Moscow Signal Is No Death Ray but Still Cryptic

New darkness has been shed on the mystery of the Moscow signal, a microwave beam that for more than 25 years has bombarded the American embassy in Moscow. A study released by the Senate Committee on Commerce, Science, and Transportation only increases the uncertainty as to the signal's purpose.

The signal is very weak, and for a long time American authorities seem to have done nothing about it. Its weakness, and irregular frequency, seemed to rule it out both as a jamming mechanism and as a means of activating eavesdropping devices inside the embassy. The signal stopped at the end of April this year, in what might have been a gesture to improve relations before the present Carter-Brezhnev summit meeting, but could presumably resume afterward.

Public interest in the Moscow signal began in 1972, when its existence was announced by columnist Jack Anderson. Then came the Fisher-Spassky chess match in Reykjavík, and the Russians accused Fisher of zapping their losing champion with electronic (presumably microwave) apparatus hidden in his special chair.

People began to wonder if the Russians weren't trying to do to the American diplomats in Moscow what they accused Fisher of doing to Spassky. Attention was drawn to the large corpus of Russian and East European scientific studies claiming that small doses of microwaves induce irritability, fatigue, loss of libido, and other debilitating effects known collectively as asthenic syndrome. American scientists had not ignored the Slavic findings but by and large were unable to confirm them.

This was little consolation to the staff of the Moscow embassy. Having been kept in the dark so long about the existence of the microwave signal, they were not particularly inclined to accept the State Department's assurances that the beam presented no threat to health.

Feelings ran high among the American citizens on Tchaikovsky Street. To soothe them, the State Department was obliged in 1976 to discover that Moscow was an unhealthy posting, rating a 20 percent salary increase, and to install aluminum screens on the embassy windows to cut down the microwaves.

Unfortunately these attempts at pacifying the staff only increased suspicions that the Russian microwaves were indeed playing havoc with the diplomats' concentration span or bodily well-being. The suspicions were not laid to rest by news that the U.S. government had secretly investigated the possible health effects of the Moscow signal in 1965. The State Department mounted a "Moscow Viral Study" of embassy employees, the real purpose of which was to look for microwave-induced chromosome damage. According to the Senate committee's report, the study was poorly executed, and left the State Department no better able to say that there were or were not any health problems with its Moscow staff.

The Defense Department also started to study the Moscow signal, code-naming its efforts Project Pandora, doubtless because of the possibility that it would open a whole can of worms. The problem had to do with microwave safety standards, a subject of intense interest to operators of powerful radar installations, such as the Air Force, as well as to the makers of telecommunications equipment and microwave ovens. U.S. safety standards allow exposure of up to 10,000 microwatts per square centimeter, on the rationale that no damage is likely to occur until the tissues start to cook. The maximum intensity of the Moscow signal, however, is 18 microwatts per square centimeter. Discovery that it impaired the health of the Moscow embassy staff might have required a lot of expensive radar sets to be redesigned and microwave ovens to be recalled.

The atmosphere was ripe for a conspiracy theory, and one duly emerged in 1977 in a widely noticed book, *The Zapping of America*, by Paul Brodeur. The federal government, the military, the electronics industry, not to say "all of the academic and research institutions financed by the military-electronics industry complex," have been colluding to avoid bringing to light the malign health effects of microwaves, Brodeur reported. He had laid bare what must have been one of the largest and most successful conspiracies known to history.

Unfortunately for the conspiracy theory, Project Pandora, when it was wound up in 1970, failed to indicate just what it was the conspirators had to hide. Like the Moscow Viral Study, it failed to prove the existence of any health hazard.

Despite the negative result of Project Pandora and other American scientific studies, the difference with the Soviet position on microwaves is puzzling. Soviet standards for microwave safety permit a maximum exposure of 10 microwatts per square centimeter, one thousand times less than the permitted American exposure. The same standard prevails in Eastern European countries, while Western Europe tends to follow the American standard. The phenomenon is an apparent case of scientific differences coinciding with political boundaries.

The State Department instituted a massive new study of the problem in June 1976, contracting with Johns Hopkins University for an epidemiological survey of more than 4000 employees who had served in Moscow and the other Eastern European embassies. Johns Hopkins concluded in 1978 that neither death nor disease were more frequent among the Moscow staff than among those who served in Eastern Europe.

The Senate committee in its report chastises the State Department for keeping the Moscow staff in ignorance of the microwave beam for so long. But it agrees that the weight of evidence from the various studies "supports the conclusion that Government employees did not encounter health hazards traceable to their exposure" to the Moscow signal.

That the microwave beam did not impair the Moscow diplomats' health is good news but knocks the ground away from under the leading explanation of the signal's purpose. The Senate committee offers no alternative suggestion as to what the Russians were up to.

One member of the committee, however, may know the answer, in as far as anyone in the U.S. government knows it. Chairman Howard Cannon asked for and received a classified briefing from William Perry, the director of Defense Research and Engineering. At the point where Perry came to the purpose of the Moscow signal, everyone but he and Cannon was asked to leave the room.

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Doves Attack SALT II

Arms treaties with the Soviet Union are customarily attacked from the right as giving too much away, and the SALT II agreement has been no exception. But this time the arms control lobby is also unhappy with the treaty, in particular with the concessions the President has had to make in hope of getting the Senate to ratify the treaty.

Carter decided the proceed with development (though not deployment) of the MX missile, a mobile land-based missile designed to be less vulnerable than the present Minuteman. The Federation of American Scientists, a leading arms control pressure group, considers the MX a wasteful and unnecessary project bound to end up as the "ABM of the 1980's."

