

# An astonishing 60 years: The legacy of Hiroshima

Thomas C. Schelling\*

School of Public Affairs, University of Maryland, College Park, MD 20742

The most spectacular event of the past half century is one that did not occur. We have enjoyed 60 years without nuclear weapons exploded in anger.

What a stunning achievement—or, if not achievement, what stunning good fortune. In 1960 the British novelist C. P. Snow said on the front page of *The New York Times* that unless the nuclear powers drastically reduced their armaments, thermonuclear warfare within the decade was a “mathematical certainty.” Nobody appeared to think Snow’s statement extravagant.

We now have that mathematical certainty compounded more than four times, and no nuclear war. Can we make it through another half dozen decades?

There has never been any doubt about the military effectiveness of nuclear weapons or their potential for terror. A large part of the credit for their not having been used must be due to the “taboo” that Secretary of State John Foster Dulles perceived to have attached itself to these weapons as early as 1953, a taboo that the Secretary deplored.

The weapons remain under a curse, a now much heavier curse than the one that bothered Dulles in the early 1950s. These weapons are unique, and a large part of their uniqueness derives from their being perceived as unique. We call most of the others “conventional,” and that word has two distinct senses. One is “ordinary, familiar, traditional,” a word that can be applied to food, clothing, or housing. The more interesting sense of “conventional” is something that arises as if by compact, by agreement, by convention. It is simply an established convention that nuclear weapons are different.

True, their fantastic scale of destruction dwarfs the conventional weapons. But as early as the end of the Eisenhower administration, nuclear weapons could be made smaller in explosive yield than the largest conventional explosives. There were military planners to whom “little” nuclear weapons appeared untainted by the taboo that they thought ought properly to attach only to weapons of a size associated with Hiroshima or Bikini. But by then nuclear weapons had become a breed apart; size was no excuse from the curse.

This attitude, or convention, or tradition, that took root and grew over these past five decades is an asset to be trea-

sured. It is not guaranteed to survive, and some possessors or potential possessors of nuclear weapons may not share the convention. How to preserve this inhibition, what kinds of policies or activities may threaten it, how the inhibition may be broken or dissolved, and what institutional arrangements may support or weaken it deserve serious attention. How the inhibition arose, whether it was inevitable, whether it was the result of careful design, whether luck was involved, and whether we should assess it as robust or vulnerable in the coming decades is worth examining. Preserving this tradition, and if possible helping to extend it to other countries that may yet acquire nuclear weapons, is as important as extending the Nuclear Nonproliferation Treaty.

## There has never been any doubt about the military effectiveness of nuclear weapons.

The first occasion when these weapons might have been used was early in the Korean war. Americans and South Koreans had retreated to a perimeter around the southern coastal city of Pusan and appeared in danger of being unable either to hold out or to evacuate. The nuclear weapons issue arose in public discussion in this country and in the British Parliament. Clement Atlee flew to Washington to beseech President Truman not to use nuclear weapons in Korea. The visit and its purpose were both public and publicized. The House of Commons, considering itself to have been a partner in the enterprise that produced nuclear weapons, considered it legitimate that Britain have a voice in the American decision.

The successful landing at Inchon mooted the question whether nuclear weapons might have been used if the situation in the Pusan perimeter had become desperate enough. But at least the question of nuclear use had come up, and the upshot was in the negative.

There may be more than enough reasons to explain the non-use at that time in Korea. But I do not recall that an important consideration, for the U.S.

government or the U.S. public, was apprehension of the consequences of demonstrating that nuclear weapons were “usable,” of preempting the possibility of cultivating a tradition of non-use.

Nuclear weapons again went unused in the disaster brought by the entry of Chinese armies and were still unused during the bloody war of attrition that accompanied the Panmunjom negotiations. Whether they would have been used, and where and how they might have been used had the war ground on for many more months, and what the subsequent history would have been had they been used in North Korea or in China at that time is of course speculative. Whether the threat of nuclear weapons, presumably in China rather than on the battlefield, influenced the truce negotiations remains unclear.

