

# Nuclear Ethics Revisited

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It is somewhat daunting to be asked to revisit a book I wrote four decades ago. So much has changed since then. For one, the structure of world politics is different. The bipolar Cold War is over and has been replaced by a new great power competition that involves the United States and both a revanchist Russia and a rising China. Russia invaded Ukraine in 2014 and 2022, seizing territory, threatening basic UN norms, and using nuclear threats to try to deter Western responses. Brandishing nuclear weapons for political effect goes all the way back to Khrushchev, but the personality of Vladimir Putin is a new factor. Some commentators have argued that his behavior suggests we are entering a “new nuclear age.”

In addition, technology has changed, with the Internet, artificial intelligence, and cyberattacks creating new problems for command and control. The overall complexity of military and political systems has grown, and with greater complexity comes a greater prospect of accidents. New issues have also been added to the agenda of world politics. Global warming has replaced “nuclear winter” as the planet’s greatest existential threat. While the number of nuclear warheads has declined from some fifty thousand at its peak during the Cold War to about thirteen thousand today, countries continue to modernize their arsenals.

It is equally interesting, however, to note what has not changed. Ballistic missile defense has not altered the dominance of offense over defense. Despite new technologies, the oceans remain opaque enough to sustain an invulnerable second-strike deterrent capability in the form of nuclear armed submarines. When I

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wrote *Nuclear Ethics*, the number of states with a nuclear device was eight; today it is only nine. Pakistan and North Korea have been added to the list; South Africa subtracted. This is a far cry from John F. Kennedy's prediction in 1963 of a world of up to twenty nuclear weapons states within a decade.<sup>1</sup>

The Non-Proliferation Treaty, though threatened today, has 191 members and so far the norm of nonuse of nuclear weapons persists. This norm—which Thomas Schelling termed the most important new norm since 1945—has persisted for seventy-seven years. The nuclear taboo was formally acknowledged in 1985 when Ronald Reagan and Mikhail Gorbachev declared that a nuclear war cannot be won and must never be fought. In 2022, ninety-one states signed a treaty to ban nuclear weapons; however, none of these states themselves possess nuclear weapons.

As I reread my book, what struck me most was the fact that the basic nuclear dilemma has not changed. Nuclear deterrence has contributed to the longest period of non-war among great powers since the development of the modern state system four hundred years ago. In the book, I likened nuclear weapons to a crystal ball—the consequences of their use being so clear and unambiguously devastating—and argued that if the leaders in August 1914 had peered into something like that and seen a picture of 1918 with tens of millions dead, four empires destroyed, and their removal from their thrones, we might not have had World War I. But, useful as they may be, crystal balls can be shattered by accident or sloppy handling. And the heart of the nuclear deterrence dilemma remains the usability paradox. To deter, there must be some prospect of nuclear use, either deliberate or accidental (that is, a state must believe that escalating a given scenario could lead to an accidental use by the adversary), or what Schelling called the threat that leaves something to chance. In other words, deterrence can be calculated or inherent—that is, it can be in the form of a deliberate threat or the existential situation of chance. One can condemn “mutual assured destruction” as a policy without being able to escape it as an existential condition. But how much potential for use is necessary for credibility? The greater the prospect of use, the greater the danger that the crystal ball will drop or slip out of human hands. However, the greater the nuclear stability that exists—that is, the lower the risk of nuclear conflict—the greater the risk of conventional instability (other things being equal, since nuclear weapons in this scenario will be less of a deterrent against conventional conflicts). This basic problem has not changed much since I wrote in the 1980s.

