

Nuclear weapons and the escalation of the Cold War, 1945–1962

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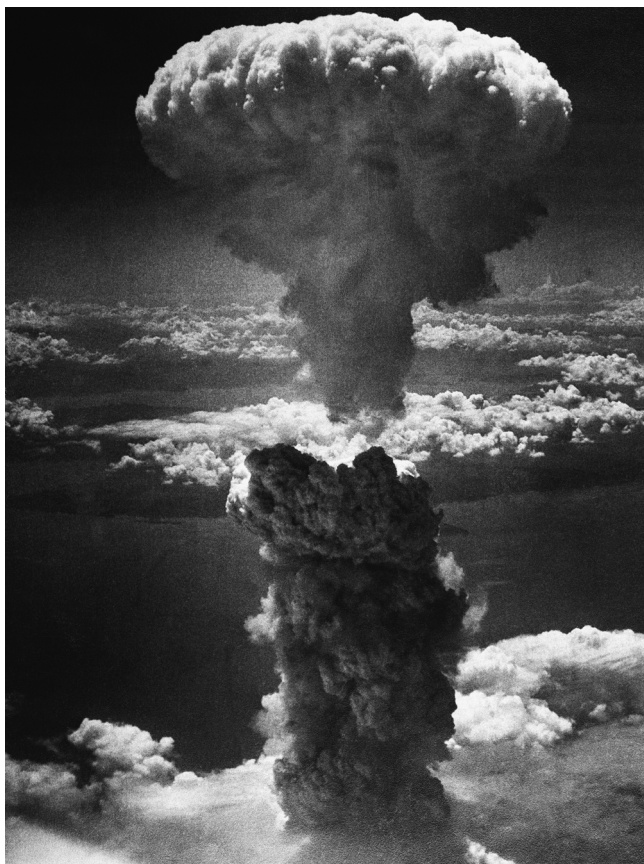
Nuclear weapons are so central to the history of the Cold War that it can be difficult to disentangle the two. Did nuclear weapons cause the Cold War? Did they contribute to its escalation? Did they help to keep the Cold War “cold”? We should also ask how the Cold War shaped the development of atomic energy. Was the nuclear-arms race a product of Cold War tension rather than its cause?

The atomic bomb and the origins of the Cold War

The nuclear age began before the Cold War. During World War II, three countries decided to build the atomic bomb: Britain, the United States, and the Soviet Union. Britain put its own work aside and joined the Manhattan Project as a junior partner in 1943. The Soviet effort was small before August 1945. The British and American projects were driven by the fear of a German atomic bomb, but Germany decided in 1942 not to make a serious effort to build the bomb. In an extraordinary display of scientific and industrial might, the United States made two bombs ready for use by August 1945. Germany was defeated by then, but President Harry S. Truman decided to use the bomb against Japan.

The decision to use the atomic bomb has been a matter of intense controversy. Did Truman decide to bomb Hiroshima and Nagasaki in order, as he claimed, to end the war with Japan without further loss of American lives? Or did he drop the bombs in order to intimidate the Soviet Union, without really needing them to bring the war to an end? His primary purpose was surely to force Japan to surrender, but he also believed that the bomb would help him in his dealings with Iosif V. Stalin. That latter consideration was secondary, but it confirmed his decision.¹ Whatever Truman’s motives, Stalin regarded the use

1 I here follow Barton Bernstein’s interpretation. See his “The Atomic Bombings Reconsidered,” *Foreign Affairs*, January/February 1995, 135–52.



30. Mushroom cloud over Nagasaki, 1945.

of the bomb as an anti-Soviet move, designed to deprive the Soviet Union of strategic gains in the Far East and more generally to give the United States the upper hand in defining the postwar settlement. On August 20, 1945, two weeks to the day after Hiroshima, Stalin signed a decree setting up a Special Committee on the Atomic Bomb, under the chairmanship of Lavrentii P. Beria.² The Soviet project was now a crash program.

² The decree is in L. D. Riabev (ed.), *Atomnyi proekt SSSR: dokumenty i materialy*, vol. II, *Atomnaia bomba 1945–1954*, book 1 [The Atomic Project of the USSR: Documents and Materials, vol. II, The Atomic Bomb 1945–1954, book 1] (Moscow: Nauka, 1999), 11–13.

In 1946, the United States and the Soviet Union, along with several other countries, began negotiations under the auspices of the United Nations to bring atomic energy under international control. These negotiations failed. It was national governments rather than international organizations that were to determine the future of atomic energy. The United States built up its nuclear arsenal, slowly at first, but with increasing urgency as relations with the Soviet Union deteriorated. In September 1948, Truman endorsed a National Security Council paper (NSC 30), "Policy on Atomic Warfare," which concluded that the United States must be ready to "utilize promptly and effectively all appropriate means available, including atomic weapons, in the interest of national security and must therefore plan accordingly."³ The atomic air offensive became the central element in US strategy for a war against the Soviet Union. The Strategic Air Command (SAC), which had been established in March 1946, was the spearhead of American military power.

In 1948, the Joint Chiefs of Staff (JCS) set up a committee to examine how effective an atomic air offensive would be, and it reported in May 1949 that an atomic attack on seventy Soviet cities would not defeat the Soviet Union.⁴ That assumption was written into the "Offtackle" Emergency War Plan, which was approved by the JCS in December 1949 and remained operative for two years. This envisaged a war in several stages. The Soviet Union would launch offensives in Western Europe, the Middle East, and the Far East; it would also bomb Britain, assail Allied lines of communications, and try to attack the United States by air. Strategic bombing would not stop the Soviet offensives. The Western Allies would be too weak to hold Western Europe; they would have to try to secure the United Kingdom and hold on to North Africa. The resulting situation would be like that of 1942–43. The Allies would carry out strategic bombing attacks, build up Britain as a major base, and begin to move outwards from North Africa with the aim of reentering the European continent. World War III would be decided by campaigns like those of 1944–45.⁵

The Soviet atomic project was an enormous undertaking for a country that had been devastated by the war. The first Soviet test took place on August 29, 1949, twenty months later than the target date established by the Soviet

3 "NSC 30: United States Policy on Atomic Warfare," September 10, 1948, US Department of State, *Foreign Relations of the United States, 1948*, vol. I, pt. 2 (Washington, DC: US Government Printing Office, 1975), 628 (hereafter *FRUS*, with year and volume number).

