Preliminary Agreement Reached on U.S.-Soviet Space Cooperation

High-level U.S. and Soviet negotiators, meeting in Washington, D.C., during the week of 27 October, have settled on the framework for a new bilateral agreement on space cooperation. The agreement has no formal status as yet. However, President Ronald Reagan and Soviet General Secretary Mikhail Gorbachev are expected to sign it some time in 1987—if and when they ever meet again for a summit conference.

A new bilateral agreement would revive a tradition of U.S.-Soviet space cooperation that has been in limbo since 1982, when the Reagan Administration refused to renew a previous agreement in protest against the imposition of martial law in Poland. Informal exchanges have continued since that time on a scientist-to-scientist basis, as when several U.S. scientists were invited to participate in the Soviet VEGA mission to Halley's comet. But without a formal mechanism, say researchers, such exchanges are limited and ad hoc at best.

The Washington document accordingly identifies 16 space activities where cooperation would be useful. For example, Soviet researchers might be included in the scientific teams for the U.S. Mars Observer mission, now scheduled for the early 1990's, while U.S. researchers could likewise be included in the science teams for the Soviet Mars/Phobos and Mars/Vesta missions, which are planned for about the same time. Other proposals include a coordinated study of Venus; the use of the U.S. Deep Space Network to track Soviet spacecraft; and the exchange of medical data gathered from Mir/Salyut and space shuttle flights.

What the agreement does not have, however, is any reference to new missions—certainly nothing on the scale of the 1975 Apollo-Soyuz Test Project. As one observer points out, the agreement was "as bland as they could make it." In part this was because the U.S. negotiators had no authority to talk about missions that have not yet been approved. Thus, for example, they had to reject a Soviet proposal for a joint, unmanned mission to return a sample from the surface of Mars. But the blandness also reflected the Defense Department's concern that a joint space mission might create unacceptable technology transfer problems. Indeed, some officials at the Pentagon remain bitterly opposed to any kind of space cooperation, on precisely these grounds. On the other hand, the Defense Department was represented on the U.S. negotiating team, and has agreed to the final document; officially, at least, the technology transfer objection has been put to rest.

Reagan's interest in U.S.-Soviet space cooperation was apparently kindled on 30 October 1984, when he enthusiastically signed a Senate resolution on the subject sponsored by Senator Spark Matsunaga (D–HI). In July 1985, Secretary of State George Shultz accordingly raised the subject with Soviet Foreign Minister Eduard Schevardnadze. By July 1986, after a cool initial response, the Soviets had warmed to the idea and were ready to talk. In September, General Lew Allen, director of the Jet Propulsion Laboratory, took a technical delegation to Moscow to help lay the groundwork. And in October, the final negotiating teams were led by John Negraponte, assistant secretary of state for oceans and international environmental and scientific affairs, and Alexander Piradov, ambassador-at-large from the Soviet Ministry of Foreign Affairs.

Although the current agreement does nothing to address the question of new joint missions, many space scientists are hopeful that, once it is signed, it will provide a framework for more ambitious plans. The National Aeronautics and Space Administration, for example, has begun some preliminary studies for a joint Mars sample return mission with minimal technology transfer. In any case, Roald Sagdeyev, director of Moscow's Institute of Space Research, has said publicly that he wants to have a Mars sample return by the end of the century. As one U.S. scientist says, "Sooner or later, some Administration is going to *have* to consider a Mars sample return." ■

M. MITCHELL WALDROP

Overseas Field Tests Under Fire

Reports of American scientific involvement in field tests of recombinant animal vaccines conducted overseas are stirring up the debate in government and scientific circles over regulation of biotechnology. The Pan American Health Organization (PAHO), aided by the Wistar Institute of Philadephia, in July began a test of a recombinant rabies vaccine in Argentina. And two Oregon State University researchers in April started tests in New Zealand of a prototype method for constructing an array of animal vaccines. The two experiments appear to have been successful.

The plans for conducting the tests abroad also were cited in various publications, and the experiments are generally considered to have posed little risk to animal and human populations. However, the tests have aroused controversy because they come at a time when American regulators and scientists are grappling over regulations governing field testing of genetically altered organisms and plants. Two fundamental questions related to the application of genetic engineering techniques in agriculture remain unresolved: what constitutes a "release" of an organism into the environment; and when is an engineered organism considered "contained" for experimental purposes?

The Argentine test sparked protests largely because neither PAHO nor Wistar obtained explicit approval from the Argentine government before proceeding. The Oregon State University experiment, which was okayed by the New Zealand government, was conducted overseas because of the regulatory uncertainty that has plagued agricultural applications of biotechnology in the United States.

The Boston-based Committee for Responsible Genetics has charged that the two overseas experiments represent an effort to circumvent domestic regulations. The accusation was leveled on 13 November at a committee-sponsored conference devoted to setting a political agenda for biotechnology regulation. A House science subcommittee on investigations and oversight is considering holding a hearing next month to examine the controversy.

David T. Kingsbury, an assistant director at the National Science Foundation and head of the federal government's effort to coordinate regulation of biotechnology, has criticized Wistar and PAHO for not informing the Argentine government about the experiment until after it had begun. Kingsbury further speculated that regulations in the United States may be forcing researchers to conduct experiments overseas.

But Warren Cheston, Wistar's associate director, says Kingsbury's speculation, which appeared in the *New York Times*, "just is not true." U.S. rules governing the conduct of biotechnology experiments never were a factor in Wistar's decision to join in the experiment, Wistar officials say. The test was conducted in Agentina, Cheston says, because of interest expressed by health officials there and the high incidence of rabies in cattle in the region. Relatively few cows