McGeorge Bundy’s recent book *Danger and Survival: Choices About the Bomb in the First Fifty Years* (1), documents the fascinating story of Eisenhower and Dulles and nuclear weapons. At the National Security Council on February 11, 1953, just weeks after Eisenhower’s inauguration, “Secretary Dulles discussed the moral problem in the inhibitions on the use of the A-bomb. . . . It was his opinion that we should break down this false distinction” (ref. 1, page 241). I do not know of any analysis of that time within the government of actions that might tend to break down the distinction and what actions or inactions would preserve and strengthen it. But evidently the Secretary believed, and may have taken for granted that the entire National Security Council believed, that the restraints were real even if the distinction was false, and that the restraint was not to be welcomed.

Again, on October 7, 1953, Dulles stated: “Somehow or other we must manage to remove the taboo from the use of these weapons” (ref. 1, page 249). Just a few weeks later the President approved, in a Basic National Security

\*E-mail: tschelli@umd.edu.

Adapted from Les Prix Nobel 2006. © 2006 by the Nobel Foundation.

Editor’s Note: This article is a version of Thomas C. Schelling’s Nobel Lecture, “An Astonishing Sixty Years.” The 2005 Nobel Prize in Economics was awarded jointly to Thomas Schelling and Robert Aumann for having enhanced our understanding of conflict and cooperation through game-theory analysis. The Nobel Foundation has graciously granted us permission to print this article to help broaden its exposure.

document, the statement, “In the event of hostilities, the United States will consider nuclear weapons to be as available for use as other munitions” (ref. 1, page 246). This statement surely has to be read as more rhetorical than factual. Taboos are not easily dispelled by pronouncing them extinct, even in the mind of one who does the pronouncing. Six months later at a restricted North Atlantic Treaty Organization (NATO) meeting, the U.S. position was that nuclear weapons “must now be treated as in fact having become conventional” (ref. 1, page 268). Again, saying so cannot make it so; tacit conventions are sometimes harder to destroy than explicit ones, existing in potentially recalcitrant minds rather than on destructible paper.

According to Bundy, the last public statement in this progress of nuclear weapons toward conventional status occurred during the Quemoy crisis. On March 12, 1955, Eisenhower said, in answer to a question, “In any combat where these things can be used on strictly military targets and for strictly military purposes, I see no reason why they shouldn’t be used just exactly as you would use a bullet or anything else” (ref. 1, page 278). Bundy’s judgment, which I share, is that this again was more an exhortation than a policy decision.

Was Ike really ready to use nuclear weapons to defend Quemoy or Taiwan itself? It turned out he didn’t have to. The conspicuous shipment of nuclear artillery to Taiwan was surely intended as a threat. Bluffing would have been risky from Dulles’ point of view; leaving nuclear weapons unused while the Chinese conquered Taiwan would have engraved the taboo in granite. At the same time, Quemoy may have appeared to Dulles as a superb opportunity to dispel the taboo. Using short range nuclear weapons in a purely defensive mode, solely against offensive troops, especially at sea or on beachheads devoid of civilians, might have been something that Eisenhower would have been willing to authorize and that European allies would have approved, and nuclear weapons might have proved that they could be used “just exactly as you would use a bullet or anything else.” The Chinese did not offer the opportunity.

On the status of nuclear weapons, the Kennedy and Johnson administrations were a sharp contrast to the Eisenhower. There was also a change in roles within the Cabinet. Hardly anybody born after World War II remembers the name of Eisenhower’s Secretary of Defense. But most who have studied any American history know the name of John Foster Dulles. A bit of research

with Bundy’s book shows the contrast. In Bundy’s index there are 31 references to Dulles, 2 to Charles Wilson. Under Kennedy and Johnson the score is reversed: 42 references to McNamara, 12 to Dean Rusk.