4 David Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945–1960," *International Security*, 7, 4 (Spring 1983), 16.

5 Walter S. Poole, *The History of the Joint Chiefs of Staff*, vol. IV, 1950–1952 (Wilmington, DE: Michael Glazier, 1980), 161–62.

government in 1946, but several years earlier than the Central Intelligence Agency thought probable.⁶ The Soviet Union strengthened its air defenses to deal with an American atomic air offensive and enhanced its capacity to conduct large-scale strategic operations by restructuring its ground and air forces. From the fragmentary evidence available, it appears that in 1950 the Soviet image of a future war was very much the same as the American: an atomic air offensive by the United States, which would not succeed in defeating the Soviet Union, and large-scale Soviet offensive operations to push the Western powers out of Europe and the Middle East.⁷ In the first five years after the war, neither American nor Soviet military planners saw the atomic bomb as a weapon that would by itself win a world war.

Relations between the Soviet Union and the Western powers grew steadily worse in the five years after World War II. The role of nuclear weapons in this deterioration was subtle but important. Truman did not issue explicit nuclear threats against the Soviet Union, but the nuclear factor was present even when not specifically invoked. The most overt use of the bomb in support of foreign policy took place in July 1948, when Truman dispatched B-29 bombers to Europe during the Berlin crisis. Though not modified to carry atomic bombs, these bombers were intended to signal that the United States would defend Western Europe with nuclear weapons if necessary. For the United States, the bomb provided a counterweight, in psychological and political as well as military terms, to Soviet military power in Europe.

Stalin feared that the United States would use the bomb to put pressure on the Soviet Union, and he was determined not to let that happen. He adopted a policy of what he called “tenacity and steadfastness.”⁸ This first became apparent in September 1945 at the London meeting of the Council of Foreign Ministers, where the Soviet Union took a tough stand on issues relating to the postwar settlement. Instead of proving more pliable and willing to compromise, as the Americans had hoped, Stalin adopted a policy of stubbornness, for fear of seeming weak and inviting further pressure.

In spite of the growing international tension of the late 1940s, there was little expectation that a new world war would break out soon. All three Allies

6 Riabev (ed.), *Atomnyi proekt SSSR*, 435; David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy* (New Haven, CT: Yale University Press, 1994), 220.

7 Holloway, *Stalin and the Bomb*, 227–42.

8 I. V. Stalin to V. M. Molotov, G. M. Malenkov, L. P. Beria, A. I. Mikoian, December 9, 1945, in *Politburo TsK VKP(b) i sovet ministrov SSSR 1945–1953* [The Politburo of the Central Committee of the VKP(b) and the Council of Ministers of the USSR 1945–1953] (Moscow: ROSSPEN, 2002), 202.

demobilized, though to varying degrees. The bomb nevertheless cast a shadow over relations. It gave the Americans confidence and enhanced their willingness to make security commitments, most notably the commitment to Western Europe embodied in the North Atlantic Treaty of April 1949. The bomb had a dual effect on Soviet policy. It inspired caution and restraint, but it also made the Soviet Union less willing to compromise for fear of appearing vulnerable to intimidation. The bomb made the postwar relationship even more tense and contentious than it would have been in any case.

Nuclear weapons and the Korean War

On September 24, 1949, almost four weeks after the Soviet nuclear test, the Soviet Politburo instructed the North Korean leader, Kim Il Sung, not to attack the South. North Korea, it said, was not prepared in military or political terms for such an attack. Four months later, on January 30, 1950, Stalin let Kim know that he was now willing to help him in this matter.⁹ Why did Stalin change his mind? When Kim visited Moscow in March and April, Stalin explained to him that the Chinese communists could now devote more attention to Korea. The Chinese Revolution was evidently more important than the Soviet bomb in Stalin's decision to support Kim. Stalin cannot have thought that the nuclear balance of forces had changed very much, because the Soviet arsenal grew very slowly; it was not until November 1 and December 28, 1949, that the Soviet Union had enough plutonium for its second and third bombs.¹⁰

The war did not turn out as Moscow and Beijing had hoped. The United States intervened under the auspices of the United Nations and, as UN forces advanced into North Korea, the Chinese, who had supported Kim's plans, had to decide whether or not to enter the war. Those opposed to entry feared that the United States would use the atomic bomb in order to avoid defeat. Those in favor argued that China's alliance with the Soviet Union, which now had the bomb, would deter the United States from using nuclear weapons.¹¹ Stalin stiffened Chinese resolve by reassuring Mao Zedong that the United States

9 A. V. Torkunov, *Zagadochnaia voina: koreiskii konflikt 1950–1953 godov* [The Mysterious War: The Korean Conflict 1950–1953] (Moscow: ROSSPEN, 2000), 46, 55.

10 Protocol of the meeting of the Special Committee, October 22, 1949, in Riabev (ed.), *Atomnyi proekt SSSR*, 392.

11 Sergei N. Goncharov, John Wilson Lewis, and Xue Litai, *Uncertain Partners: Stalin, Mao, and the Korean War* (Stanford, CA: Stanford University Press, 1993), 164–67.

was not ready for a “big war” and that, in any event, China and the Soviet Union together were stronger than the United States and Britain.¹²

China’s entry into the war caused alarm in Washington. On November 30, 1950, Truman created the impression, in answer to a reporter’s question, that the atomic bomb might be used in Korea at General Douglas MacArthur’s discretion. This caused an outcry. Clement Attlee flew to Washington on December 4 for reassurance that Truman was not actively considering the use of the bomb and that the decision to use it would remain in the president’s hands.¹³ Truman did not seriously consider using the bomb during the Korean War. He deployed nuclear-capable B-29s to Britain and to Guam in July 1950 but without nuclear weapons. The purpose was partly, as in the Berlin crisis, to signal American resolve and partly to enhance strategic readiness for a possible war. The bombers in Guam were soon withdrawn. In April 1951, Truman authorized the deployment of B-29 bombers and nuclear weapons to Guam. This was the first time since 1945 that the United States had sent nuclear weapons abroad. The purpose of the deployment was to be ready to respond in case the Soviet Union should enter the war. The bombers and the weapons were withdrawn in July, once the armistice talks began.