"The general course of the SALT process is wearing out the patience of its most loyal supporters," the Federation has announced. "In time, if the SALT process is not more productive than it is now, Federation members may move toward a policy of 'buy only what you need' and withdraw their support from comprehensive SALT treaties that seem to cost more than they are worth."

The Arms Control Association is also distressed about the MX missile, which it does not believe is the best possible solution to the problem of Minuteman silo vulnerability. The association is less tepid than is the Federation of American Scientists about the SALT II treaty, the benefits of which it considers more than miniscule. But the ACA too believes the SALT process holds room for improvement: rather than another 7-year negotiation process with unchecked technological momentum and expensive bargaining chips, it might be better to seek a series of limited and specific amendments to the SALT II treaty.

The Committee on the Present Danger, which is no dovecote, has not yet announced its position on the SALT II treaty, although it has hitherto been critical of specific provisions. The committee favors the MX missile, depending on its mode of basing, a decision which Carter has not made. A spokesman for the committee says it makes no linkage between its position on SALT II and the MX. The committee does not oppose the SALT process or the principle of arms control.

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for initiatives which did not jibe with official policy.

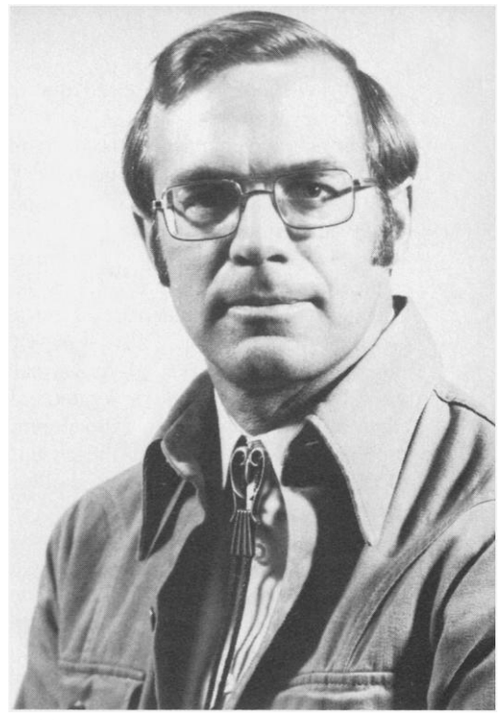
Discussing the directors' role Kerr said that he had "observed it" in the actions of his predecessors Norris Bradbury and Harold Agnew. "It is clear that the lab directors have had great influence. I hope that would continue [because] they are one of the best sources of technical opinion. However, the lab directors do have a responsibility to make sure they realize what their role is. Their job is to carry out a program for the government, not to undermine U.S. policy." Kerr says he realizes that he will "occupy an influential position as lab director," but that he will also "be responsible to act so as not to embarrass the government."

The conflict between Kerr's testimony and Administration policy on testing was focus of a report in the Federation of American Scientists newsletter last October. Asked for a reaction to Kerr's appointment to the Los Alamos post FAS director Jeremy J. Stone observed that, "The Carter Administration, which has already been roundly criticized for not getting itself together, gives the impression in the Kerr appointment that it actually rewards insurrection."

Sensitivity to Kerr's remarks was particularly high at the time because negotiations with the Soviets on a comprehensive test ban were in progress. Kerr's comments apparently were sufficiently at odds with the Administration position to have prompted Soviet negotiators in Geneva to request a clarification.

In this country, the Kerr testimony drew an immediate response from Senator Edward M. Kennedy (D-Mass.), who said the testimony "undercut" the President's policy; and Kennedy also challenged Kerr's analysis by citing a letter written by three physicists with long experience in nuclear weapons affairs. They were Norris Bradbury, former director of Los Alamos, J. Carson Mark, a longtime head of its theoretical division, and Richard Garwin of IBM, a veteran adviser on the nuclear weapons program. The letter in general attested to the continued operability of the nuclear stockpile without testing.

In terms of policy, the major point at issue was the duration of a test ban treaty. The Administration was deeply concerned about the relation of a test ban to international measures to control the proliferation of nuclear weapons. The Administration was convinced that chances for adherence by nonnuclear countries to nonproliferation measures would be greatly improved if the superpowers demonstrated good faith in the matter of controlling nuclear arms by concluding a comprehensive treaty banning all nuclear testing. The shorter the duration of the treaty, the less favorable the potential impact on nonproliferation was judged to be.



Donald Kerr

An unlimited test ban was regarded as the most desirable from a nonproliferation standpoint and the Administration was reported to be leaning toward such a ban at the end of 1977. Arguments by DOE and the Department of Defense apparently caused the Administration to move away from an unlimited ban. As DOD assistant secretary for international security affairs David E. McGiffert, for example, testified at the August hearings, "I think the input of the Department of Energy and the Department of Defense, including the Joint Chiefs, has contributed to a much better understanding of the stockpile reliability program over roughly the last 7 to 9 months, and that, in turn, has indeed affected people's perspective on treaty duration."

Arms control advocates are alarmed at the effect this process is having not only on nonproliferation efforts but on long-term test ban prospects. They see DOE and DOD advocacy of the necessity of testing as not only threatening CTBT negotiations but even as undermining the limited test ban now being observed.

Perhaps because of the timing of his testimony and the notice it attracted, some arms control proponents see Kerr as deserving a major share of responsibility for the Administration's changing its negotiating stand on a comprehensive