The anti-nuclear movement in the Kennedy administration was led from the Pentagon, and in 1962, McNamara began his campaign—his and President Kennedy’s—to reduce reliance on nuclear defense in Europe by building expensive conventional forces in NATO. During the next couple of years, McNamara became associated with the idea that nuclear weapons were not “usable” at all in the sense that Eisenhower and Dulles had intended. Undoubtedly the traumatic October of 1962 contributed to the revulsion against nuclear weapons of some of Kennedy’s key advisors and Kennedy himself.

The contrast between the Eisenhower and Kennedy–Johnson attitudes toward nuclear weapons is beautifully summarized in a statement of Lyndon Johnson’s in September 1964 (2): “Make no mistake. There is no such thing as a conventional nuclear weapon. For 19 peril-filled years no nation has loosed the atom against another. To do so now is a political decision of the highest order.”

That statement disposed of the notion that nuclear weapons were to be judged by their military effectiveness. It disposed of Dulles’ “false distinction”: “A political decision of the highest order” compared with “as available for use as other munitions.”

I am particularly impressed by the “19 peril-filled years.” Johnson implied that for 19 years the U.S. had resisted the temptation to do what Dulles had wanted the U.S. to be free to do where nuclear weapons were concerned. He implied that the U.S., or collectively the U.S. and other nuclear weapon states, had an investment, accumulated over 19 years, in the non-use of nuclear weapons, and that those 19 years of quarantine for nuclear weapons were part of what would make any decision to use those weapons a political one of the highest order.

It is worth a pause here to consider just what might be the literal meaning of “no such thing as a conventional nuclear weapon.” Specifically, why couldn’t a nuclear bomb no larger than the largest blockbuster of World War II be considered conventional, or a nuclear depth charge of modest explosive power for use against submarines far at sea, or nuclear land mines to halt advancing tanks or to cause landslides in mountain passes? What could be so awful about using three “small” atomic bombs to

save the besieged French at Dien Bien Phu as was discussed at the time? What could be so wrong about using nuclear coastal artillery against a communist Chinese invasion flotilla in the Gulf of Taiwan?

There are two answers that this question has received, one mainly instinctive, the other somewhat analytical, but both resting on a belief, or a feeling—a feeling somewhat beyond reach by analysis—that nuclear weapons were simply different, and generically different. The more intuitive response can probably best be formulated, “If you have to ask that question you wouldn’t understand the answer.” The generic character of everything nuclear was simply—as logicians might call it—a primitive, an axiom, and analysis was as unnecessary as it was futile.

The other, more analytical, response took its argument from legal reasoning, diplomacy, bargaining theory, and theory of training and discipline, including self-discipline. This argument emphasized bright lines, slippery slopes, well defined boundaries, and the stuff of which traditions and implicit conventions are made. (The analogy to “one little drink” for a recovering alcoholic was sometimes heard.) But both lines of argument arrived at the same conclusion: nuclear weapons, once introduced into combat, could not, or probably would not, be contained, confined, or limited.

Sometimes the argument was explicit that no matter how small the weapons initially used were, the size of weapons would ineluctably escalate, there being no natural stopping place. Sometimes the argument was that the military needed to be disciplined, and once they were allowed any weapons, it would be impossible to stop their escalation.

The “neutron bomb” is illustrative. This is a bomb, or potential bomb, that, because it is very small and because of the materials of which it is constructed, emits “prompt neutrons” that can be lethal at a distance at which blast and thermal radiation are comparatively moderate. As advertised, it kills people without great damage to structures. The issue of producing and deploying this kind of weapon arose during the Carter Administration, evoking an anti-nuclear reaction that caused it to be left on the drawing board. But the same bomb—at least, the same idea—had been the subject of even more intense debate 15 years earlier, and it was there that the argument was honed that was ready to be used again in the 1970s. The argument was simple—and it was surely valid, whether or not it deserved to be decisive. It was that it was important not

to blur the distinction—the firebreak, as it was called—between nuclear and conventional weapons, and either because of its low yield or because of its “benign” kind of lethality it was feared, and it was argued, that there would be a strong temptation to use this weapon where nuclear weapons were otherwise not allowed, and that the use of this weapon would erode the threshold, blur the firebreak, and pave the way by incremental steps for nuclear escalation.

