Disarmament on the Moon: The Prospects Look Good

Now added to the "races" that have long characterized American-Soviet relations—the moon race and the arms race—is a new game that might be called "the moon-peace race." After successful landings of the Russian Luna and the American Surveyor spacecraft, and with manned landings on the moon now in sight, the two countries are suddenly in friendly competition to take the prize for initiative and agreeableness in negotiating an international treaty on peaceful exploration of the moon and other celestial bodies.

Within the last few weeks the U.S. and the U.S.S.R. have submitted draft moon treaties to the United Nations, and discussions are scheduled to begin in Geneva in mid-July under the auspices of the legal subcommittee of the UN Outer Space committee. Sovietology, which might be partly defined as looking for trouble in the most innocuous reaches of Soviet policy, is an ingrained habit among American diplomats: it is hard for them to believe that there is no trick. But in this case the similarities between the American and the Russian proposals are great, and even diligent pessimists have been unable to turn up any real cause for alarm. Accordingly, expectations are high that a moon treaty may be negotiated successfully in relatively short order.

The draft submitted by the United States sets out several areas of "moon policy." The basic principle is that the moon and other celestial bodies should be free for exploration by all and not subject to claims of national sovereignty. The draft stresses freedom of scientific investigation and international scientific cooperation, and provides for prompt publication of scientific findings through the United Nations and through regular public and professional channels.

Concerning the crucial question of military activities in space, the U.S. draft states that "no State shall station on or near a celestial body any nuclear weapons or other weapons of mass destruction." A related article says that "Celestial bodies shall be used for peaceful purposes only. All States undertake to refrain from conducting on celestial bodies any activities such as the establishment of military fortifications, the carrying out of military maneuvers, or the testing of any type of weapons." The article adds that "The use of military personnel, facilities or equipment for scientific research or for any other peaceful purpose shall not be prohibited," and another section guarantees that "all areas of celestial bodies, including all stations, installations, equipment, and space vehicles on celestial bodies, shall be open at all times to representatives of other States conducting activities on celestial bodies."

Other sections of the proposed treaty, presumably of more interest to lawyers than to scientists, provide guarantees of national authority over space facilities and personnel, and authorize mutual assistance between astronauts of different nationalities. Finally there is a pledge to "take steps to avoid harmful contamination of celestial bodies and adverse changes in the environment of the Earth resulting from the return of extraterrestrial matter."

Soviet Proposals

The Soviet draft of the proposed treaty makes most of the same points. There is far less emphasis on freedom of scientific information. There is no provision that parallels the U.S. proposal for open inspection of space facilities. There is considerably more emphasis on details of national authority over space vehicles and on liability. There are many rhetorical differences accounted for chiefly by the fact that the Soviet draft refers to outer space while ours is limited to celestial bodies. But on the basic issues—what is and is not prohibited, what the ground rules for space exploration are to be—the proposals are the same.

The rhetorical differences are unlikely to raise any real obstacles in negotiation, principally because the Soviet rhetoric is taken—in many cases literally—from previous declarations of the UN General Assembly that the United States has already acknowledged as having the force of law. Whether this is technically true is not clear; international law tends to be fuzzy in any case, and the only specific international agreements governing space are those dealing with the allocation of radio frequencies and the prohibition (under the limited test-ban treaty) of high-altitude nuclear explosions.

While the "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space" was under negotiation at the United Nations in 1963, the United States and the Soviet Union encountered some real difficulties. The Russians proposed, for instance, something like an international veto of national space activities that appeared likely to alter or affect the space environment—such as the U.S. Project Westford, which was causing much consternation in scientific circles about that time. They proposed that space activities be carried out only by states—precisely during development of America's privately owned Communications Satellite Corporation. And there were a number of other points on which American-Soviet differences seemed intractable (*Science*, 10 May 1963). What finally emerged as the UN Declaration of Principles was a solid residue of mutual agreement to which both sides could comfortably subscribe. Thus when the phrases reappear in the new Soviet treaty they pose no new difficulties. "There are no surprises in their proposal," commented one U.S. diplomat. "There is nothing in it we can't buy."

The basic point about the moon treaty is that, in effect, it merely ratifies an existing situation. There are Air Force generals around—presumably on both sides—who want to orbit bombs and set up bases in space. But, as one observer put it, "McNamara has already run it through his machines and found out it doesn't pay." The United States is evidently not going to do it. The obverse is also true: the proposed treaty does not appear to prohibit what we are going to do—continue using space vehicles for intelligence and reconnaissance activities. "I don't know of any military space programs that would be affected by the treaty," commented one official of the civilian space agency. "If they were talking about demilitarizing the seas, that would be another story."

