Soviet–U.S. Science Agreements: Press Presides over Reappraisal

The first Soviet–U.S. agreements for cooperation in science and technology were products of the Nixon-Brezhnev summit meeting of 1972 which gave rise to détente. In the mood prevailing then, the bilateral agreements were seen as a modest start toward building a new spirit of cooperation between the superpowers. Now, 5 years later, the atmosphere has changed, and with their 5-year terms expiring this month, the four original agreements are being scrutinized to determine how well they have served their political and scientific purposes.

Despite the dimming of détente, any possibility that this scrutiny will lead to termination or harsh curtailment of the agreements can be discounted. A decision has been made in both the White House and the Kremlin that continuing the agreements is in the political interests of the respective parties. In fact, two of the agreements—in medical science and public health and in environmental protection—contained automatic renewal clauses which have already effected 5-year extensions. These clauses provide for extensions for successive 5-year periods unless one party notifies the other of termination at least 6 months before the agreement expires; thus the Ford Administration passively picked up the option. A third agreement, for cooperation in space, which does require specific action for renewal, was signed by Secretary of State Cyrus Vance and Soviet Foreign Minister Andrei Gromyko on 18 May in Geneva, so the Carter Administration has also endorsed extension.

Still awaiting action is the agreement on cooperation in science and technology (S & T). Formal renewal of the S & T agreement is expected at a meeting of the joint Soviet–U.S. commission on the agreement tentatively scheduled for early July. The S & T agreement is regarded as the "umbrella agreement" since it provided a model for the other agreements and was an incubator for several projects which later became the subjects for separate agreements. A total of 11 agreements are in effect.*

The S & T agreement is also viewed as the most sensitive of the lot because it is a general-purpose agreement under which the Soviets are most likely to secure the transfer of sophisticated U.S. technology in which the Soviets are assumed to be most interested.

One criticism frequently heard in the United States since the cooperative programs were initiated is that, because the United States has a lead over the Soviets in many fields of science and technology, the Soviets are getting much more than they are giving in the bargain. The question of an unbalanced exchange has attracted considerable attention in Congress and is high on the list of issues being asked in the Executive.

The main responsibility for assessing the scientific content of the agreements has been assigned to Frank Press, the President's science adviser and director of the Office of Science and Technology Policy (OSTP). While it is being assumed that the S & T agreement will be extended, Administration officials are now stressing that extension of the agreements does not preclude negotiation with the Soviets on how participants will operate under the agreements. On the American side, in fact, changes are likely in matters of management and funding, and it appears that there will be some initiatives from the United States for changes in the terms under which the cooperative programs are carried out.

For background, Press and his staff have been able to draw on congressional hearings on the bilaterals, on reports on specific programs done for the State Department and National Science Foundation, and, most recently, on a Congressional Research Service (CRS) study on the subject. The congressional research study was done for the House Committee on International Relations and titled "Technology transfer and scientific cooperation between the United States and the Soviet Union: A review."

The main focus of the OSTP study so far has been the S & T agreement. A major source of information and counsel for Press is likely to be a study on the S & T agreement commissioned by Press from a National Research Council group headed by IBM physicist Richard Garwin. For this "quick response study" being carried out for the Board of International Exchange of the NRC's Commission on International Relations Garwin's group has had access to material developed by an NRC panel headed by Carl Kaysen, now at MIT, which is reviewing the scientific exchange activities between the U.S.S.R. Academy of Science and the U.S. National Academy of Sciences over the past 18 years. The exchange programs between the academies are quite distinct from the intergovernmental agreements initiated in 1972. The Kaysen group is scheduled to complete the 2-year study in June.

The Garwin study makes heavy use of interviews from a substantial sample of American scientists who have participated in programs under the bilateral agreements. The interviewers offered anonymity in exchange for candor, and the report and its recommendations have a pithy, almost breezy style unusual in reports originating in the NAS.

On the big question of whether the agreement should be renewed, the Garwin panel shows no equivocation. In a summary of its recommendations the following leads the list:

> *Continuation of the Agreement.* In view of the positive benefits and real interaction evident in some of the projects under the Agreement, of the intangible and unevaluated (but widely felt) nonsubstantive benefits commented upon by the participants, of the benefits unevaluated by us from the ten other bilaterals in part inspired by this Agreement and from the direct contacts through Agreements made under Article 4, (which includes provision for participation by U.S. industry) the Agreement should be renewed. Some modification in structure and procedure are recommended to improve the cost-effectiveness to the United States.

Criticisms by American scientists of the operation of the bilaterals are essentially the same in the Garwin group report and the CRS study, which has a section that reviews material from hearings, agency reports, and other available information. U.S. participants complain about delays in communication with their Soviet colleagues and about mismatched delegations. Those who have done cooperative research in the Soviet Union report entanglement in red tape in Soviet labs, shortages of equipment, and obstacles to meeting particular Soviet scientists who may be logical participants in a project.

The Soviets seem chronically reluctant to make commitments for the participation of individuals rather than of institutions in projects, and sometimes deny Americans access to leading research facilities. Failure of the Soviets to provide information regarded as essential by American participants is cited by those working under the agriculture agreement and by others.