The argument is not altogether different from that against so-called “peaceful nuclear explosions” (PNEs). The decisive argument against PNEs was that they would accustom the world to nuclear explosions, undermining the belief that nuclear explosions were inherently evil and reducing the inhibitions on nuclear weapons. The prospect of blasting new river beds in northern Russia or a bypass canal for the waters of the Nile, or harbors in developing countries, generated concern about “legitimizing” nuclear explosions.

A revealing demonstration of this antipathy was in the universal rejection by American arms controllers and energy-policy analysts of the prospect of an ecologically clean source of electrical energy, proposed in the 1970s, that would have detonated “tiny” (50-kiloton) thermonuclear bombs in underground caverns to generate steam. I have seen this idea unanimously dismissed without argument, as if the objections were too obvious to require articulation. As far as I could tell, the objection was always that even “good” thermonuclear explosions were bad and should be kept that way. (I can imagine President Eisenhower: “In any energy crisis where these things can be used on strictly civilian sites for strictly civilian purposes, I see no reason why they shouldn’t be used just exactly as you would use a barrel of oil or anything else.” And Dulles: “Somehow or other we must manage to remove the taboo from the use of these clean thermonuclear energy sources.”)

But it is important not to think that nuclear weapons alone have this character of being generically different, and independently of quantity or size. Gas was not used in World War II. The Eisenhower–Dulles argument could have applied to gas: “In any combat where these gases can be used on strictly military targets and for strictly military purposes, I see no reason why they shouldn’t be used just exactly as you would use a bullet or anything else.” But as Supreme Commander of the Allied Expeditionary Forces, General Eisenhower, as far as we know, never proposed any such policy. Maybe if, at

the time, he had been put through the exercise, he would have convinced himself not that gas should never be used but that gas was at least different from bullets, and that decisions on its use raised new strategic issues. And 10 years later he might have recalled that line of thinking when, I think reluctantly, he let his secretary of state urge doing for nuclear weapons what Eisenhower apparently never thought of doing for gas in the European theater.

Some other things have this all-or-none quality in warfare. Nationality is one. The Chinese did not visibly intervene in the Korean war until it was time to intervene in force. American military aid personnel have always been cautioned to avoid appearing to engage in anything that could be construed as combat, the notion being that contamination could not be contained. There was some consideration of American intervention in Indochina at the time of Dien Bien Phu, but not on the ground; in the air, it was thought that reconnaissance would count less as “intervention” than would bombing. There is typically the notion that to provide equipment is much less participatory than to provide military manpower; we arm the Israeli and provide ammunition even in wartime, but so much as a company of American infantry would be perceived as a greater act of participation in the war than \$5 billion worth of fuel, ammunition, and spare parts.

I mention all this to suggest that there are perceptual and symbolic phenomena that persist and recur and that help to make the nuclear phenomenon less puzzling. And I find it remarkable how these perceptual constraints and inhibitions cross cultural boundaries. During the Chinese phase of the Korean war, the U.S. never bombed airbases in China. The “rules” were that Chinese bombing sorties originated from North Korea, and to abide by the rules, Chinese aircraft originating in Manchuria touched wheels down at North Korean airstrips on the way to bombing their American targets.

That reminds us that national territory is like nationality: crossing the Yalu River, on the ground or in the air, is a qualitative discontinuity. Had General MacArthur succeeded in conquering all of North Korea, even he could not have proposed that penetrating just “a little bit” into China proper wouldn’t have mattered much because it was only a little bit.