The closest analogy to the moon treaty is the Antarctic Treaty, signed in 1959. There the precedent of peaceful

cooperation in scientific discovery was already well established and the possibilities of military exploitation were not very inviting. The treaty—which pledged continued cooperation, banned nuclear explosions and enlargement of territorial claims, and granted inspection rights to all parties throughout the Antartic—gave the status quo a new legal framework.

One question raised by the moon treaty is whether it could play a positive role in encouraging United States–Soviet cooperation in space. On the American side, at least, leading officials of the space agency appear to be doubtful. The Soviet space program has been carried on in an atmosphere of secrecy in sharp contrast with America's rather gaudy public displays. United States space scientists report a fairly free exchange of basic scientific data with the Russians at international meetings and through other channels, and considerable freedom is also evident when the subject at hand is theoretical. In the hard matters of technology and instrumentation, however—matters very largely inseparable in this field from the substance of discoveries—the Russians evidently have not been free to talk. (There is some speculation among our researchers that the Russian effort may be compartmentalized in a way that prevents the basic researchers from becoming too familiar with the technical side.)

There are a number of specific, limited areas of Soviet-American cooperation in space, but these—in the view of some American officials—have been either relatively unsuccessful or extremely limited. An example of partial failure is a planned cooperative system of meteorological satellites meant to provide extensive advance knowledge of global weather patterns. A subsidiary part of the 1963 agreement, providing for exchange of conventional weather data by a Washington-Moscow teletype, has now been implemented, but the Russians have apparently given the satellite system itself a low priority; in any event they have not yet orbited the satellites (*Science*, 5 April 1963). An example of limited success is the planned publication of a joint volume on space biology and medicine; U.S. space officials are pleased with the plans for this work and believe it will be of some value. But, they add, it is basically a codification of existing data —not a breakthrough in cooperative discovery.

When all is said and done, the answer to the question "Why bother with a treaty that asserts no new principles and offers no more intensive scientific collaboration?" appears to be "Why not?" There is considerable speculation about the reasons for the Russians' apparent eagerness to sign a treaty. Some State Department officials believe that the Soviet display of goodwill is an effort to show that their recent overtures to De Gaulle (which included showing him some scientific and space facilities hitherto closed to Western visitors) were not meant as an implicit snub to the United States (*Science*, 1 July 1966). Others believe that their interest in a treaty is somehow related to their relations with China—in some mysterious way that no one quite understands. Beneath the efforts being expended on the moon treaty appears to be the hope that negotiations on easy questions will build up a backlog of trust and experience for negotiations on harder ones. Thus, if the moon treaty will not give the scientists any more options, it will help keep the diplomats in practice.

—ELINOR LANGER

Social Sciences: Problems Examined by Senate Panel

The intensive soul-searching among social scientists provoked by the cancellation a year ago of project Camelot not only continues but is being strongly encouraged by the U.S. Senate's new Subcommittee on Government Research. Camelot has been defended as a straightforward study of political instability in Latin America and elsewhere, but it foundered on suspicion and controversy engendered at least in part by the fact that it was sponsored by the U.S. Army (*Science*, 10 September 1965). The news in April that, in the late 1950's, a Michigan State University project in Vietnam for the training of police and public officials was used as a cover by agents of the Central Intelligence Agency has intensified consideration of what is proper and what is improper in academic-government relationships in this country and abroad.

Shortly after the disclosures about CIA and Michigan State, Senator Fred R. Harris of Oklahoma, in a speech before the Oklahoma state convention of the American Association of University Professors, assailed the CIA and said that that agency should be forbidden to use any university project as a cover for its activities. "Social and behavioral science research in foreign countries can be very helpful to this and the host country in the formation of policy, but in many instances it is already suspect and under attack in the host country because it is thought to be some part of the United States' military or espionage activities," Harris said.

The CIA has provided a fine target for many a member of Congress, and to Harris, a 35-year-old freshman senator still searching for a strong public identity, it may have seemed fair game. However, as chairman of the Government Research Subcommittee, Harris has just begun a series of hearings indicating more than a passing interest in the problems of the social and behavioral sciences, both domestically and overseas.

The Harris subcommittee, which was established only last August, conducted hearings 27 and 28 June on the problems associated with social science research abroad and what the government should do about them. It heard the testimony of several officials of social and behavioral science groups—namely, the American Political Science Association, the American Psychological Association, the American Anthropological Association, and the American Sociological Association. Among others testifying were the chairman of the Committee on Behavioral Sciences