The Pentagon and the State Department studied at various times the possible use of the atomic bomb in Korea, but the studies only pointed up the difficulties. There were few good targets in Korea itself: using the bomb on the battlefield would produce little effect if Chinese and North Korean forces were dispersed, and it might harm UN forces if the two sides were engaged in close battle. Using the bomb against Chinese or Soviet bases in Manchuria, or against Chinese cities, would lead to an expansion of the war, which Washington wanted to avoid. Besides, United States allies in NATO were strongly opposed to the use of the bomb, and to use it once more against Asians might undermine the American position in Asia.

Truman was forthright in defending his decision to bomb Hiroshima and Nagasaki but he did not want to use this terrible weapon again. President Eisenhower was more willing to contemplate its use. He told the NSC on February 11, 1953, that the United States should consider employing tactical atomic weapons in Korea. At the same meeting, Secretary of State John Foster Dulles spoke of inhibitions on the use of the bomb, and of “Soviet success to date in setting atomic weapons apart from all other weapons as being in a

12 Torkunov, *Zagadochnaia voina*, 116–17.

13 Melvyn P. Leffler, *A Preponderance of Power: National Security, the Truman Administration, and the Cold War* (Stanford, CA: Stanford University Press, 1992), 398–401.

special category.”¹⁴ At an NSC meeting on March 31, Eisenhower commented that he and Dulles “were in complete agreement that somehow or other the tabu which surrounds the use of atomic weapons would have to be destroyed.”¹⁵ The Eisenhower administration dropped hints that it would resort to nuclear weapons to bring the Korean War to an end, and it deployed nuclear weapons to Guam. Eisenhower later claimed that it was the threat to use the bomb that made possible the armistice signed on July 27, 1953. Recent evidence from the Russian archives suggests that, whatever role indirect nuclear threats may have played, it was Stalin’s death on March 5 that was the key event in bringing the war to an end.¹⁶

Military planners thought of the bomb as another weapon to be used in war, but policymakers, influenced perhaps by the peace movement and public opinion, saw it as being in a class of its own. Eisenhower and Dulles regarded this as a constraint and complained about it. Putting the bomb in a special category made it more difficult to use, because its use would have to be justified by special factors. The distinction between “conventional” and “nuclear” weapons began to emerge at the end of the 1940s, reinforcing the idea that the bomb belonged in a special category. Each side was willing to put intense pressure on the other, but – as Soviet and US policy in the Korean War made clear – neither wanted what Stalin called the “big war.” Viacheslav Molotov said many years later that the Cold War involved pressure by each side on the other, but “of course you have to know the limits.”¹⁷ The bomb, because it was so clearly in a category of its own, marked one important limit: to use it would mean crossing a significant threshold on the path to general war.

The hydrogen bomb

The hydrogen bomb, which uses a fission bomb to ignite thermonuclear fuel, marked a new and extremely important stage in the nuclear-arms race. Los Alamos worked on the hydrogen bomb during and after World War II, but did not come up with a workable design. The Soviet test of August 1949 provided a new impetus, and on January 31, 1950, Truman announced that the

14 “Memorandum of Discussion at the 131st Meeting of the National Security Council, Wednesday, February 11, 1953,” *FRUS, 1952–1954*, vol. XV, 770.

15 “Memorandum of Discussion at a Special Meeting of the National Security Council on Tuesday, March 31, 1953,” *ibid.*, 827.

16 Torkunov, *Zagadochnaia voina*, 272–90.

17 *Sto sorok besed s Molotovym: iz dnevnika F. Chueva* [One Hundred and Forty Conversations with Molotov: From the Diary of F. Chuev] (Moscow: Terra, 1991), 88–89.

United States would develop the superbomb, as the hydrogen bomb was known. The “Mike” test on November 1, 1952, produced an explosive yield of 10 megatons, demonstrating that the United States had now mastered the basic design concepts (staging and radiation implosion) that made the superbomb possible. In the spring of 1954, the United States conducted a series of thermonuclear tests in the South Pacific, and one of the devices tested was more than 1,000 times more powerful than the bomb dropped on Hiroshima (15 megatons of TNT equivalent, as opposed to 13.5 kilotons). The Soviet Union did not lag far behind. In August 1953, it tested an intermediate type of hydrogen bomb, and in November 1955 it conducted a test that showed that it too knew how to build a superbomb.

Public opinion around the world was shocked by these tests and by the dangers that thermonuclear weapons presented; the tests gave a powerful impetus to antinuclear movements in the United States, Europe, and Asia. The political leaders of the three nuclear powers – Britain had tested a fission bomb in October 1952 – were also shaken. After his election as president, Dwight D. Eisenhower received a report on the US Mike shot. He was troubled by the report and in his inaugural address declared: “science seems ready to confer upon us, as its final gift, the power to erase human life from this planet.”¹⁸ On March 9, 1954, Winston Churchill, who was once again prime minister, wrote to Eisenhower after reading an account of that same Mike shot: “You can imagine what my thoughts are about London. I am told that several million people would certainly be obliterated by four or five of the latest H Bombs.”¹⁹ On March 12, 1954, the Soviet premier, Georgii M. Malenkov, made a speech in which he said that “a new world war ... with modern weapons [would mean] the end of world civilization.”²⁰

Eisenhower was convinced that the Soviet leaders did not want war, because war would put at risk their hold on power, but the prospect of growing Soviet nuclear strength impelled him to make sure that the Soviet leaders understood just how destructive a nuclear war would be. At the Geneva summit in July 1955 – the first meeting of Soviet and Western leaders since Potsdam ten years earlier – he made a special effort to impress upon them the terrible

18 Richard G. Hewlett and Jack M. Holl, *Atoms for Peace and War 1953–1961: Eisenhower and the Atomic Energy Commission* (Berkeley, CA: University of California Press, 1989), 3–4, 34.

19 Winston Churchill to Dwight D. Eisenhower, March 9, 1954, in Peter G. Boyle (ed.), *The Churchill–Eisenhower Correspondence 1953–1955* (Chapel Hill, NC: University of North Carolina Press, 1990), 123.

