

Russia and the US in the Cold War arms race

Frank von Hippel's invaluable first-hand account (PHYSICS TODAY, September 2013, page 41)—about the influence of nongovernment organizations (NGOs) on defusing the Cold War arms race—deservedly reflects the leadership and influence that he and others contributed. With regard to supportive and complementary activities involving other American and European NGOs, his focused chronicle is unavoidably incomplete. A supplement to the backstage narrative can be found in reference 1, especially its first volume.

When the original Federation of American Scientists (FAS) chapter at the University of Chicago migrated in the 1950s to Argonne National Laboratory, additional experienced physicists and nuclear engineers joined the group, which continued its public-interest activities. The chapter provided indispensable technical credibility to various NGOs, ultimately including the multifaceted arms-control collaborations of volunteer professionals. Because of the intimidating Cold War cultural atmosphere for untenured scientists, that conscientious support often resulted in personal and occupational sacrifice in professional employment, promotion, prospective funding, and security clearances.

Active and retired national laboratory scientists who worked on nuclear weapons and reactors also provided unsanctioned professional contributions through voluntary technical consultation and advice, partly reflected in von Hippel's reference 9.

In addition, there were contributions by specialists from other disciplines and by eminent political figures, professional organizations, segments of the media, venturesome academics, and benevolent funding sources. Peace movements in the West, along with Soviet refuseniks and high-level appa-

ratchiks, were important standard-bearers, often arrayed against entrenched defense establishments and national-defense hardliners who relied on worst-case analysis and political intractability. The Natural Resources Defense Council, under the leadership of Thomas Cochran and Christopher Paine, was an American NGO that indeed had a sustained groundbreaking role, along with the FAS.

Amplification of unofficial American collaboration with the Committee of Soviet Scientists came about as European NGOs gradually expanded their own multilateral activities related to aspects of both nuclear and nonnuclear weapons during the Cold War confrontation and its post-Soviet aftermath.

These remarks augment von Hippel's article and do not detract from his widely recognized leadership.

Reference

1. A. DeVolpi, *Nuclear Insights: The Cold War Legacy*, Amazon.com, 2009.

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■ **Frank von Hippel** would have us believe that the Soviet Union did not have a substantial antiballistic missile (ABM) program comparable to the US Strategic Defense Initiative. That is far from the truth. ABM work started in the Soviet Union in the 1950s and was substantially accelerated in the 1970s.

One of von Hippel's points is that the lasers in the Sary Shagan facility were only 100 W and 20 kW. Yet on 15 May 1987, a 1-MW carbon dioxide laser called Polyus, with a mass of 80 tons, was launched¹ on the Energia rocket. Mikhail Gorbachev himself witnessed the launch. It was a test of a laser battle station and was far in advance of anything the US was able or planning to do at the time. The von Hippel group's inspection of the Sary Shagan facility in 1989, two years after a visit was proposed, only means that any facilities the Soviets did not want seen could have been removed in the years in between.

These omissions distort the record.

Reference

1. B. Hendrickx, *J. Br. Interplanet. Soc.* **55**, 242 (2002).

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■ **The engaging history** by Frank von Hippel of the second Reagan administration's interactions with the USSR gets that part right but neglects how the policy was set up. The US carried out a deliberate campaign to shift power within the Politburo from the dominant army faction to the Communist Party, because President Ronald Reagan wanted "someone I can talk to" that would be less rigid than the ossified clique of Leonid Brezhnev.

Three steps undermined the influence of the Soviet Army. First, on the first day of the Reagan administration, the US sold Saudi Arabia thousands of shoulder-to-air missiles, which were deployed immediately to Afghanistan. That deployment tilted the war there against the USSR. Second, Reagan pushed deployment of the Pershing missiles in Europe. Third, the Strategic Defense Initiative (SDI) speech in 1983 overturned our policy of mutual assured destruction and relied on the US's vast technical reputation to daunt the Soviet army faction and many Soviet scientists. (The Reagan administration encouraged Saudi Arabia to lower the price of oil, too, which cut the USSR's hard cash reserves by lowering their oil sales income.)

In 1983 and 1984, I and others personally carried an optimistic message about SDI to some of the physicists von Hippel cites and to others. We spoke about defense aspects, including interception from orbit during missile boost phase (lasers, Brilliant Pebbles), plus midcourse methods, and even defenses close to the target zones. I hinted at capabilities we had and the Soviets didn't—partly smoke and mirrors, partly quite solid.

The message was a deliberate psychological campaign to show US confidence and to use SDI as a bargaining chip for arms-control talks. We thought that by abandoning a nascent SDI, the US could secure more important Soviet concessions. Others in the Pentagon envisioned not the shelter Reagan imagined for the American people, but a limited system designed to defend just US silo missiles and thus preserve the option of a wartime counterattack. That system was developed and may be deployed now.

American technical credibility was a crucial step toward unleashing the social forces of perestroika, glasnost, and

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