## THE 1980S NUCLEAR DEBATE

In the beginning of the 1980s, there was a widespread view that humanity was about to drop the crystal ball. Already in 1960, C. P. Snow posited that nuclear war within a decade was “a mathematical certainty,” and many believed his exaggeration would be justified if war occurred within a century. Russia invaded Afghanistan in 1979 and Jimmy Carter declared a doctrine of protecting the Persian Gulf. Ronald Reagan’s presidency and rhetoric led to what some called a “New Cold War” and there were no summit meetings until 1985. Congress debated costly solutions to the problem of the vulnerability of Minuteman missiles to a Soviet-first strike. A nuclear freeze movement brought millions of citizens into the streets and leaders like Helen Caldicott declared in 1984 that the buildup of nuclear weapons “will make nuclear war a mathematical certainty.”<sup>2</sup> Authors like Jonathan Schell argued that not only was the abolition of nuclear weapons the only solution but also that failure to do so could lead to “double death.” That is, a full-scale nuclear war would produce a nuclear winter that would prevent photosynthesis and cause not just untold contemporary deaths but also the death of our species.<sup>3</sup> As the American Catholic bishops put it poetically in a 1983 report, “We are the first generation since Genesis with the power to virtually destroy God’s Creation.”<sup>4</sup> The prevailing assumption was that any use of a nuclear weapon would be a catalyst for full-scale nuclear war.

This was the political climate when Harvard president Derek Bok asked a group of five faculty and an able, young graduate student named Scott Sagan to analyze the situation. In response, we wrote a book called *Living with Nuclear Weapons*, which in turn brought irate responses from abolitionists. In addition, the Carnegie Corporation under David Hamburg supported a multiyear Avoiding Nuclear War Project at the Harvard Kennedy School. We produced a series of books and, even more importantly, a generation of bright, young scholars who went on to become major figures in the field.

These projects, however, did not directly address the ethical questions, and I wrote *Nuclear Ethics* in large part to answer them for myself. While I was on leave from Harvard and in charge of nonproliferation policy in the Carter administration, I had not had time for such thought, but I had wondered whether I was morally justified in what I was doing both as an official and as an academic. I had studied moral philosophy at Oxford and I decided to put it to use by teaching a

seminar on nuclear ethics when I returned from Washington. In trying to teach students, I learned from them, and the Free Press published the result in 1986.

## APPROACHES TO ETHICS

When I was in government, a French diplomat once told me that ethical questions in international affairs were too vague and impossible to handle, and so the only thing he considered was the interests of France. He seemed unaware this was itself a profound moral decision. He was right, however, that there is no one text even within Western philosophical traditions to which one can turn for the answers. Anthropologists tell us that morality is intrinsic to our species and that it takes the forms of both intuition and calculation. Neuroscientists have shown that different parts of the human brain are associated with each. But the innate human capacity for morality can be expressed very differently in different cultures. Even though some intuitions (such as the imperative of nonharm) seem to be shared across cultures, and some rules such as impartiality (the “golden rule”) are common to many cultures, moral reasoning will never approach the universality of mathematical reasoning.

But moral reasoning differs from simple moral intuition in obeying standards of clarity, logic, and consistency, as well as impartiality and a respect for the interests of others. Primitive intuition can evoke outrage and mobilize people in an anti-nuclear crusade that some feel the situation demands. Although moral reasoning does not always invoke outrage, it can nonetheless encourage a strong moral commitment to avoiding nuclear war. And crusades based solely on moral outrage can sometimes lead to horrendously immoral consequences.

The main Western traditions of moral reasoning are sometimes divided into virtue ethics, deontology, and consequentialism. Applying these considerations to political choices, Max Weber distinguished an “ethics of conviction” from an “ethics of consequences.”<sup>5</sup> The first focuses more on intentions and process; the second more on outcomes. In the deontological tradition of Immanuel Kant, rules and means are crucial. In the utilitarian tradition of Jeremy Bentham, good consequences for the greatest number of people is the key criterion of moral action. Both approaches express important truths. To be guided solely by rules can lead to highly immoral, unintended consequences, but to try to judge each action without rules can also lead to immoral outcomes. For example, if you capture a suspected thief but then come to believe he is innocent, would

you send him to prison because of the benefits of the deterrent effect on others? On the other hand, if you capture a nuclear terrorist who is about to destroy a city, would you follow the rules rather than use torture to discover his code? Efforts to escape such dilemmas lead many, including me, to be “rule utilitarians” (or more accurately “institutional consequentialists”) who include the long-term effects of damaging rules and institutions in their calculation of consequences. The Kantian who says, “Do what is right though the world should perish” is not very convincing in a world with nuclear weapons, but neither is the utilitarian who tries to judge each act without the benefit of rules that can provide handholds on slippery slopes.

