

Editors' Note

This issue of the journal has three articles that explore the gap that often exists between the expectations held by policy makers and experts about the way the world works and the real world when it comes to issues of security. In particular, they highlight the need to be mindful of the tendency to see the world as we think it “should be” rather than admit the difficulties of knowing the world and the uncertainties in our knowledge of it.

Thirty years ago, at the October 1986 summit meeting in Reykjavik, the Soviet Union sought agreed limits on United States plans for a space-based ballistic missile defense or Strategic Defense Initiative (SDI, better known as “Star Wars”) that had been launched in March 1983 by President Reagan. The United States rebuffed these Soviet offers, including significant cuts and limits on nuclear weapons, insisting on proceeding with work on Star Wars. In 1987, the Soviet Union set aside its objections about Star Wars and reached a nuclear arms control agreement with the United States, leading to suggestions, especially in the United States, that the U.S. commitment to a costly and high-technology Star Wars system that the Soviet Union presumably could not match helped force the Soviet Union back to the negotiating table and ultimately to end the Cold War.

In the article “Did Star Wars Help End the Cold War? Soviet Response to the SDI Program,” Pavel Podvig offers major new insights on this issue by drawing on the archives of Vitalii Kataev, a senior advisor to the Secretary for the Defense Industry of the Central Committee of the Communist Party. The article shows that rather than being intimidated by Star Wars, Soviet defense industry “was quite enthusiastic about the U.S. initiative, seizing the opportunity to advance its projects.” Podvig details some of the key systems the Soviet Union repurposed or developed that could counter Star Wars, including the “Skif” space-based laser program and “Kontakt,” an aircraft-borne anti-satellite interceptor. The Soviet Union also pursued the “D-20” and “SK-1000” missile defense programs and “Protivodeystviye” and “Kontseptsiya-R” programs for counter-measures against the U.S. system. Podvig concludes that “Soviet political leadership was unable to counter the pressure from its own defense industry that insisted on keeping up with the U.S. effort” and as such, “The only result that the SDI program was able to achieve in the context of confrontation was to embolden those in the Soviet Union who defined security in confrontational terms and benefited from continuing the arms race.” By 1987, Podvig argues, the Soviet Union better understood the limits of the U.S. Star Wars systems and the potential capabilities of own programs, and “All this gave the Soviet military

and political leadership the necessary confidence to pursue arms reductions with the United States.”

The conditions under which people and states may choose competition, even conflict, rather than cooperation are explored in the article “Evolutionary Psychology and Global Security,” by William von Hippel. This article offers an overview of factors that may limit prospects for international cooperation, including arms control and disarmament, because of the ways in which our structures of human cognition and feeling are constrained by the legacy of human evolution. Von Hippel highlights in particular that the human propensity for cooperation with members of their own group is markedly different than that towards members of other groups, and that people tend to experience fairness in outcomes as *relative*, leading them to be skeptical of arrangements that may benefit everyone concerned but that seem to benefit others more than themselves. Von Hippel also considers self-deception and how people tend to trust themselves and their group’s intentions, and to doubt the intentions of other groups, even when actions are identical.

Nonetheless, von Hippel offers a fundamentally hopeful conclusion, suggesting that “the barriers to peace imposed by these deeply ingrained psychological tendencies can be overcome—not through reassurance or denial—but through structures, processes, and agreements that align the interests of previously hostile groups or through agreements and verification strategies that bypass these concerns.” In this view, greater importance needs to be given to fairness in international processes, institutions, and negotiations, and more attention needs to be given to effective and equitable verification and enforcement provisions in international arms control and disarmament agreements.

The final article in this issue concerns expert knowledge claims about nuclear reactor safety. In “Accident Scenarios Involving Pebble Bed High Temperature Reactors,” Mathias Englert, Friederike Frieß and M. V. Ramana explore the claims that the fuel design and other features of high-temperature gas-cooled reactors helps render them inherently safe, and therefore reactor siting restrictions could be relaxed to permit construction and operation of such reactors close to large populations.

The article questions whether such safety claims adequately address the facts that even during normal operation, because of high temperatures and burnups, the fuel may release radioactive fission products into the reactor and that yet more severe releases can result from air or water getting into the reactor core. It uses the historical experience of high-temperature gas-cooled reactors in Britain, China, Germany, Japan, and the United States to illustrate these failings and to support the idea of a significant gap between design expectations and actual reactor operations. Finally, the article suggests claims about inherent safety be treated with skepticism because of problems with knowing in sufficient detail what is happening and what could happen in the reactor core, uncertainties about how reactor operators may behave in an actual crisis, and the complex interdependent trade-offs between safety, performance and costs.