20 “Rech’ tovarishcha G. M. Malenkova” [Comrade G. M. Malenkov’s Speech], *Izvestiia*, March 13, 1954, 2.

consequences of a nuclear war, pointing in particular to the danger of nuclear fallout. At dinner one evening he explained with great earnestness that the development of modern weapons was such that the country that used them “genuinely risked destroying itself.”²¹ Because of the prevailing winds, he added, a major war would destroy the northern hemisphere.

The Geneva summit did not yield any major agreements, but Eisenhower returned to Washington believing, as he put it in a television broadcast, that “there seem[ed] to be a growing realization by all that nuclear warfare, pursued to the ultimate, could be practically race suicide.”²² Anthony Eden, the British prime minister, drew very much the same conclusion: “Each country present learnt that no country attending wanted war and each understood why ... this situation had been created by the deterrent power of thermo-nuclear weapons.”²³ Khrushchev recalled in his memoirs that he returned from Geneva “encouraged, realizing that our enemies probably feared us as much as we feared them.”²⁴

By the mid-1950s, the political leaders of each of the nuclear states understood that nuclear war was unacceptable in some profound, if ill-defined, way. Each of them knew that the others understood this too, and each of them knew that each knew that the others understood it. The unacceptability of nuclear war had thus become “common knowledge” among those who had the authority to launch nuclear weapons.²⁵ The situation was neatly summed up by a comment Khrushchev made to an American official in April 1956: “Nearly everyone knew that war was unacceptable and that coexistence was elementary.”²⁶

Nuclear deterrence

Washington did not expect its nuclear monopoly to end so quickly. Truman called for a study of the implications of the August 1949 Soviet test. The

21 “Memorandum for the Record of the President’s Dinner, President’s Villa, Geneva, July 18, 1955, 8 p.m.,” *FRUS, 1955–1957*, vol. V, 376.

22 Quoted in McGeorge Bundy, *Danger and Survival: Choices about the Bomb in the First Fifty Years* (New York: Random House, 1988), 302.

23 Anthony Eden, *Full Circle* (London: Cassell, 1960), 306.

24 N. S. Khrushchev, *Khrushchev Remembers*, vol. I (Harmondsworth: Penguin, 1977), 427.

25 Something is “common knowledge” in a group if each member knows it, knows that the others know it, knows that each one knows that the others know it, and so on. It is important for coordinated action. See David K. Lewis, *Convention: A Philosophical Study* (Cambridge, MA: Harvard University Press, 1969), 52–60.

26 “Telegram from the Embassy in the United Kingdom to the Department of State, April 25, 1956,” *FRUS, 1955–1957*, vol. XX, 380. The official was Harold Stassen.

resulting paper, NSC 68 (“United States Objectives and Programs for National Security”), warned that within four or five years the Soviet Union would be able to launch a surprise nuclear attack on the United States and called for a rapid buildup of air, ground, and sea forces, and of nuclear forces too.²⁷ This recommendation seemed unrealistic when NSC 68 was submitted in April 1950, but it gained a new relevance when the Korean War broke out in June. The United States and Britain began major rearmament programs, and NATO committed itself to ambitious force levels.

The economic impact of these programs soon caused concern. The British Chiefs of Staff argued in the spring of 1952 that the primary deterrent against Soviet aggression should be provided not by expensive conventional forces, but by the threat of nuclear retaliation. Eisenhower took the view that the federal budget – including the defense budget, which had grown threefold between 1950 and 1953 – had reached the point where it was damaging the economy. His “New Look” national security policy, which was set out in NSC 162/2 (“Basic National Security Policy”) and adopted on October 30, 1953, aimed to reduce the defense burden. Its most striking innovation was the emphasis it placed on nuclear weapons: “in the event of hostilities, the United States will consider nuclear weapons to be as available for use as other munitions.”²⁸ The United States would rely on the threat of nuclear retaliation to deter large-scale aggression by the Soviet Union. Any major war with the Soviet Union would be a nuclear war.

NSC 162/2 took a more sanguine view of the Soviet threat than NSC 68 had done. It backed away from the idea of an imminent year of maximum danger. The Soviet Union, it argued, was unlikely to launch a general war against the United States in the near future, and it foresaw the time when the two countries would have so many nuclear weapons that there would be “a stalemate, with both sides reluctant to initiate general warfare.”²⁹ The main challenge was rivalry “over the long pull”; that was why economic strength was so important.³⁰ NSC 162/2 argued that local aggression by the Communist powers could be inhibited by the threat of a nuclear response, even though that threat would become less effective as Soviet nuclear forces grew.

Nuclear deterrence was now the organizing principle of US national security policy. Eisenhower rejected the idea of preventive war against the Soviet

27 Ernest R. May (ed.), *American Cold War Strategy: Interpreting NSC 68* (Boston, MA: Bedford Books, 1993), 23–82.

28 “Basic National Security Policy,” *FRUS, 1952–1954*, vol. II, 593.

29 *Ibid.*, 581. See also Robert J. McMahon’s chapter in this volume.

30 *Ibid.*, 582.

Union, which seemed to some senior officers to be a realistic option in the early 1950s; "there are all sorts of reasons, moral and political and everything else, against this theory," he told a press conference in 1954.³¹ He expedited the development of intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs), as well as reconnaissance satellites. He deployed tactical nuclear weapons to Europe and other theaters. The basic Cold War structure of US nuclear forces took shape during his presidency.

Eisenhower's New Look policy was widely criticized in the United States for lacking credibility against all but the most extreme threats. The United States, in the eyes of the critics, would have to respond to limited aggression by choosing between doing nothing and starting a general war. Credibility was understood to be essential for deterrence, and the problem of making credible threats came to occupy a central place in theoretical analyses of deterrence and in discussions of US national security policy. It was a particular problem for NATO as Soviet nuclear forces grew: was it credible for the United States, once it became vulnerable to Soviet nuclear strikes, to threaten to use nuclear weapons to defend its allies?