In practice, many people avoid this philosophers’ conundrum and practice what I call “three-dimensional ethics.”<sup>6</sup> When many of us assess the morality of a given situation, we care about three things: the motives and intentions of the actors; the means they use; and the consequences they will produce. In situations of good intentions, the hard cases involve trade-offs between means and consequences. There is no simple formula to apply. Moral integrity comes from the quality of moral reasoning and the procedures that go into weighing such choices. My four principles for judging moral integrity include: (1) clarity, logic, and consistency; (2) procedures for protecting impartiality; (3) initial presumptions in favor of rules and rights; and (4) prudence in calculating consequences. When an expected consequence depends on a long chain of uncertain events, we must expect the unexpected and require a reasonable prospect of success before acting. Failure to conduct such due diligence is culpable negligence.

Uneasiness will often remain. When values are traded off, there is often a feeling of having “dirty hands,” but that is better than a purity that leads to having no hands at all. Ethical theory cannot be rounded off and made complete and tidy. As Isaiah Berlin once said in a lecture, since “the ends of men are many, and not all of them are in principle compatible with each other, then the possibility of conflict—and of tragedy—can never wholly be eliminated from human life, either personal or social.”<sup>7</sup> That is the human condition, but it does not exempt us from making difficult moral choices.

We are certainly not the first generation since Genesis to face this problem. In the fifth century of the Christian era, as the Western Roman Empire crumbled, Augustine of Hippo wrestled with the question of when it is right to violate the biblical rule “Thou shalt not kill.” His answer, in self-defense from imminent harm, has survived to this day not only in theological seminaries but also in

the secular U.S. Uniform Code of Military Justice. And the body of thinking called the just war doctrine is notable for its three-dimensional approach, including intentions, means, and consequences. I argue in *Nuclear Ethics* that it can help us formulate principles for a “just deterrence.”

## THE INEVITABILITY ARGUMENT

Some argue that the search for a just deterrent is nonsense. So long as nuclear weapons exist and war is inevitable, they argue, the ultimate consequence is immoral. As Jonathan Schell wrote, “We incur the full burden of guilt for extinguishing our species merely by preparing to do the deed, even without actually pushing the button.”<sup>8</sup> But that conclusion depends on whether nuclear war is in fact inevitable, as well as what kind of war it would be.

Some advocates of abolition point out that if you flip a coin once, the chance of getting heads is 50 percent, but if you flip it ten times, the chance of getting heads at least once rises to 99.9 percent. A 1 percent chance of nuclear war in the next forty years becomes 99 percent after eight thousand years. Sooner or later, the odds will be very much against us. Even if we cut the risks in half every year, we can never get to zero, just asymptotic to zero. But the metaphor of a flipped coin is misleading because it assumes independent probabilities. Human interactions are more like loaded dice. What happens on one flip can change the odds on the next flip. C. P. Snow and others assume probabilities that are independent (as in coin flips), whereas nuclear probabilities are more often interdependent. Thus, there was a lower probability of nuclear war in 1963 after the Cuban Missile Crisis because of the higher probability in 1962—leaders learned from (or were terrified by) the crisis and this informed their outlook going forward. The simple form of the law of averages does not readily apply to complex human interactions. In principle, the right human choices can reduce probabilities close to the asymptote.

The likelihood of nuclear war rests on both independent and interdependent probabilities. Purely accidental war might fit the model of a coin flip, but such wars are rare and accidents might turn out to be limited. An accidental war might stay limited and actually trigger future actions that limit the probability of a larger war. And the longer the time period, the greater the chance that things may have changed. In eight thousand years, humans may have more pressing concerns than nuclear war. We simply do not know what all of the interdependent

probabilities are. Based on history since 1945, we might assume the annual probability is not in the higher range of the distribution of probabilities. In 1962, President Kennedy is reported to have estimated the probability of war as being between one in two and one in three, but this did not necessarily mean unlimited nuclear war.<sup>9</sup>

And from interviews conducted at Harvard with participants in the Missile Crisis on its twenty-fifth anniversary, we learned that even though the United States had massive nuclear superiority, Kennedy was deterred by even the slightest prospect of nuclear war. After all, contrary to the myth that Cuba was an unalloyed American victory, the outcome involved a compromise that included the quiet removal of U.S. missiles from Turkey.

