

FUTURE ORIENTED KNOWLEDGE: LESSONS OF THE FIRST NUCLEAR AGE

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Keywords: Nuclear weapons, deterrence, Hiroshima, Manhattan Project, Roosevelt, Truman, Churchill, containment, Eisenhower, Kennedy, Carter, Reagan, Cuban missile crisis

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Summary

The most dangerous consequence of World War II was the development and use of nuclear weapons. The circumstances of that history established a pattern of behavior that promoted the nuclear arms race. In America, the atomic bombings of Hiroshima and Nagasaki, followed quickly by the surrender of Japan, legitimized these weapons of mass destruction as appropriate instruments of warfare. Yet why they were used remains a matter of serious debate. As more documentation becomes available there is mounting evidence that the official explanation that their use was necessary to prevent an invasion of Japan appears increasingly implausible. The debate also reveals a great deal about the attitudes toward nuclear weapons that dominated the postwar period. Once the Soviet Union acquired the ability to build nuclear weapons in 1949 the competition for nuclear superiority began to spin out of rational control. Rather than protecting the United States and the Soviet Union, their nuclear arsenals endangered their existence. The Cuban missile crisis was only the most prominent example of how deeply flawed was the doctrine of nuclear deterrence. Still, throughout the cold war Americans blamed the Soviet Union for the escalating arms race. “But we must remember,” the scholar-statesman George F. Kennan wrote, “that it has been we Americans who, at almost every step of the road, have taken the lead in the development of this [nuclear] weaponry. It was we who first produced and tested such a device; we who were the first to raise its destructiveness to a new level with the hydrogen bomb; we who introduced the multiple warhead; we who have declined every

proposal for the renunciation of the principle of ‘first use’ [of nuclear weapons in a war]; and we alone, so help us God, who have used the weapon in anger against others, and against tens of thousands of helpless non-combatants at that.”

1. Introduction

Armed with tens of thousands of nuclear weapons capable of being launched from land, sea, or air, during the Cold War the United States and the Soviet Union became prisoners of a process that neither controlled. Locked into a nuclear arms race that was justified by national security, they increased their peril, diminished their economies, and promoted an international atmosphere of impending catastrophe. Holding each other’s population hostage to annihilation, they engaged in conventional wars on the territories of smaller nations. Occasionally, as in the Berlin Crisis of 1961, and in the Cuban missile crisis of 1962, they pushed each other to the nuclear brink. During the first nuclear age, living in the nuclear bulls-eye became a way of life.

Would it also become a way of death?

That question above all others haunted the Cold War years and dominated the debate over nuclear weapons from their inception. Answers to it included policies as diverse as the effort to create a superior nuclear arsenal and the foreswearing of all nuclear weapons, the reliance on “mutual assured destruction” and the quest for a “strategic defense.”

The responses of the United States and the Soviet governments to the nuclear question were rooted in their histories, their circumstances, and their expectations about the value of nuclear weapons. So too the responses of the other nations that chose the nuclear option: Great Britain, France, Israel, China, India, and Pakistan. The dominant lesson that these countries have taken from the first nuclear age is that nuclear deterrence is effective. This dangerous and debatable conclusion was promoted by the United States in the context of its Cold War commitment to nuclear weapons. For this reason, and because the nuclear age was first “made in America,” and later shaped by U.S. initiatives, this essay focuses on the American experience.

The process of nuclear transformation began in 1945 with the U.S. monopoly of the atomic bomb and continued for several decades during which the U.S. maintained a distinct nuclear advantage. Living with nuclear weapons in those circumstances created attitudes and a political climate that could not readily be altered.

As Americans grew up with the bomb, they learned a culturally acceptable view of its history. Having been touted as the weapon that won the war, its violent introduction was explained by necessity. Having been assured that the growth and deployment of the nuclear arsenal kept the peace, its increasingly prominent role in American foreign policy was justified by alleged requirements of national security.

Underpinning these explanations was the assumption of inevitability. Scholars and journalists who promoted nuclear deterrence argued simply that no realistic policy alternatives to nuclear defense ever existed, and no existing alternatives are realistic. “We don’t have the best of all possible worlds,” Michael Mandelbaum wrote in *The*

Nuclear Question, “but we do have the best world possible.”

But a less complacent attitude toward weapons of mass destruction also existed as a minority opinion. From J.D. Bronowski’s critical observations in the late 1940s about the ethical indefensibility of Hiroshima, to the American Catholic bishops’ moral condemnation of deterrence policy in the 1980s, a profound unease has prevailed about the impact that nuclear weapons have had on American values. “We have had the bomb on our minds since 1945,” E.L. Doctorow wrote in the *Nation* magazine in 1986. “It was first our weaponry and then our diplomacy, and now it’s our economy. How can we suppose that something so monstrously powerful would not, after forty years, compose our identity? The great golem we have made against our enemies is our culture, our bomb culture . . .”

That culture is rooted in World War II. The assumptions that guided the decisions that led to the destruction of both Hiroshima and Nagasaki were powerful determinants of U.S. nuclear policy in the war’s aftermath. How the U.S. government (and other governments) see and value nuclear weapons in 2005 or 2025 will be no less connected with 1945 than with 1955 or 1985. The entire history of nuclear weapons—past, present, and future—remains tethered to its origins.