*In addition to those mentioned there are agreements in agriculture, atomic energy, energy, housing, ocean studies, and transportation. An artificial-heart agreement was combined with the medical science and public health agreement.

The impact of human rights issues on the agreements is not evaluated in either report, although the CRS study does cite the congressional testimony of the Federation of American Scientists and includes comments drawn from questionnaires circulated by the Committee of Concerned Scientists in 1974 and 1975. The CRS report notes a level of dissatisfaction in the questionnaires that is higher than had been registered in other responses. It suggests that "One reason is that much of the bitterness that pervades the responses of these questionnaires relates to the Soviet emigration policy with respect to Jewish scientists, and its use of psychiatric institutions for detention and punishment."

Soviet reactions to the operation of the agreement are not conveyed in the reports in any detail, but the Russians do have some complaints of their own. Soviet participants, for example, are known to be disappointed to find themselves sometimes dealing with U.S. government scientists and science administrators or American academic research-

Carter Places Environment High on Agenda

The most remarkable thing about the environmental message that President Jimmy Carter sent to Congress on 23 May lies in his apparently strong commitment to the protection and enhancement of the environment in the face of all of the other demands for his attention. The environmental movement came on strong in the late 1960's and crested in the early 1970's, resulting in the enactment of such major legislation as the National Environmental Policy Act and the clean air and clean water acts. In more recent years, however, the environment quite clearly lost its place at the top of the governmental agenda to competing and sometimes conflicting concerns, such as those over jobs, inflation, and national energy needs. But, now, from his message outlining the environmental measures he seeks of Congress or intends to bring about through use of his presidential powers, it is clear that President Carter has rearranged the agenda so as to make environmental quality again a matter of top priority.

Some politically potent demands have been made for the President to call for an easing of a number of the requirements set forth in existing environmental laws. For instance, the National Commission on Water Quality, which was headed by former Vice President Nelson Rockefeller, last year recommended that the requirement that all industries install the "best available [abatement] technology" by 1983 be dropped as not cost-effective. But, in his message to Congress, the President not only expresses strong support for this requirement but announces that he seeks authority to impose an economic penalty on industries that fail to meet abatement schedules. Also, he would have Congress provide $45 billion over the next 10 years to enable municipalities to complete the job of building sewage treatment works.

In his energy message of 20 April, the President declared that, although a two-thirds expansion in the mining and burning of coal by 1985 was one of his major objectives, the utilities must nevertheless live up to the Clean Air Act's requirement that scrubbers or other "best available technology" be installed in all new coal-fired plants. This policy, along with the President's commitment to strong strip-mining legislation, is restated in the environmental message. It is of course bitterly resisted by many people in industry and in Congress.

Also, in keeping with new laws governing the leasing of federal coal and management of public domain lands, the President is insisting that no more federal coal be leased in the absence of land use plans and environmental assessments showing that the impact of the mining will be acceptable. In addition, he is calling on the Department of the Interior to review ways to prevent severe environmental damage resulting from development of the 16 billion tons of federal coal already leased. Interior is to consider measures such as possibly canceling or condemning some leases on environmental grounds and exchanging certain coal lands where mining would be environmentally unacceptable for other lands where it would be less of a problem.

Furthermore, Interior is directed to prepare a comprehensive report on the water demands associated with the production, transportation, and use of coal and other fuels, and on the environmental effects of the projected water use. Similarly, the Environmental Protection Agency, the Energy Research and Development Administration, and the Department of Health, Education, and Welfare are directed to undertake a joint study of potential health problems that could arise from coal conversion technologies.

In the case of outer continental shelf (OCS) oil and gas development, the President has, without waiting for Congress to finish amending the OCS Lands Act, asked Interior to take various steps—such as sketching out lease sale schedules and cooperating more fully with state and local governments—to ensure that environmental values are taken into account in the frontier areas of the OCS.

The environmental message, a 36-page document concerned with a wide array of problems and objectives, is not easily summarized. The President clearly regards environmental protection as consistent with a sound economy, for he says as much. Also, he looks more to the effective implementation and enforcement of existing laws than to the enactment of new ones. With respect to the control of toxic substances, for example, he calls for the Council on Environmental Quality (CEQ) to lead an interagency effort to design a coordinated strategy.

The message does not ask Congress to plunge into any old or new areas of great controversy, such as comprehensive national land use legislation. But the President does call for ambitious additions to the national systems of parks, wilderness areas, wild rivers, and trails. Moreover, he announces that four important new Executive orders are to be issued. Two of these orders will discourage federal or federally assisted projects from encroaching upon floodplains or wetlands. Another order will direct Interior to keep off-road vehicles off of public lands where "considerable damage" will result. The fourth order enhances the role of the CEQ by giving it authority to issue mandatory regulations—not merely the advisory guidelines it has issued in the past—which other agencies must follow in preparing environmental impact statements and carrying out other requirements of NEPA.

Some of these measures met with opposition within the Administration, but, in general, opposition was light. It seems that, by and large, the various agencies—and even the Office of Management and Budget—have got the word that the man in the White House is an environmentalist.