Some people have used the inevitability argument to argue for the morality of unilateral nuclear disarmament. In the slogan of the Cold War days, it is better for future generations that we choose to “be red rather than dead.” But nuclear knowledge cannot be abolished and coordinating abolition among nine or more ideologically diverse states is extremely difficult at this stage of history. Unreciprocated unilateral steps could embolden aggressors and produce the equivalent of being both red and dead.

Avoiding such an outcome entails accepting some degree of risk. Moreover, we have no idea what utility and risk acceptance will mean to generations very distant from ours and what people will value in eight thousand years. In terms of moral obligations to future generations, we have to treat survival very carefully, but that does not require the absence of all risk. What we owe future generations is roughly equal access to important values like life, liberty, and the pursuit of happiness, and guaranteeing those things depends upon a high chance of survival. That is different from trying to aggregate the interests of centuries of unknown people into some unknowable sum at this time. In other words, risk is an unavoidable component of human life.

## THE ETHICS OF CONDITIONAL DETERRENCE

Given the usability paradox and the interdependent probabilities related to human interaction, we cannot seek an absolute answer to what constitutes a just deterrent. Nuclear deterrence is not all right or all wrong. Our acceptance of deterrence must be conditional. The just war tradition suggests that the three relevant conditions are a just and proportionate cause; limits on means; and prudent consideration

of all consequences. In terms of my three-dimensional ethics, I derive five moral maxims from these conditions. In terms of motives, (1) understand that self-defense is a just but limited cause. As for means: (2) never treat nuclear weapons as normal weapons, and (3) minimize harm to innocent people. And regarding consequences, (4) reduce risks of nuclear war in the near term, and (5) try to reduce reliance on nuclear weapons over time. A bomb in the basement involves some risk, but less risk than bombs on the front lines.

These general maxims are debatable, but they at least help to frame a debate that will vary with contingent circumstances. For example, limited self-defense does not allow for ideological crusades, but does it allow extended deterrence? My answer is that collective self-defense is moral, and it helps to slow the proliferation of nuclear weapons. This can result in hard choices. I would like to see a U.S. declaratory policy of “No first use,” but we should have implemented that in the 1990s when tensions were lower and before Russia turned revanchist. In the current circumstances, changing the existing declaratory policy must be contingent on its effect on our allies. One has to consider the consequences for proliferation or even conflict if one withdraws or weakens extended deterrence in the midst of heightened tensions. But one should always consider the appropriate mix of nuclear, conventional, and other instruments to extend deterrence, and attempt to reduce the nuclear component where possible. For instance, the appropriate response to the growth of the North Korean nuclear arsenal is not the reintroduction of tactical nuclear weapons on the Korean peninsula, as some advocate. Rather, it is the continued presence of American troops. Similarly, the credibility of U.S. extended deterrence over Japan rests on the stationing of American troops there, not the presence of nuclear weapons. The vulnerability of the troops establishes a “community of fate” that reduces allies’ fear of abandonment. For forty years, skeptics pointed out that the small contingents of American troops in Berlin could not possibly defend the city, but this skepticism misunderstood the troops’ utility. The presence of American soldiers was essential to create a community of fate, ensuring deterrence and a successful outcome.

As for means, the usability paradox creates incentives for the development of small and usable weapons. At one time, this led to the Honest John truck-portable battlefield rocket deployed from 1954 to 1982, and the neutron bomb of the 1970s that would kill people without destroying cities. Fortunately, the problems involved with command and control led to the retirement and dismantling of such weapons. Nonetheless, the usability dilemma persists and the relative

significance of the two dimensions of deterrence—inherence and calculation—is still debated as the United States modernizes its forces today. Deterrence depends on psychology, and some analysts argue that perceived superiority in usable weapons and control of escalation ladders can affect outcomes of bargaining during crises. Others believe that measures of the nuclear balance are too crude to be useful in reaching such conclusions. Fortunately, history has shown that one does not need a very high probability of use to create inherent or existential deterrence.