2. The Road to Hiroshima and Nagasaki

The outbreak of World War II defined the questions that would be asked about the discovery of nuclear fission, and the politics of postwar international relations shaped some of the answers. These questions and answers guided the role that nuclear weapons came to play in the postwar world: (1) Should the attempt be made to build atomic weapons? (2) If the attempt were successful, what effect would atomic weapons have on the outcome of the war and the character of the peace? (3) How should atomic bombs be used during the war?

Nuclear fission was discovered late in 1938 in Germany by two chemists, Otto Hahn and Friedrich Strassmann. News of this remarkable event was published in the February 1939 edition of *Nature*, the leading international journal of science. Every physicist in the world was stunned by its many scientific implications, but those who worried most about the possibility of war concentrated on the theoretical implications of developing a fission bomb. If such a weapon were possible, its impact on the war was expected to be extraordinary.

For over two years, committees in the United States studied the problem without results. Even Albert Einstein’s famous 1939 letter to Roosevelt warning of possible military implications of the discovery had far less influence than it is generally accorded. Everything changed, however, in the summer of 1941, when news reached Washington that scientists in Great Britain (Otto Frisch and Rudolph Peierls) had hit upon a strategy that promised quick results in building an atomic bomb. Within months, an arrangement was negotiated to launch an American-British-Canadian atomic bomb project. The expectation was that a weapon could be produced in time to be used during the war.

The commitment to build the bomb as quickly as possible arose from the fear that the Germans were working along similar lines and might very well be ahead. The

implications of Germany's success in such an enterprise were horrifying to those who understood the potential power of atomic bombs. The message both physicists and political leaders passed along to President Roosevelt and to Prime Minister Winston Churchill, was that an atomic bomb was an *ultimate* weapon, one that could assure victory in war and be recognized as an unrivalled power afterwards.

2.1. How Presidents Roosevelt and Truman Planned to Use the Bomb to End the War and Shape the Peace

Having accepted by 1943 the idea that the bomb was a potential guarantor of victory, a miracle weapon of sorts, it is not surprising that by 1944 it was perceived to be a potential major diplomatic advantage after the war. Roosevelt believed it, Churchill believed it, and Secretary of War Henry L. Stimson was similarly convinced that this weapon provided any sole possessor with inimitable power. Everyone closely associated with the Manhattan Project (as the effort to build an atomic bomb was called), believed in the unprecedented power of this weapon, including, of course, the scientists at the Los Alamos laboratory in New Mexico where the bomb was being built.

When Niels Bohr, who ranked next to Einstein as the most distinguished living physicist of his day, escaped from Denmark to England in 1943, he was asked to join the Manhattan Project as a consultant. What Bohr learned worried him, for he immediately understood the postwar political implications of atomic weapons. After discussions with other highly placed scientists he went to great lengths to try to convince Churchill and Roosevelt to approach the Soviet Premier, Joseph Stalin, with a plan for the postwar international control of atomic energy. Without such an initiative, Bohr insisted, a postwar nuclear arms race would result.

But Roosevelt and Churchill had quite different plans for the bomb in the postwar world. In September 1944, at the President's home in Hyde Park, New York, they drew up an aide-memoire stipulating that Bohr's interest in informing Stalin of the nuclear project was dangerous, that the United States and Great Britain would share a monopoly of nuclear weapons after the war, and that, "after mature consideration," the bomb would be used against Japan if it was ready before the war ended. With this document, drawn up just seven months before his death, Roosevelt's thoughts about the wartime and postwar uses of the bomb were documented for history.

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Biographical Sketch

Martin J. Sherwin is the Walter S. Dickson Professor of History at Tufts University and the founding director (in 1985) of Tuft's Nuclear Age History and Humanities Center. In 1994 he was appointed Honorable UNESCO Professor of Humanities at Mendeleyev University in Moscow, Russia. He was the founding director and executive producer of the Global Classroom Project (1988–1992), a U.S. space bridge program that employed TV satellite technology to link university students in Moscow and the United States for interactive discussions about the nuclear arms race and the environment.

Professor Sherwin is the author of *A World Destroyed: The Atomic Bomb and the Grand Alliance* (Knopf) that was the runner-up for the 1976 Pulitzer Prize, winner of the Stewart Bernath Prize as well as the American History Book Prize. It was published in Japanese in 1977. Professor Sherwin's articles and reviews have appeared in numerous magazines and journals including *The American Historical Review*, *The Journal of American History*, the *Bulletin of the Atomic Scientists*, *The Nation*, *The Los Angeles Times*, and *The New York Times*. He is the General Editor of the Stanford University Press Nuclear Age Series.

He has been an advisor for many documentary films on the history of the nuclear age and was the co-executive producer and NEH Project Director of the PBS documentary film *Stalin's Bomb Maker: Citizen Kurchatov*, on the life of Igor Kurchatov, the first scientific director of the Soviet Union's nuclear weapons programs. Professor Sherwin has taught at the University of California, Berkeley, and at Princeton, Cornell, Yale, Pennsylvania, Dartmouth, and Wellesley universities.

Professor Sherwin has received fellowships from the John D. and Catherine T. MacArthur Foundation, the Guggenheim Foundation, the American Academy of Arts and Science, the National Endowment for the Humanities, and the Rockefeller Foundation. He was a visiting scholar at the Institute for Advanced Studies in Princeton and at Harvard's Charles Warren Center for Studies in American History.

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