—LUTHER J. CARTER

ers whom they regard as less expert in some areas of technology than scientists and engineers from U.S. industry.

Problems of funding on the American side are always mentioned by commentators on the agreements. From the beginning, activities by American scientists and administrators have been financed by transfers of funds within agency budgets. This has put the financial burden of providing hospitality to visiting Soviet scientists on their American hosts. And the costs of travel by Americans to the Soviet Union has depleted slim travel budgets of U.S. agencies. Strongly recommended is the conversion of costs of implementing the agreements to line-item status in the budget so that funds can be appropriated specifically for these costs. One of the sources of the difficulty has been that the bilaterals were established by Executive agreement and were never transmitted formally to Congress for approval and subsequent formal oversight.

In assessing the pros and cons of the agreements from the U.S. standpoint, it is necessary to take into account Soviet attitudes and goals and whether they have changed. One section of the Garwin panel report written by Loren Graham of Columbia and titled "Speculative analysis of the Soviet perception of the S & T agreement" offers a perspective on the question. At the outset, the Soviets were perceived to be primarily interested in being on the receiving end in the transfer of U.S. technology. The main U.S. interest was in cooperation in fundamental science. Soviet policymakers believed that U.S. industry, which controlled technology, would seize the opportunity provided by the agreements to make sales of technology. As it turned out, although some 50 U.S. companies have signed letters of intent and there has been some commercial activity outside the agreement, virtually no significant transfer of technology has occurred under the aegis of the bilaterals. This is ascribed by some to U.S. government controls on the export of technology which might strengthen Soviet military capabilities, but others note that industry was reluctant to sell technology which could make the Soviets direct competitors in world markets, particularly when Soviet problems with foreign currency made them unwilling to pay what U.S. sellers regarded as adequate prices.

Most observers feel that the original political attitudes which made the agreements possible 5 years ago continue on both sides. Soviet leaders are thought to see economic cooperation with Western nations, including the cooperative agreements on science and technology with the United States, as necessary in improving the performance of the Soviet economy. The main U.S. motive is seen as the belief that cooperation with the Soviets will reduce tensions between the two superpowers and promote international stability. In former Secretary of State Kissinger's phrase, the agreements will provide "incentives for restraint."

While the basic decision that the agreements continue to be politically worthwhile to the United States has been made, there appears to be serious purpose behind the effort headed by Press to assure that the agreements are not only "mutually beneficial," as the wording of the preample of the S & T agreement puts it, but that the scientific and technical benefits to the two countries be roughly equal. What the advisers recommend is not a demand for "microequality," that is, balanced returns on every project or agreement, but "macroequality," that is, rough parity of benefits when all the agreements are considered.

To achieve this end would require much better coordination of negotiation and decision making on the American side than has been the case. Implementation of individual agreements seems to have proceeded in a decentralized, often rather ad hoc fashion. One strong criticism of the bilaterals here has been that a U.S. "national strategy was lacking." It seems virtually certain now that Press will be made responsible for coordinating the Soviet–U.S. bilaterals. And the present assessment being conducted by his office is a necessary first step in getting the agreements under better control.—JOHN WALSH

Daddario Resigns Abruptly from OTA

Emilio Q. Daddario, the former Congressman who has served as director of the Congressional Office of Technology Assessment (OTA) since it began functioning some 3½ years ago, has unexpectedly announced his intention to leave the troubled agency by 1 July.

In an 18 May letter to the Technology Assessment Board, the OTA's governing body, Daddario noted that the pending completion of several OTA projects by 1 July "brings to an end the first phase of OTA activity which has been of a building and exploratory nature. I had always planned to leave OTA when that period of evolution had been reached."

But the announcement caught even the closest observers of the agency, which advises Congress on technical issues, by surprise. "He always said he would not serve out a full six-year term," commented one veteran OTA staffer. "But the timing of his announcement was unexpected."

The abruptness of Daddario's decision led to speculation that there may be more to the resignation than has been revealed. One theory was that Daddario may have gotten another job offer which was too good to refuse. A press release issued by OTA says simply that Daddario "expects to make an announcement about his plans in the near future."

A second theory was that Daddario may have bailed out—or been pushed out—because of repeated criticisms over the past year of OTA's performance. Congressional staffers who work for four key legislators on the OTA board insist that neither the board nor its chairman, Senator Edward M. Kennedy (D–Mass.), asked Daddario to resign. But whether the incessant sniping chased Daddario out is not clear.

Daddario, who is currently president of the AAAS, failed to return repeated phone calls from *Science* over a 2-day period. His staff said he was tied up in meetings and speech-giving.

During his years of stewardship, the agency has been the target of critical evaluations from the first chairman of its own advisory council (Harold Brown, currently secretary of defense); the House Commission on Information and Facilities; and the Commission on the Operation of the Senate. Its management has been defended by Representative Olin E. Teague (D–Tex.), who chaired the OTA board last year. Still another evaluation, requested by Kennedy, is about to start under the auspices of OTA's advisory council, which is now headed by Jerome Wiesner, president of MIT. The target completion date is this fall.

Some OTA staffers feel they are being investigated to death.

—PHILIP M. BOFFEY