Soviet policy after Stalin's death in March 1953 ran parallel to American policy in some key respects. The Soviet Union cut back the conventional forces that it too had built up in the early 1950s. It placed increasing emphasis on nuclear weapons and on ballistic missiles as the means to deliver them; in December 1959, it created a new military service, the Strategic Rocket Forces, which now became the spearhead of Soviet military power. The post-Stalin leaders moved away from the idea of an imminent year of maximum danger, which Stalin had adopted in the early 1950s. The concept of "peaceful coexistence," which suggested that war could be postponed indefinitely, was the Soviet equivalent of Eisenhower's rivalry "over the long pull." Nikita Khrushchev, first secretary of the Central Committee of the Communist Party of the Soviet Union (CPSU), attacked Malenkov for his statement that a new world war would mean the end of world civilization, but he did declare, at the Twentieth Party Congress in February 1956, that war was no longer fatally inevitable, because the Soviet Union now had the means to prevent it.³²

The Soviet Union was very secretive about its armed forces, and overstated rather than underplayed its military power. In the absence of firm information, exaggerated fears erupted in Washington, reinforced by bureaucratic interests. There was a "bomber gap" scare in 1955 when air force intelligence

31 Bundy, *Danger and Survival*, 251.

32 Holloway, *Stalin and the Bomb*, 335–45.

predicted that the Soviet Union would soon have far more bombers than the United States. A second scare, the “missile gap,” was triggered by the launch of Sputnik in October 1957, which demonstrated that the Soviet Union could deliver a warhead on an intercontinental trajectory. Khrushchev added to American anxieties by bragging about Soviet superiority.

Eisenhower did not share the prevailing sense of alarm. He was skeptical of the claim that the Soviet Union was rapidly overtaking the United States. He knew that the photographs obtained by the U-2 spy plane, incomplete though their coverage was, showed no evidence of a rapidly growing Soviet ICBM force. The missile gap was laid to rest only when John F. Kennedy, who had criticized Eisenhower for complacency in the face of mortal danger, became president. By the summer of 1961, it was clear from satellite photographs that whatever gap existed was in favor of the United States.

Throughout this period the United States maintained a considerable superiority in nuclear forces. Between 1950 and 1962, the US nuclear stockpile grew from 369 weapons to over 27,000, while the Soviet stockpile grew from a handful of bombs to about 3,300. The American capacity to deliver nuclear weapons against the Soviet Union was much greater than the Soviet capacity to launch nuclear strikes against the United States. The United States had many more long-range bombers than the Soviet Union, and it also had bases close to the Soviet Union, in Europe, Asia, and North Africa, as well as forward-deployed aircraft carriers. The Soviet Union had no aircraft carriers and no bases close to the United States. For technical as well as strategic reasons, the Soviet Union focused first on the deployment of medium-range – rather than intercontinental – bombers and missiles that could strike the bases and carrier groups from which US forces could attack Soviet territory. In spite of the early Soviet lead in ICBM development, the United States moved forward more quickly with deployment. By 1962, the United States had 203 ICBMs and 144 SLBMs, compared with the Soviet Union’s 36 ICBMs and 72 SLBMs.³³

By 1960, the United States and the Soviet Union had an image of a future war that was very different from the one they had shared in 1950.³⁴ First, each side conceived of a nuclear war as starting with a full-scale strategic nuclear

33 Archive of Nuclear Data on the National Resources Defense Council website, www.nrdc.org/nuclear/nudb/datainx.asp.

34 *Sovremennaiia voina* [Modern War] (Moscow: Academy of the General Staff, 1960), a study carried out under the direction of Marshal V. D. Sokolovskii, chief of the General Staff; and Scott D. Sagan, “SIOP-62: The Nuclear War Plan Briefing to President Kennedy,” *International Studies*, 12, 1 (Summer 1987), 22–51.

attack against a mix of targets. In each case, the most urgent targets would be the other side's strategic nuclear forces, but centers of military and government control, as well as industrial and transportation centers, would also be attacked. Second, each side aimed to win. Marshal V. D. Sokolovskii, chief of the General Staff, declared in 1960 that World War III would inevitably end in the victory of Communism. He did, however, assert his military professionalism by emphasizing that victory had to be prepared for and would not come by itself.³⁵ General Lyman L. Lemnitzer, chairman of the JCS, assured Kennedy in 1961 that execution of the SIOP (the Single Integrated Operational Plan) "should permit the United States to prevail in the event of general nuclear war."³⁶

Third, each side feared a surprise attack by the other. That fear was compounded by memories of the German attack on the Soviet Union and the Japanese attack on Pearl Harbor. Each side regarded it as essential to be able to preempt such an attack. In the 1950s, each side had a strong incentive to preempt by striking first. The United States might have been able to destroy a large part of the Soviet strategic force, thereby reducing the impact of a Soviet retaliatory strike. The Soviet Union, by the same token, could have lost a great part of its strategic force if it failed to go first; preemption, on the other hand, would allow it to blunt an American attack by destroying US forward-based systems.

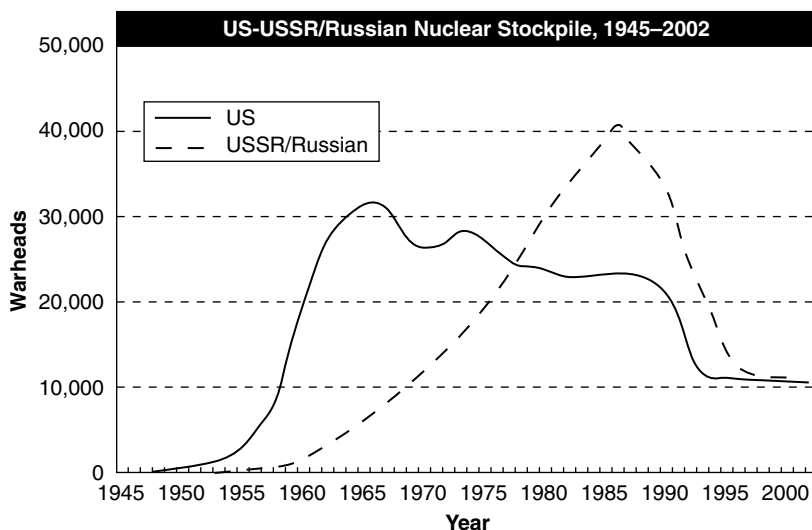
Some analysts worried that the "reciprocal fear of surprise attack" might create a spiral of anxiety and suspicion that would result in one side's attacking for fear that the other was about to do so, but that did not happen.³⁷ Preemption would have been a difficult strategy to implement. It required accurate warning of an impending attack, and the danger of "going late" was counterbalanced by the danger of "going early," in the sense of starting an unnecessary and unwanted war. Moreover, neither side believed that it could escape retaliation if it launched the first strike.³⁸ Even though each side regarded retaliation as a less desirable option than preemption, both sides tried to make sure they would be able to launch a retaliatory strike. Besides, the political leaders of the nuclear states believed that nuclear war would be a catastrophe, and each knew that the others

35 *Sovremennaia voina*, 53.

