

How should we rethink nuclear weapons policy?

Weapons and Hope

Freeman Dyson

340 pp. Harper & Row, New York, 1984.

\$17.95

Reviewed by Frank von Hippel

Freeman Dyson sees the current debate over the future of US nuclear weapons policy as involving two types of people: those who think analytically and abstractly about such things as deterrence, counterforce attacks and crisis stability, and those who react emotionally to the anticipated horrors of nuclear war. His first class, which includes most arms controllers, he calls the "warriors." The second class, he calls the "victims." Dyson also sees the nuclear arms race between the US and the Soviet Union as resulting from these countries' clashing preoccupations:

► the concern of US leadership that the USSR be "deterred" from aggression by nuclear threats

► the Russian obsession—after centuries of fighting against invasion and slaughter—with sheer survival.

In Dyson's view, the US insists that, whatever else may happen in a nuclear war, Russia will be destroyed; while the Soviet Union insists that, come what may, Russia will survive.

Dyson understands and respects both sides, and has written *Weapons and Hope* in an effort to explain them to each other and to suggest an alternative to the nuclear arms race that takes into account each of their concerns. His solution is non-nuclear defense.

In advocating non-nuclear defense against non-nuclear attacks, Dyson joins a developing consensus among "warriors" that it should be possible to do virtually any military task that has been assigned to nuclear weapons as effectively and with less civilian destruction by using non-nuclear precision-guided munitions. In advocating non-nuclear defense against nuclear weapons, however, he is fighting

Frank von Hippel, a physicist, is a professor in Princeton University's Woodrow Wilson School of Public and International Affairs and an affiliated faculty member of the Center for Energy and Environmental Studies.



B52 above Vietnam. *The Wizards of Armageddon*, reviewed here, asks, is current nuclear strategy based on a military doctrine that failed in Vietnam?

against the consensus that gave rise to the major achievement of nuclear arms control to date: the 1972 treaty between the US and the USSR on the limitation of anti-ballistic missile systems.

Dyson's advocacy of non-nuclear ABMs is both muted and stubborn. He accepts the arguments of his colleagues that, in the absence of constraints on offensive nuclear forces, efforts to construct a defense would be both futile and counterproductive. However, he envisions a future in which the nuclear-weapons states agree to reduce their nuclear arsenals drastically and are only prevented from going all the way to abolition by the fear that one of them could hide or rapidly produce a relatively small number of nuclear weapons. Dyson thinks that non-nuclear defenses might help protect a non-nuclear world from such instabilities. This argument is backed by a passionate conviction that a more moral alternative must be found to replace the balance of nuclear terror.

The relative lack of depth of Dyson's treatment of the issues raised by proposals for defenses against nuclear

weapons is unfortunate at a time when President Ronald Reagan's "Star Wars" proposal has precipitated a new national debate over the subject. But, in most other respects, Dyson's book is far from shallow and, because of its technical competence and strong moral and historical perspective, it can be read with profit by virtually anyone concerned with nuclear-weapons policy.

The book is divided into four parts, each of which explores a different aspect of the nuclear weapons conundrum. "Questions" discusses the basic issues; "Tools," the technologies of defense against nuclear weapons; "People," spotlights the various "actors" in the nuclear weapons drama and their roles; and "Concepts," describes the alternative schools of thought.

A sequence of chapters in "People" may be of particular interest to physicists, because it is rich in insights about the seductiveness of weapons and war: ► "Amateurs at War" recounts how World War I provided an escape from the problems and boredom of peacetime life for Dyson's father and uncle. ► "Education of a Warrior," describes

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Dyson's own involvement as a young analyst in Britain's indiscriminate World War II night-bombing campaign against German cities and his regret at the fact that "I sat in my office until the end, carefully calculating how to murder most economically another hundred thousand people."

► Two final chapters analyze the motivations of Robert Oppenheimer, "the scholar-soldier" who was the intellectual leader of the US nuclear-weapons development program for a decade until his security trial in 1954.

It is worth mentioning here that there are other chapters relating to the involvement of scientists with the military that Dyson could have written with authority but chose not to. As he states in his preface, his "credentials as a military expert come mainly from being a member of Jason, a group of scientists who work on technical problems for the Department of Defense and other agencies of the American government." Unfortunately, after this statement, discretion overcomes Dyson. He tells us virtually nothing about what he has learned of the role of scientists in weapons matters after spending two decades involved with a group of consultants that includes a significant portion of the leadership of American physics.

Perhaps the best chapter, found in the part of the book about "People," is the one on "The Russians." Here Dyson draws heavily upon the wisdom of George Kennan, his colleague at the Institute of Advanced Study, and on his own readings of Russian literature and personal visits to the Soviet Union. He argues quite persuasively that, while the Soviet government is oppressive and trusts only in military strength, its historical experiences—of World War II and countless battles against foreign invaders over the centuries—have made war seem like something to be endured and survived rather than a means to end. This is a particularly useful insight at a time when our government has been trying to convince us that the Soviet Union is an "evil empire" bent on world domination.

FRANK VON HIPPEL
Princeton University

The Wizards of Armageddon

Fred Kaplan

452 pp. Simon & Schuster, New York, 1983.
\$18.95

Fred Kaplan traces nuclear weapons policy from the late 1940s to the beginning phases of the Reagan Administration. The positions taken by "defense intellectuals" who have had considerable input to government poli-

cy-makers are reported clearly and accurately. Kaplan, who writes on defense policy for journals and newspapers, has made effective use of the Freedom of Information Act and of material whose current classification status has not yet been tested in court. Anyone concerned with rethinking nuclear weapons policy, whether or not he has access to classified sources, would be well-advised to study this history.

This book has more urgency for those of us who, in Freeman Dyson's terms, are currently more the "victims" of that policy than the "warriors." Fred Kaplan's straightforward reporting brings out the full horror of the situation without the need for comment or analysis: by now, there is no rational nuclear weapons policy.

Nuclear weapons were first used in combat by the US when no retaliation was possible. This advantaged position ceased to exist in 1949, and the creation of thermonuclear weapons increased the stakes. In his book, Kaplan shows that the "Cuban Missile Crisis"—when the USSR had only four ICBMs ready to launch, all targeted by the Strategic Air Command—was the last chance for "low-risk" thermonuclear confrontation with the USSR.

Kaplan documents the fact that every US president who has possessed nuclear and, later, thermonuclear weapons has threatened to use them. He confirms this game of "Russian Roulette,"—which some discounted when it was detailed by Daniel Ellsberg—and draws our attention to the fact that this policy has never been discussed with the American people nor put to their vote for acceptance.

Kaplan tells the story of several individuals who contributed to the development of this situation. Critical to this development, as I read his story, was the conjunction of von Neumann's two-person game theory, operational-analysis experience in the Second World War and the assumption that nuclear weapons had to be integrated into the military-nation-state system. Kaplan follows the actions of a few critical individuals outside the official military chain of command (in particular, those associated with RAND) who have shaped past and present policy.

During the Cuban missile crisis—the last situation in which nuclear gamesmanship retained a shred of "rationality"—none of these individuals advocated "signaling" the stakes in game theory terms by a limited use of nuclear weapons. The creators of the policy would not back it, even as an option, when it came to practice.

The irony is that the game-theory policy, which assumes that one's opponent will use one's own "rational" criteria, became the doctrine for the conduct of the Vietnam War. I am not