic Community, that the exercise is worth maintaining.

There is even talk of giving the projects' steering committee, which consists of top-level government science advisers, a more prominent role in international affairs. This could range from providing collective advice to heads of government to becoming a channel for negotiating international agreements on major scientific facilities, particularly where these might involve a trade off between different fields of research and different national aspirations (for example, between high-energy physics, fusion research, and space science). If this expanded role materializes, the group could well take over from other existing bodies—such as the Paris-based Organisation for Economic Cooperation and Development—as the principal international channel for science policy discussions in the second half of the 1980's.

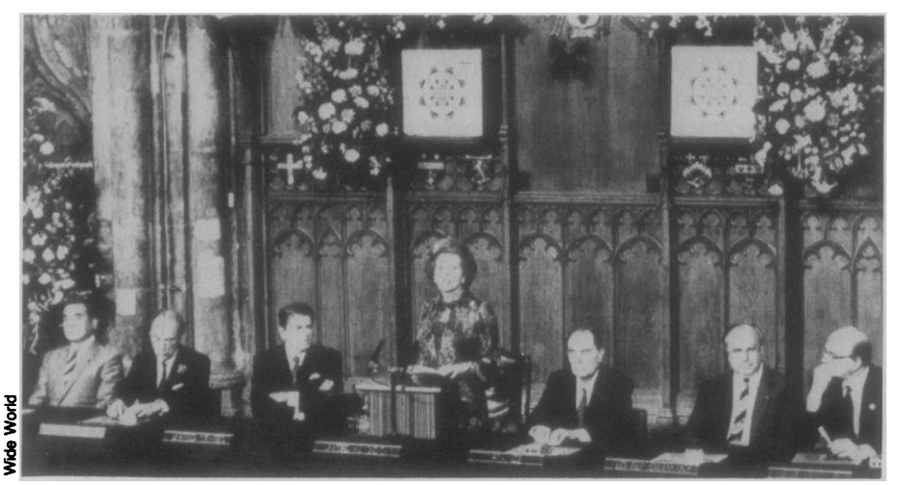
No one, however, is yet making such ambitious claims in public. "As far as the London summit is concerned, one should not exaggerate the importance of this group; the thing is perhaps a second order item, even if it has become a stable part of the agenda and seems to be appreciated by the heads of state," says Josef Rembser, head of the basic research and international cooperation section of the West German Ministry of Technology and Research, and Germany's representative on the steering committee. "Nevertheless, we in the German government appreciate very much the substantial, practical and realistic approach that working groups have taken," he adds.

Rembser's remarks are particularly significant in view of the fact that it was Germany, more than any other summit member, which expressed severe doubts about the whole project at the beginning. While sharing American concerns that the activities of the working groups might encroach on areas of technology felt to be primarily the responsibility of the private sector, German leaders were also suspicious of French enthusiasm for institution-building. These suspicions were fanned, for example, by a French proposal to the advanced nations to create a new international center for biotechnology and research, as well as the enthusiasm with which France is willing to take or share the lead in as many working groups as possible.

Over the past year, however, French expectations have been scaled down, at least in terms of practical innovation.

"We have to move step by step, dealing first with the easy tasks and then the more and more complex tasks," says Yves Stourdzé, director of the Center for the Study of Advanced Scientific and Technical Systems (CESTA) in Paris, which has been given the responsibility by President Mitterrand of tracking the progress of the project.

"An important aspect of this whole initiative, is that we have invented new concepts of management, based on simplicity, pragmatism, and substantial use of the telephone," says Stourdzé. "Sometimes the step approach is better



Wide World

Prime Minister Margaret Thatcher reading the final communiqué. It endorsed the work of the science and technology working groups and announced that a conference will be held in Italy next year on technological innovation and the creation of new jobs.

*The working groups with lead countries in parentheses are: Photovoltaic Solar Energy (Italy and Japan); Controlled Nuclear Fusion (United States); Photosynthesis (Japan); Fast Breeder Reactors (France and United States); Food Technology (France and United Kingdom); Remote Sensing from Space (United States); High Speed Trains (West Germany and France); Housing and Urban Planning for Developing Countries (France); Advanced Robotics (France and Japan); Impact of New Technologies on Mature Industries (France and Italy); Biotechnology (France and United Kingdom); Advanced Materials and Standards (United Kingdom and United States); New Technologies Applied to Education, Vocational Training and Culture (Canada and France); Public Acceptance of New Technologies (United Kingdom); Biological Sciences (EEC); High Energy Physics (United States); Solar System Exploration (United States).

than the elevator," he adds—a significant shift in tone from Mitterrand's first declarations (whose ambitions for the project were perhaps shared only by Italy), but one that has helped overcome initial resistance from other members of the group.