36 Sagan, "SIOP-62," 51.

37 Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960), ch. 9.

38 *Sovremennaia voina*, 50; Sagan, "SIOP-62," 50.



3. US–USSR/Russian nuclear stockpile, 1945–2002.

Source: www.nrdc.org/nuclear/nudb/dafig11.asp.

knew that, and so on. That common knowledge served as a factor of restraint and reassurance at a time when the strategic balance offered incentives for preemption.

Britain and France

The United States stopped nuclear cooperation with Britain at the end of World War II, much to the annoyance of the British government. There was widespread agreement in the country that Britain should have a bomb of its own, and this was reinforced by two specific anxieties. The first was that Britain did not want to repeat the experience of 1939–41 when it had stood virtually alone against Germany; the second was the fear that the United States, which was less vulnerable to attack than Britain, might rashly precipitate war. Britain hoped that the bomb would help it both to deter the Soviet Union and to influence the United States.

Britain tested the atomic bomb in October 1952 and the hydrogen bomb in May 1957. In 1958, the United States amended the Atomic Energy Act to permit close cooperation in nuclear weapons research, design, and production with countries that had already made “substantial progress” on their own. Britain achieved what Prime Minister Harold Macmillan called “the great prize,” when agreements were signed in 1958 to establish the basis for collaboration in

the design and development of nuclear weapons.³⁹ Cooperation extended to the coordination of strike plans and the transfer of US nuclear weapons to Britain in the event of war.

French nuclear policy followed a quite different course. After the war, France focused on the peaceful uses of atomic energy; the decision to build the bomb was taken later and in stages. In 1952, the government decided to build two reactors suited to plutonium production; in December 1954, the government decided that France should build the bomb; two years later, a secret committee was set up to bring together the scientists and the military chiefs. On April 11, 1958, Prime Minister Felix Gaillard signed the order to make and test the bomb. General Charles de Gaulle reaffirmed this decision when he took power in June of the same year, and in February 1960 the first French bomb was tested in the Sahara.

Several different motives shaped the French decision, but the most important was the insistence on having a voice in decisions affecting France's survival as a state. This was true of the governments of the Fourth Republic, which were concerned that without nuclear weapons they would have no influence on NATO's strategic planning. It was even more true of General de Gaulle, who doubted the credibility of the US nuclear guarantee to Western Europe. He proposed in September 1958 that a triumvirate consisting of the United States, Britain, and France be formed in NATO with the power to take joint decisions on questions affecting global security and to draw up joint strategic plans. This was so important to France, he said, that it would withdraw from NATO's military organization if his proposal were not adopted.⁴⁰ Eisenhower was willing to promise regular consultations, but that did not satisfy de Gaulle.

Nuclear threats and nuclear crises

Leaders on both sides tried to exploit nuclear weapons for political advantage. Eisenhower concluded from the Korean War that nuclear threats worked. That belief underpinned his New Look policy, which aimed to use nuclear threats to deter local aggression. As Dulles explained, the United States "would depend primarily on a great capacity to retaliate, instantly, by

39 Alastair Horne, *Macmillan 1957–1986: Volume II of the Official Biography* (London: Macmillan, 1989), 56.

40 Maurice Vaisse, *La grandeur: politique étrangère de général de Gaulle, 1958–1969* (Paris: Fayard, 1998), 117–25.

means and at places of our own choosing.”⁴¹ Eisenhower and Dulles considered using nuclear weapons in three crises in Asia. The first was in Indochina, where France was facing a Communist insurgency in Vietnam. There was discussion in the administration in 1954 of the possibility of using nuclear weapons to relieve French forces under siege in Dienbienphu. In the event Eisenhower took no action and made no overt nuclear threat.

The second and third crises concerned the islands of Jinmen and Mazu (Quemoy and Matsu), which lie only a few miles off the coast of China and were still controlled by the Chinese Nationalist government in Taiwan. In 1954 and 1958, the Chinese Communists bombarded the islands with artillery. Eisenhower concluded in each case that the defense of Taiwan required that the offshore islands be held. He was willing to use nuclear weapons if they were attacked, and he made that clear in March 1955 and in August 1958. These threats were not a bluff. Eisenhower gave serious consideration to the possibility of using nuclear weapons. He was not eager to do so, and he was well aware of the normative restraints on their use, but he did believe that nuclear threats could be used for political purposes. In each case the crisis ended when the Chinese expressed their desire for a peaceful settlement. Mao's main purpose appears to have been to make a political point, to show that China was a force to be reckoned with, rather than to seize territory from Nationalist control. In 1958, he had the additional goal of using international tension to mobilize Chinese society for the Great Leap Forward, a radical and ill-considered plan to industrialize China.

Ironically, Khrushchev, like Eisenhower, was persuaded of the utility of nuclear threats by a crisis in which the effect of such threats appears to have been negligible. Khrushchev conducted his first experiment in nuclear diplomacy during the Suez crisis. On November 5, 1956, he sent notes to London and Paris threatening them with missile attacks if they did not withdraw their forces from Egypt, where they had landed with the intention of regaining control of the Suez Canal. He sent a similar note to the Israeli government, which had allied itself with Britain and France. On the following day, Britain decided to end the Suez operation, and France was obliged to follow suit; Israel withdrew its forces later. Most historians assign a minor role to Soviet threats in explaining the collapse of the Suez operation; they give much greater weight to Eisenhower's opposition and US financial pressure. Khrushchev concluded otherwise. He was apparently convinced by the Suez

⁴¹ Bundy, *Danger and Survival*, 254.

crisis that nuclear threats were effective – and also that bluffs worked, since he could not have carried out the threats he made.⁴²

Khrushchev wanted to make political gains by exploiting Soviet successes in nuclear technology and in space. He knew that a nuclear war would be catastrophic, and he knew that Eisenhower knew that too. If he could press hard enough, however, Eisenhower might back down. “I think the people with the strongest nerves will be the winners,” he remarked in 1958. “That is the most important consideration in the power struggle of our time. The people with weak nerves will go to the wall.”⁴³ He believed that he could wage an effective war of nerves against the West.