The danger of countercombatant targeting by small weapons is that they may make weapons appear too usable and lead us to treat them as normal, even though the dangers of nuclear escalation remain. This danger may be better for minimizing civilian deaths than the threat of massive retaliation against cities that was prominent in the 1950s, but the location of some military targets near cities sometimes makes the distinction between civilians and combatants moot and inherent deterrence will overtake calculated deterrence. Minimizing harms to innocents depends more on reducing risks of nuclear war—both deliberate and inadvertent—than changing targeting doctrines.

In terms of consequences, a healthy respect for uncertainty and skepticism about overly complex systems would lead one to reject some policies on the grounds that they violate the moral maxim of reducing risk. Scholars of nuclear weapons policy often divide into three schools of thought: “hawks,” “doves,” and “owls.”<sup>10</sup> Hawks advocate launch on warning, delegating authority to battlefield commanders, decapitating enemy leadership, and nuclear superiority, which may enhance deterrence but at the cost of creating provocation. After all, deterrence depends on the opponent’s psychology, not just ours. In that vein, doves’ proposals to escape the usability dilemma and appease opponents may create an impression of weakness that tempts opponents to take more risks. Nuclear strategists are sometimes too clever by half. Elaborate strategies are developed solely on the basis of calculations based on rationality. Owls place a premium on reducing risk and often position themselves between hawks and doves. For stable and effective deterrence, one must beware of the hawk’s hair trigger; the dove’s dropped gun; and the owl’s frozen safety catch.

This led me to set forth ten principles for avoiding nuclear war, which combine all three dimensions of moral ends, means, and consequences:

1. Maintain a credible nuclear deterrent.
2. Improve conventional deterrence.

3. Enhance crisis stability.
4. Reduce the impact of inevitable accidents.
5. Develop procedures for war termination.
6. Prevent and manage crises.
7. Invigorate nonproliferation.
8. Limit misperceptions through improved communication.
9. Pursue arms control negotiations.
10. Reduce reliance on nuclear weapons over time.

The goal of reducing (not abolishing) the role of nuclear weapons over time is important. As the noted physicist Richard Garwin calculated: “If the probability of nuclear war this year is one percent, and if we manage each year to reduce it to only 80 percent of what it was the previous year, then the cumulative probability of nuclear war for all time will be 5 percent.”<sup>11</sup> We can live moral lives with that probability, and the psychological effect of deterrence upon our moral lives is one of the significant long-term consequences that must be considered. The theologian Paul Ramsey once likened nuclear deterrence to tying babies to the bumpers of our cars as a means of slowing traffic and reducing lives lost to road accidents.<sup>12</sup> The metaphor helps create moral repugnance, but it is not an accurate depiction of just deterrence as described above. Citizens today are not suffering from nuclear anxiety to the extent that the babies (or citizens) would in Ramsey’s metaphorical world.

This does not warrant complacency. Rather it reinforces the argument that a policy of just deterrence must include a long-term practice of reducing nuclear risk. Abolition is a worthy long-term goal, but it does not seem credible or possible in the near term of world politics. That does not reduce the importance of other approaches to reducing risk. The greatest evil is not the existence but the use of nuclear weapons, and reducing that probability should be our moral and policy focus.

## LOOKING TO THE FUTURE

There is no single future. There is an infinite number of possible futures, some of which are affected by what we do, and some not. We cannot prevent the sun from running out of fuel, but we can affect the probabilities of nuclear winter. Any effort to predict long-term changes is likely to be frustrated, but we can sketch rough outlines of broad paths of change. We must be prepared for surprises,

both technological and political. In the past, technological changes in accuracy made it possible to reduce the yields of nuclear weapons, and special locks known as Permissive Action Links improved control. On the other hand, cyber-attacks on command and control systems, laser attacks on satellites in space, and artificial intelligence applied to autonomous weapons systems, such as submarine drones, raise a new set of technological problems. These are the types of risks that we must anticipate, understand, and reduce.