Several of the working groups have still to demonstrate their value. One is the group on fast breeder nuclear reactors, jointly led by France and the United States. It suffers from a relative imbalance in the strengths of these two countries—the French program is considerably more advanced—as well as growing uncertainty on both sides of the Atlantic over the future of fast breeders in a period of falling projections of demand for nuclear power.

Other working groups have been more fruitful. France and Japan, for example, are mapping out a substantial program of collaborative research and development into advanced robotics, to which both countries (as well as several others involved in the working group) are expected to make a substantial financial commitment. Britain and the United States have agreed on several joint projects in materials research. And the aquaculture group, headed by Canada, has provided its member countries with much information about research of which they were previously unaware.

The mutual exchange of information between national programs has, indeed, been one of the most productive outcomes so far, according to several of those involved in the working groups. Equally so have been various moves toward the standardization of techniques and practices, seen as an essential element in any attempt to harmonize technological strategies.

Thus a program on photovoltaics, which is headed by Japan and Italy, has made substantial progress towards the definition of a standard reference solar cell. While the effort in materials research, led by the United States and Britain, has resulted in an agreement for collaboration on methods and data for standards of wear testing and surface analysis.

In the long run, however, the main impact of the Versailles initiative is likely to lie in the role of political, as much as technical, factors in rationalizing international research, particularly in fields of big science where—despite much talk to the contrary—most research workers continue to think in nationalistic terms.

"If you left it to the technical people you would never get real collaboration," says one British official, claiming that the United States in particular tends to see international collaboration in terms of inviting foreign scientists to carry out experiments on American facilities.

George A. Keyworth, II, President Reagan's science adviser, puts it slightly differently. "We have seen enough cooperation occurring between scientists, and we have seen enough cooperation occurring between political leaders," he says. "It is now important to have synchronized actions between both of these sectors. In particular, we need to bring people into international programs, not just international projects."

One field where the need for top-level diplomacy is already being felt is high energy physics. Here the United States and western Europe would most like to build large new particle accelerators in the 1990's, but constraints of cost and brainpower are encouraging politicians to think in terms of closer collaboration (already being discussed in the area of superconducting magnets) rather than further competition.

Another is in fusion research. Here, again, politicians are arguing in favor of a jointly agreed strategy and an international division of labor designed to minimize the duplication of effort and maximize the use of limited scientific manpower, if not on a global basis (no one is currently talking seriously of giving the Soviet Union a major role), at least among the Western advanced nations.

In both cases, given the checkered history of international collaboration on

IBM's Bloch Named to Lead NSF

The National Science Foundation (NSF) will have its fourth director in four years when IBM executive Erich Bloch succeeds Edward A. Knapp, who resigned unexpectedly. President Reagan on 6 June, announced his intention to nominate Bloch, who was trained as an electrical engineer at the Federal Polytechnic Institute of Zurich and the University of Buffalo. Bloch, 58, joined IBM in 1953 and has been serving as vice president of technical personnel development since 1981.

In a statement commenting on Bloch's appointment, President Reagan's science adviser George A. Keyworth, II noted that Bloch's "long experience at IBM includes direction of R&D and large manufacturing programs and responsibility for the technical excellence of the personnel of one of the world's most technologically advanced companies. Those achievements are directly relevant to major issues that the Foundation is addressing today." Bloch will be the first director to come to the foundation from a career in industry and his selection could cause concern among some members of the scientific community who have begun to question whether the foundation may be putting increased emphasis on engineering and technology at the expense of its traditional support of basic research.

Knapp's departure came as a surprise to NSF rank and file, but close associates of Knapp at the foundation say that Knapp, a physicist, has for some time been considering a return to Los Alamos Scientific Laboratory (LASL) where he had been a researcher and administrator for a quarter century before coming to NSF. Knapp is said to feel that a longer absence might make it impossible for him to resume active work as a scientist. They say his departure is timed to permit the new director to participate in shaping the next NSF budget. Knapp is on a visit to Scandinavia, and NSF officials do not know when the changeover will occur.

The foundation in recent years has encountered difficulty in keeping its top management ranks filled. For most of Knapp's less-than-two-year tenure as director, the posts of NSF deputy director and four assistant directors that require presidential appointments were unfilled. The prompt announcement of Bloch's succession seems to be a result of his having been well along in the clearance process for appointment to the NSF deputy directorship. Senate confirmation is required for the director's post.