Still, these qualitative all-or-none kinds of thresholds are often susceptible to undermining. A Dulles who wishes the taboo were not there may not only attempt to get around it when it is im-

portant but also may apply ingenuity to dissolving the barrier on occasions when it may not matter much, in anticipation of later opportunities when the barrier would be a genuine embarrassment. Bundy suggests that in discussing the possibility of atomic bombs in defense of Dien Bien Phu, Dulles and Admiral Radford, the Chairman of the Joint Chiefs of Staff, had in mind not only the local value in Indochina but also the use of Dien Bien Phu in “making the use of atomic bombs internationally acceptable,” a purpose that Dulles and Radford shared.

The aversion to nuclear weapons—one might even say the abhorrence of them—can grow in strength and become locked into military doctrine even without being fully appreciated or even acknowledged. The Kennedy administration launched an aggressive campaign for conventional defenses in Europe on grounds that nuclear weapons certainly should not be used, and probably would not be used, in the event of a war in Europe. Throughout the 1960s, the official Soviet line was to deny the possibility of a non-nuclear engagement in Europe. Yet the Soviets spent great amounts of money developing non-nuclear capabilities in Europe, especially aircraft capable of delivering conventional bombs. This expensive capability would have been utterly useless in the event of any war that was bound to become nuclear. It reflects a tacit Soviet acknowledgment that both sides might be capable of non-nuclear war and that both sides had an interest, an interest worth a lot of money, in keeping war non-nuclear—keeping it non-nuclear by having the capability of fighting a non-nuclear war.

Arms control is so often identified with limitations on the possession or deployment of weapons that it is often overlooked that this reciprocated investment in non-nuclear capability was a remarkable instance of unacknowledged but reciprocated arms control. It is not only potential restraint in the use of nuclear weapons, but also it is investment in a configuration of weapons to make them capable of non-nuclear combat.

It reminds us that the inhibitions on “first use” may be powerful without declarations, even powerful while one party refuses to recognize its own participation for what it is.

With the possible exception of the Anti-Ballistic Missile treaty, this conventional buildup in Europe was the most important east–west arms understanding until the demise of the Soviet Union. It was genuine arms control, even if implicit, even if denied—as real as if the two sides had signed a treaty obliging



nuclear retaliation made any initiation of nuclear war nearly unthinkable.

The instances of non-use of nuclear weapons that I have discussed were, in every case, possible use against a non-possessor. The non-use between the U.S. and the U.S.S.R. was differently motivated: the prospect of nuclear retaliation made any initiation appear unwise except in the worst imaginable military emergency, and that kind of military emergency never offered the temptation. The experience of the U.S.–U.S.S.R. confrontation may impress Indians and Pakistanis; the greatest risk is that one or the other may confront the kind of military emergency that invites some limited experiment with the weapons, and there is no history to tell us, or them, what happens next.

Most recently, there is the concern that Iran and North Korea may acquire, or may already have acquired, some modest number of nuclear warheads. (Libya appears to have withdrawn from contention.) Great diplomatic skill and international cooperation will be required to suppress or discourage their interest in acquiring such weapons. Equally great skill, or greater, will be required to create or enhance the expectations and institutions that inhibit their use.

Those 19 years have stretched to 60. The taboo that Ike appeared to denigrate (or pretended to) but that awed President Johnson a decade later has become a powerful tradition of nearly universal recognition.

The next possessors of nuclear weapons may be Iran, North Korea, or possibly some terrorist bodies. Is there any hope that they will have absorbed the nearly universal inhibition against the use of nuclear weapons, or will they at least be inhibited by the recognition that the taboo enjoys widespread acclaim?

Part of the answer will depend on whether the U.S. recognizes that inhibition and especially on whether the U.S. either recognizes it as an asset to be cherished, enhanced, and protected or, like John Foster Dulles in Eisenhower's Cabinet, believes "somehow or other we must manage to remove the taboo from the use of these weapons."