And of course, politics will change. As I wrote in *Nuclear Ethics*, “Sometimes political relations between states can change quite quickly.” At the same time, I said that “warm relations and trust are not necessary for cooperation.” During the Cold War, the antagonists slowly developed a regime of tacit and explicit rules and procedures out of self-interest in avoiding nuclear war. I noted at the time that “on such realistic premises, it is possible to expect a gradual evolution of U.S.-Soviet cooperation. Certainly relations in the 1980s were vastly different than those in the 1950s. . . . In addition, there may be changes inside the Soviet Union.”<sup>13</sup> Of course, I did not predict the fall of the Berlin Wall, the timing of the end of the Cold War, the decay of the post-Cold War settlement, or the Russian invasion of Ukraine. If Russia resorts to the tactical use of nuclear weapons in this conflict, drastic responses will be required to try to restore the nuclear taboo, but it need not lead to Armageddon. A military response to a violation should devastate Russian forces in Ukraine, but it should be nonnuclear and designed to reinforce the norm of a nuclear taboo. Today’s strategic competition with China and Russia can take a number of turns in the future. Changes for better and worse may occur in both countries, but as we adjust to changes and surprises, we should maintain a perspective of how our responses will affect our long-term goal of reducing nuclear risk along the lines of the ten principles outlined above.

Some say the Russian invasion of Ukraine has undermined the moral case for nonproliferation. In the 1994 Budapest Memorandum, Kyiv agreed to return to Moscow the Soviet nuclear weapons it inherited in exchange for guarantees of Ukrainian security. Russia’s violation of its promise has led many to conclude that proliferation is justified.

It would be a mistake, however, to exaggerate the damage that the events in Ukraine have done to the nonproliferation regime. For one thing, those who say that the invasion teaches other states that they would be more secure if they had nuclear weapons are oversimplifying history. One cannot assume that nothing

would have happened if Ukraine had kept its Soviet legacy nuclear weapons. For one thing, the weapons were not ready-to-use off-the-shelf technology. The fissile material in the long-range Soviet missiles stationed in Ukraine would have had to be reshaped and repurposed. Not only would that have taken time and expertise but it might have accelerated Russian intervention as well. In fact, as states approach the nuclear threshold, they enter a “valley of vulnerability” that may reduce their security and increase general instability. Even when stable deterrence is imaginable in a region, it may be highly risky to try to get from here to there.

Some theorists such as Kenneth Waltz have argued that just as the existence of nuclear weapons produced prudence among great powers by providing a crystal ball, the spread of nuclear weapons would similarly produce stability among regional rivals.<sup>14</sup> In their view, a world of nuclear porcupines would be safer. But not all regions are equal in terms of the risk that someone may drop or shatter the crystal ball. Statistics show regions differ in their number of civil wars, overthrown governments, and procedures for civilian control of military, as well as secure communications and weapons control. If new proliferators are at a higher risk of using nuclear weapons—even if inadvertently—they and their neighbors become more insecure in their valley of vulnerability.

The more nuclear weapons spread, the greater the prospects for eventual inadvertent or accidental use, the more difficult it will be to manage nuclear crises when many players are involved, and the greater the difficulty of establishing controls that may someday help to reduce the role of nuclear weapons in world politics. In short, the greater the spread, the greater the risks of blowing up the whole neighborhood. What the war in Ukraine teaches us is the importance of reinforcing the existing Non-Proliferation Treaty and refraining from actions that erode it.

Our moral obligation to ourselves and to future generations is to avoid large risks now—of either war or the sacrifice of freedoms—and to try to ensure future choices by trying to gradually reduce our reliance on nuclear weapons whenever we can do so without unacceptably increasing current risks. There is no way to avoid uncertainty and risk entirely. Our obligation to our own generation is to be explicit about our values and use them carefully in moral reasoning about our critical choices. I still believe what I wrote in 1986: The first generation since Genesis must strive to live in freedom without being the last.