On November 27, 1958, Khrushchev announced that he would conclude a peace treaty with the German Democratic Republic (GDR) within six months, thereby effectively revoking the rights of the occupying powers in Berlin. This was a serious challenge for the United States and NATO. The Soviet Union had overwhelming conventional superiority around West Berlin; if the Soviet Union decided to take Berlin, NATO might have to respond with nuclear weapons. Would the United States be willing to use such weapons, knowing that the Soviet Union would, in all likelihood, respond with nuclear strikes of its own? Eisenhower used this quandary to NATO’s advantage by consistently denying that war in Europe could remain conventional. He sought thereby to deny Khrushchev any leverage from the overwhelming Soviet conventional superiority around Berlin.

In the note that precipitated the crisis, Khrushchev warned Washington: “only madmen can go to the length of unleashing another world war over the preservation of the privileges of the occupationists in West Berlin.”⁴⁴ The difficulty for Khrushchev was that it was equally true that only a madman would start a war in order to *end* those privileges. Eisenhower knew that Khrushchev understood that a nuclear war would be catastrophic for everyone; he knew that Khrushchev knew that he (Eisenhower) understood it as well. In March 1959, after Khrushchev had dropped the six-month deadline, Eisenhower stated, in a television broadcast, “global conflict under modern conditions could mean the destruction of civilization. The Soviet rulers,

42 Sergei Khrushchev, *Rozhdenie sverkhderzhavy: kniga ob otse* [Birth of a Superpower: A Book about My Father] (Moscow: Vremia, 2000), 185.

43 Mohammed Heikal, *Sphinx and Commissar: The Rise and Fall of Soviet Influence in the Arab World* (London: Collins, 1978), 98. See Vojtech Mastny’s chapter in this volume.

44 “Note from the Soviet Government to the United States Regarding the Question of Berlin, 27 November 1958,” in Gillian King (ed.), *Documents on International Affairs 1958* (London: Oxford University Press, 1962), 163.

themselves, are well aware of this fact.”⁴⁵ The best way to reduce the risk of war, he went on, was to stand firm over Berlin. Eisenhower stood his ground and Khrushchev did not carry through on his threat.

Khrushchev reopened the Berlin crisis at the Vienna summit meeting in June 1961 when he handed Kennedy an *aide-mémoire* demanding that West Berlin become a free city and that peace treaties be signed with the GDR. Once again he set a six-month deadline, and again he applied pressure on the Western powers. He hoped that Kennedy would be more susceptible to pressure than Eisenhower, but he was mistaken. He did not follow through on his threat to sign a peace treaty. In August 1961, he decided to erect the Wall in order to staunch the flow of people to the West. This action, though it was followed by some tense confrontations between American and Soviet forces, provided the basis for a *modus vivendi* on Berlin.

When the Central Committee presidium (as the Politburo was then called) removed Khrushchev from power in October 1964, it drew up two indictments. The milder of these, which was read to the Central Committee, made little mention of foreign policy. The harsher indictment, which was written by D. S. Polianskii, a member of the presidium, was prepared in case Khrushchev was not willing to resign at the presidium’s request. It is worth quoting from its comments on the Berlin crisis. Comrade Khrushchev, it stated, “gave an ultimatum: either Berlin will be a free city by such and such a date, or even war will not stop us. We do not know what he was counting on, for we do not have such fools as think it necessary to fight for a ‘free city of Berlin.’”⁴⁶ Comrade Khrushchev, it continued, “wanted to frighten the Americans; however, they did not take fright, and we had to retreat, to suffer a palpable blow to the authority and prestige of the country, our policy, and our armed forces.”⁴⁷ It is hard to disagree with these judgments.

Both Eisenhower and Kennedy stood firm against Khrushchev’s pressure, but there was an important difference between them. Eisenhower was willing to confront Khrushchev with the prospect of general war. Kennedy wanted to have more options at his disposal: he increased US forces in Germany and explored the possibility of a limited first strike against the Soviet nuclear forces. In Berlin, Eisenhower’s policy proved to be effective, but that did not stop the Kennedy administration’s search for flexible options.

45 Radio and television address, March 16, 1959, *Public Papers of the Presidents of the United States: Dwight D. Eisenhower 1959* (Washington, DC: United States Government Printing Office, 1960), 276.

46 “Takovy, tovarishchi, fakty” [Such, Comrades, Are the Facts], *Istokhnik*, 1998, 2, 112.

47 *Ibid.*, 113.

The Cuban missile crisis

In May 1962, Khrushchev decided to deploy in Cuba a group of Soviet forces consisting of 50,000 troops armed with medium- and intermediate-range ballistic missiles, fighter aircraft, light bombers, cruise missiles, naval vessels, and submarines, as well as strategic and tactical nuclear weapons. It was planned to build a submarine base as part of the Soviet presence.⁴⁸ The defense of Cuba against a US invasion was one crucial motive for this decision, but the composition of the group of forces suggests that a more important goal was to strengthen the Soviet strategic position vis-à-vis the United States. After the setbacks over Berlin, Khrushchev believed that it was important to increase pressure on the United States.⁴⁹

Khrushchev wanted to present Kennedy with a *fait accompli*. The Soviet operation was organized in great secrecy, but on October 15 the Kennedy administration discovered that missile sites were being constructed in Cuba. The missiles were not yet operational, so the administration had several days to deliberate in private. Various responses were discussed, including air strikes against Cuba and an invasion of the island. On October 22, Kennedy announced that the United States would impose a naval quarantine on Cuba and insisted on the withdrawal of the Soviet missiles.

Khrushchev was in an extremely difficult position. His goal, he told the presidium, was not to unleash war but to deter the United States from attacking Cuba. The tragedy was, he said, that, if the Americans attacked Cuba, Soviet forces would respond, and that could lead to a "big war."⁵⁰ The United States placed its strategic forces on higher alert and assembled forces in Florida to prepare for an invasion of Cuba. The Soviet Union also increased the readiness of its forces. The crisis, which had begun with a serious miscalculation by Khrushchev about Kennedy's reaction to the placing of missiles in Cuba, was now acquiring a dangerous momentum, in which a further miscalculation by one side could elicit an unwanted reaction from the other, leading to an uncontrollable spiral ending in war. An accident or an

48 Aleksandr Fursenko and Timothy Naftali, *"One Hell of a Gamble": Castro, Kennedy, and the Cuban Missile Crisis 1958–1964* (London: John Murray, 1997), 188–89.