There is much discussion these days of whether or not "deterrence" has had its day and no longer has much of a role in America's security. There is no Soviet Union to deter; the Russians are more worried about Chechnya than about the U.S.; the Chinese seem no more inter-

ested in military risks over Taiwan than Khrushchev really was over Berlin; and terrorists cannot be deterred anyway—we don't know what they value that we might threaten, or who or where it is.

I expect that we may come to a new respect for deterrence. If Iran should, despite every diplomatic effort to prevent it, acquire a few nuclear weapons, we may discover again what it is like to be the deterred one, not the one doing the deterring. (I consider us—NATO—as having been deterred from intervening in Hungary in 1956 and Czechoslovakia in 1968.) I also consider it crucial that Iran learn to think, if it has not already, in terms of deterrence.

### The most effective use of the bomb, from a terrorist perspective, will be for influence.

What else can Iran accomplish, except possibly the destruction of its own system, with a few nuclear warheads? Nuclear warheads should be too precious to give away or to sell, too precious to waste killing people when they could, held in reserve, make the U.S., or Russia, or any other nation, hesitant to consider military action. What nuclear weapons have been used for, effectively, for 60 years has not been on the battlefield or on populations: they have been used for influence.

What about terrorists? Any organization that gets enough fissile material to make a bomb will require at least six, probably more, highly qualified scientists and numerous machinists and technologists, working in seclusion away from families and occupations for at least weeks, maybe months, with nothing much to talk about except what the A-bomb might be used for and by whom. They are likely to feel justified, by their contribution, to have some claim in deciding the use of the nuclear device. (The British Parliament in 1950 considered itself, as partner in the development of the atomic bomb, qualified to advise Truman on possible use of the bomb in Korea.)

They will discover—I hope they will discover—over weeks of arguing, that the most effective use of the bomb,

from a terrorist perspective, will be for influence. Possessing a nuclear device, if they can demonstrate possession—and I believe they can, if they have it, without detonating it—will give them something of the status of a nation. Threatening to use it against military targets, and keeping it intact if the threat is successful, may appeal to them more than expending it in a destructive act. Even terrorists may consider destroying large numbers of people and structures less satisfying than keeping a major nation at bay.

The U.S. was slow to learn, but eventually learned (in 1961), that nuclear warheads demand exceptionally secure custody—against accident, mischief, theft, sabotage, or a "Strangelove-like" unauthorized attack. There is always the dilemma: Reward violators of the Non-proliferation Treaty by offering the technology to keep the warheads secure? At least we can try to educate the new members of the nuclear club to what the U.S. did not appreciate for its first 15 years as a nuclear power.

I know of no argument in favor of the Comprehensive Test Ban Treaty, which the U.S. Senate rejected in 1999, more powerful than the potential of that treaty to enhance the nearly universal revulsion against nuclear weapons (or for its rejection to waste the opportunity). The symbolic effect of some 170 nations ratifying the Treaty, which is nominally only about testing, should add to the convention that nuclear weapons are not to be used and that any nation that does use nuclear weapons will be judged the violator of a hard-earned tradition of non-use. When the Treaty is again before the Senate, as I hope it will be, this major benefit should not go unrecognized.

The most critical question about nuclear weapons for the U.S. Government is whether the widespread taboo against nuclear weapons, and its inhibition on their use, is in our favor or against us. If it is in the U.S. interest, as I believe is obvious, advertising a continued U.S. dependence on nuclear weapons, a U.S. readiness to use them, and a U.S. need for new nuclear capabilities (and probably new nuclear tests)—let alone ever using them against an enemy—has to be weighed against the corrosive effect on a nearly universal attitude that has been cultivated through universal abstinence over 60 years.

1. Bundy, M. (1988) *Danger and Survival: Choices About the Bomb in the First Fifty Years* (Random House, New York).

2. Fendall, W. (September 8, 1964) *N.Y. Times*, pp. 1–2.

3. Weinberg, A. M. (1985) *Bull. Atomic Sci.* **41**, 11.