## NOTES

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- <sup>2</sup> Helen Caldicott, *Defense Monitor* 13, no. 8 (1984), p. 8.
- <sup>3</sup> Jonathan Schell, *The Abolition* (New York: Knopf, 1984).
- <sup>4</sup> Catholic Church, *The Challenge of Peace: God's Promise and Our Response: A Pastoral Letter on War and Peace by the National Conference of Catholic Bishops* (Washington, D.C.: United States Catholic Conference, 1983), sec. 331, [www.usccb.org/upload/challenge-peace-gods-promise-our-response-1983.pdf](http://www.usccb.org/upload/challenge-peace-gods-promise-our-response-1983.pdf).
- <sup>5</sup> Max Weber, "Politics as a Vocation," in H. H. Gerth and C. Wright Mills, eds., *From Max Weber: Essays in Sociology* (New York: Oxford University Press, 1948), p. 126.
- <sup>6</sup> Joseph S. Nye Jr., *Do Morals Matter? Presidents and Foreign Policy from FDR to Trump* (New York: Oxford University Press, 2020), ch. 2.
- <sup>7</sup> Isaiah Berlin, "Two Concepts of Liberty" (lecture, Oxford University, Oxford, U.K., 1958), [www.cooperative-individualism.org/berlin-isaiah\\_positive-versus-negative-liberty-1958.htm](http://www.cooperative-individualism.org/berlin-isaiah_positive-versus-negative-liberty-1958.htm).
- <sup>8</sup> Jonathan Schell, *The Fate of the Earth and The Abolition* (Stanford, Calif.: Stanford University Press, 2000), p. 5.
- <sup>9</sup> "Cuban Missile Crisis: A Historical Perspective" (roundtable discussion, October 6, 2022), John F. Kennedy Presidential Library and Museum, [www.jfklibrary.org/events-and-awards/forums/past-forums/transcripts/cuban-missile-crisis-a-historical-perspective](http://www.jfklibrary.org/events-and-awards/forums/past-forums/transcripts/cuban-missile-crisis-a-historical-perspective). President Kennedy said at the time, and afterward when reflecting on the crisis, that he thought the odds of war were somewhere around one in three.
- <sup>10</sup> See Graham T. Allison, Albert Carnesale, and Joseph S. Nye Jr., eds., *Hawks, Doves, and Owls: An Agenda for Avoiding Nuclear War* (New York: Norton, 1985).
- <sup>11</sup> Richard Garwin, "Is There a Way Out? Nuclear Strategy and the Plausibility of Hope" (roundtable discussion, Columbia University School of Law, New York City), *Harper's Magazine*, June 1985, p. 39.
- <sup>12</sup> Paul Ramsey, *The Just War: Force and Political Responsibility* (New York: Scribner, 1968).
- <sup>13</sup> Joseph S. Nye Jr., *Nuclear Ethics* (New York: Free Press, 1986), p. 129.
- <sup>14</sup> Kenneth N. Waltz, "The Spread of Nuclear Weapons: More May Be Better" (Adelphi Paper 171, International Institute of Strategic Studies, 1981).

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Abstract: Scott Sagan asked me to revisit *Nuclear Ethics*, a book I published in 1986, in light of current developments in world affairs. In doing so, I found that much had changed but the basic usability paradox of nuclear deterrence remains the same. As do the ethical dilemmas. To deter, there must be some prospect of use, but easy usability could produce highly immoral consequences. Some risk is unavoidable and the moral task is how best to lower it. Nuclear weapons pose moral problems but nuclear use is the greater evil. Abolition may be a worthy long-term goal, but it is unlikely in the short-term relations among the nine states now possessing nuclear weapons. Drawing on just war theory, I examine the three dimensions of intentions, means, and consequences to outline a ten-point agenda for just deterrence that seeks to lower risks of nuclear war. The world has changed since the book was published but the basic moral dilemmas remain the same.

Keywords: nuclear deterrence, war, just war, proliferation, inevitability, abolition, ethics