49 A. A. Fursenko (ed.), *Prezidium TsK KPSS 1954–1964*, vol. I [The Presidium of the Central Committee of the CPSU 1954–1964] (Moscow: ROSSPEN, 2003), 545. For a fuller discussion of Khrushchev's motives, see Vojtech Mastny's chapter in this volume and William Taubman and Svetlana Savranskaya's chapter in volume II. See also the discussion in Aleksandr Fursenko and Timothy Naftali, *Khrushchev's Cold War* (New York: W. W. Norton, 2006), 439–45.

50 Fursenko (ed.), *Prezidium TsK KPSS 1954–1964*, vol. I, 617.

unauthorized action by one side could produce the same result. The situation was in danger of slipping out of control.

Khrushchev expressed this fear vividly in a letter he wrote to Kennedy on October 26, objecting to the quarantine and proposing steps to resolve the crisis:

If, however, you have not lost your self-control and sensibly conceive of what this might lead to, then Mr. President, we and you ought not now to pull on the ends of the rope in which you have tied the knot of war, because the more the two of us pull, the tighter the knot will be tied. And a moment may come when that knot will be tied so tight that even he who tied it will not have the strength to untie it, and then it will be necessary to cut that knot, and what that would mean is not for me to explain to you, because you yourself understand perfectly of what terrible forces our countries dispose.⁵¹

Khrushchev understood how terrible a nuclear war would be and counted on Kennedy's understanding of the same point. When Fidel Castro suggested in a letter to Khrushchev, on October 26, that the Soviet Union be prepared to launch a preemptive nuclear strike against the United States if it invaded Cuba, Khrushchev reacted strongly. Such a strike would start a thermonuclear war, he wrote, explaining how terrible such a war would be. In a later letter he tried to convince Castro that Kennedy understood that too.⁵²

The crisis was finally resolved on October 28 when Khrushchev agreed to withdraw the missiles in return for a commitment by Kennedy not to invade Cuba. A secret agreement was also concluded in which Kennedy promised to remove the Jupiter missiles from Turkey as long as Khrushchev did not make that promise public. In October 1964, the presidium's harsher indictment was direct in its condemnation of Khrushchev. His decision to put missiles in Cuba (which almost all members of the presidium had supported) "caused a very profound crisis, brought the world to the brink of nuclear war; it gave a terrible fright to the man who organized this dangerous undertaking."⁵³ The indictment went on to say that it was of course sometimes necessary to threaten the imperialists with the force of arms, in order to sober them up; but it was wrong to turn threats of war into a method for conducting foreign policy, as Khrushchev had done.

⁵¹ *FRUS, 1961–1963*, vol. VI, 177.

⁵² F. Castro to N. S. Khrushchev, October 26, 1962, and N. S. Khrushchev to F. Castro, October 30, 1962, *Granma (International Edition in English)*, December 2, 1990, 1–4; N. S. Khrushchev to F. Castro, October 31, 1962, in *Vestnik ministerstva inostrannykh del*, No. 24 (82) (December 31, 1990), 78.

⁵³ "Takovy, tovarishchi, fakty," 113.

The Cold War and the arms race

The four nuclear powers, and especially the United States and the Soviet Union, devoted considerable resources to building up their nuclear stockpiles and acquiring the bombers, submarines, missiles, and guns to deliver the nuclear weapons to target. The origins of the nuclear-arms race can be traced to the political rivalry between the wartime allies, the Soviet Union, the United States, and Britain. By the 1950s, nuclear threats were permanently embodied in the forces that each side deployed against the other. Each side feared that the other was seeking the capacity to launch a surprise attack and each stressed the importance of preempting such an attack if it appeared to be imminent. Nuclear threats were both a product of the Cold War and a factor contributing to the great tension of those years. Over time, the weapons laboratories, the defense industry, and the armed forces became increasingly influential in the formulation of policy. In his farewell address to the nation on January 17, 1961, Eisenhower warned of the need to guard against the acquisition of unwarranted influence by the military-industrial complex. A similar phenomenon became apparent in the Soviet Union at a somewhat later date.



31. The Soviet Union sharply expanded its nuclear arsenal in the 1960s; here Soviet citizens watch ICBMs in Red Square, Moscow, on the anniversary of the Bolshevik Revolution, 1969.

Nuclear weapons also helped to keep the Cold War “cold.” By the mid-1960s, a situation had been created in which each side could inflict massive death and destruction on the other. A set of conventions and understandings emerged between the two sides to help them manage their nuclear relationship. The distinction between conventional and nuclear weapons provided a threshold, which helped the two sides conduct their rivalry short of the general war neither of them wanted. The idea that general nuclear war was in some profound way unacceptable became common knowledge among the political leaders of the three nuclear powers, that is, among those who had the authority to use nuclear weapons. That common knowledge constituted a basic premise of the Cold War and shaped the nuclear politics of the following years. Political leaders were willing to make nuclear threats, but they understood the difference between threat and action. Khrushchev exploited the fear of nuclear war to wage a dangerous and unsuccessful war of nerves, but he was limited in what he could threaten by the common knowledge that nuclear war was unacceptable. He knew that the other side wanted to avoid nuclear war, but they knew that he did too, and he knew that they knew he did. This was nevertheless a very dangerous period, because there was the danger that miscalculation or unauthorized acts could lead to an uncontrollable spiral toward war.

The Cuban missile crisis was a turning point in the Cold War. It drove home the lesson that crises are dangerous and should therefore be avoided. The first steps toward arms control had been taken in the late 1950s and early 1960s in talks on surprise attack and negotiations on a comprehensive test ban, but no significant agreement had been concluded before the Cuban missile crisis. That crisis gave a new impetus to efforts to make the nuclear relationship more stable and to reduce the risk of war.⁵⁴

54 For a more detailed analysis of the missile crisis and of the continuing arms race in the 1960s and 1970s, see G. James Hershberg's and William Burr and David Alan Rosenberg's chapters in volume II.