Knapp came to the foundation in September 1982 as assistant director for mathematical and physical sciences. He was named director two months later. He succeeded John B. Slaughter, who had spent less than 2 years in the job. Slaughter, who was tapped for the post by President Carter in July 1980, took over from Richard C. Atkinson, who served from the mid-1970's. The NSF director's statutory term is set at 6 years.—**JOHN WALSH**

big science projects, research workers frequently express a preference for doing things nationally. Thus any rationalization is likely to be the result of pressure from the top—and the Versailles working groups, with their direct access to heads of government, currently appear the most appropriate channels through which such negotiations might be successfully carried out.

As for harmonizing standards, this is already proving easier to achieve in some fields than in others. One of the more straightforward is expected to involve agreement on common questions to be used as the basis of internationally comparable opinion surveys designed to assess public reactions to new technologies.

The working group addressing this topic was set up at the personal suggestion of British Prime Minister Margaret Thatcher during a brief brainstorming session at the Versailles summit. Despite some initial skepticism, substantial interest has already been shown by several other countries—particularly those from Europe, which is more politically sensitive than the United States to the social impacts of rapid technological change—and the largest of three British projects funded by the Department of Trade and Industry, that based at the Technical Change Center in London, is already drawing up a list of topics that might be used as the basis of an international survey.

Where commercial pressures between countries are nearer the surface, collaboration becomes more difficult. Such, for example, has already been the case of the working group in high-speed trains, led by West Germany and France.

Earlier this year the group held a well-attended meeting with representatives from several neighboring European countries at which the possible shape of a future high-speed passenger network in northern Europe—perhaps including even a tunnel link between England and France—was closely examined. Both these countries, however, have already made substantial R&D investments in their separate designs for advanced passenger trains, both are locked (with Japan) in highly competitive bidding for markets in the United States and elsewhere, and both are, in consequence, highly resistant to suggestions that they should pool their long-term research efforts.

It has been the reverse with the working group on advanced robotics. Here, French engineering experience and Japanese electronics are being linked together in a program aimed at eventually producing third generation "intelligent" robots suitable for working in hostile environments ranging from fires (in which the United States is said to have shown some interest) to the insides of nuclear power stations.

Those responsible for the Versailles initiative 2 years ago now feel sufficiently confident of the experience they have gained to venture into deeper water. One field which has so far received little attention, but which several governments are keen to receive more, is the environmental impact of new technologies. The final report of the Versailles group on its 1983–84 meetings, which was presented to the London summit, suggested this should receive closer attention in the future.

More controversial is the thorny question of commercial and military pressures to reduce the international flow of scientific information. This, too, is recommended for further examination, although here less in the expectation of any significant recommendations emerging from the group than in recognition of the need for a high-level forum at which different points of view can be expressed and critically analyzed.

There remains criticism of the groups' activities. Some point out that, although a few countries outside the summit group have joined some of the working groups (Austria, for example, is collaborating on the robot project), the club remains relatively elitist, with Third World countries getting little more than a nominal look in. Others complain that the internationalization of science policy in this way threatens to weaken legitimate national points of view, not all of which can be accommodated in the "variable geometry" which, according to CESTA's Stourdzé, is the principle on which the working groups operate.

Yet 2 years after the Versailles summit, as one British official puts it, "the amazing thing is that it is still there." And it is this continued existence which appears to confirm Stourdzé's claim that, for good or for ill, the initiative continues to look like "an idea whose time has come." —**DAVID DICKSON**

Lab Break-In Stirs Animal Welfare Debate

The theft of videotapes could further divide biomedical researchers and animal welfare activists

Over the Memorial Day weekend, five people representing the Animal Liberation Front (ALF), a loosely organized group of animal rights activists, broke into a laboratory at the University of Pennsylvania Medical School, damaged equipment, and stole 33 videotapes documenting head injury experiments involving baboons. Animal welfare groups have lodged complaints with the Department of Health and Human Services (HHS) alleging animal mistreatment by the Pennsylvania researchers. From a public relations standpoint, some scenes on the tapes—which were made for documenting the research, not for public viewing, range from embarrassing to disastrous.

This incident could further polarize the debate about the proper use of animals in research, possibly undermining the efforts of more moderate representatives from animal welfare groups to appeal widely to biomedical researchers. A sense of this polarization—and the frustration it is causing—became apparent during the recent meeting of the advisory committee to the director of the National Institutes of Health (NIH).

The meeting, which had been scheduled months in advance but followed the incident in Philadelphia by a few days, was devoted to a discussion of the use of animals in research. NIH officials described current efforts to amend guidelines for the care of research animals (*Science*, 27 April, p. 364). Although an effort was made to avoid focusing on the incident at Penn, it became a recurrent theme during the meeting, with reseachers outraged at the theft of data and destruction of valuable equipment, and animal welfare activists angered over the use of animals in experiments that of necessity produce injuries.