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IF THE NUCLEAR TABOO GETS BROKEN

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As we contemplate the multitude of possible future calamities for our world, very few would seem quite as dreadful as another use of nuclear weapons in an attack on a city, or in an attack anywhere else. Because this prospect is indeed so horrible, however, one finds relatively few people ready to focus on it, ready to consider what would happen next.

This article is therefore intended to open the question of the probable consequences if nuclear weapons were to be used again in anger, for the first time since the bombing of Nagasaki in 1945—that is, to begin a speculative analysis of what the world’s likely reactions would be and of what the policy responses of the United States (and the other democracies) then perhaps *should* be, if there were indeed to be such an awful event.

The very worst breaking of the “nuclear taboo” would of course be a thermonuclear World War III, from which human life might never recover. The end of the Cold War has led most of us to conclude that the risks of such a nuclear holocaust are much reduced. Thus speculation here would mostly be directed to the many other ways in which nuclear weapons could again come into use, even while a thermonuclear exchange between the United States and Russia still cannot be rated as totally impossible.

Rather than an attempt at analysis of the details of the physical damage that would be inflicted in various kinds of nuclear attack (the sort of analysis that has been done many times since the onset of the Cold War), this will be a speculative exploration of the political, psychological, and social aftermath if such weapons were to be used again.¹

PESSIMISM OR OPTIMISM?

To begin, such an exploration is not premised on a pessimistic assumption that such a use of nuclear weapons is so very likely to occur. Instead, the analysis is based on the prudential assumption that it is useful to have considered the consequences *if* such a nuclear weapon were to be used, on the premise that a total surprise and lack of advance speculation would indeed lead to less optimal policy responses.

Anyone embarking on this kind of speculation thus runs the risk of being accused of pessimism, or indeed of favoring an early erasure of the stigma that has kept such weapons from coming into use again (even though a great many have been produced) for the past sixty years. At the minimum, someone opening up this question for analysis will also be accused of a self-confirming hypothesis, in a process by which the mere idea of such a weapon being used leads someone else to anticipate such use, which might cycle back to make such an event more likely all around the system.

Yet it has to be noted that the nuclear weapons question is shaped by *self-denying* hypotheses as well as by self-confirming ones. The mere thought of a use of nuclear weapons and of the damage that such weapons would cause has driven many governments to devote extra effort to preventing their proliferation and use. If a speculative analysis were to do nothing more than to reinforce the nuclear taboo, by making states all the more ready for any violation of it and then all the better prepared to head off and thus deter such a violation, the exercise would hardly be without value.

It will therefore be desirable to avoid excessively speculative analysis, while it will at the same time be important to broaden the horizon of the possibilities being considered. It will be important to note the most likely scenarios, while not ignoring those that are less likely and that might thus catch the world more by surprise.

THE MOST LIKELY SCENARIOS

The three most likely scenarios for a use of nuclear weapons might, for the moment, be in an escalation of warfare between Pakistan and India, a capricious action by North Korea, and a terrorist attack on the United States.

If a war breaks out between two opposing nuclear powers, such as today's India and Pakistan, or between some other nuclear dyad of the future, it might very possibly be the result of a brinkmanship where neither side backed down, where bluffs got called, and where the worst that was threatened became an awful reality. In the aftermath of such a failure in crisis diplomacy, there are at least two broad streams of follow-on.

The worst, of course, would be a process of all-out escalation, a war in which both sides exchanged rounds until one arsenal or another was exhausted or until all the cities of one or both the adversaries had been destroyed. The need for intervention by the United States or another outside power might come to seem urgent, lest millions of people be killed day after day.

At the other, more hopeful, extreme, the opposing sides might themselves be so shocked by the magnitude of just one nuclear detonation that they would immediately devote a major effort to achieving a truce and cease-fire, leaving for the outside world simply the role of truce facilitator.

The history of past wars does not settle us into either of these flows of events, however. World War I did not involve weapons of mass destruction, but it did impose mass destruction by ordinary weapons, once the unthinkable had happened and the line had been crossed into actual warfare; thereafter it proved impossible for the warring parties or outside powers to achieve a cease-fire. (The American decision to enter that war could well be seen as driven more by the felt need to end the war than by a definite identification with one side over the other.)

Yet on the more positive note, the history of successful nuclear deterrence suggests that nations have indeed been in awe of nuclear weapons, have been deterred by the prospect of their use, even while they were intent on deterring their adversaries as well. Would the nations that have been so successfully deterred (since Nagasaki) from using nuclear weapons not then be stopped in their tracks once deterrence had failed, once the anticipated horror of the nuclear destruction of even a single city had been realized?²

Another of the more probable scenarios has been a use of such weapons by North Korea, a state perhaps not quite as “undeterrable” as the suicidal pilots of 11 September 2001 but given to rational calculations that are often very difficult to sort out. This use could come in the form of a North Korean nuclear attack against Japan, South Korea, or even the United States.³ The nearest targets for a North Korean nuclear weapon would be South Korea and Japan, but there would be many complications should Pyongyang use such weapons against either. (If the complications were so severe as to eliminate the idea of a North Korean nuclear escalation entirely, the world might heave a sigh of relief that Pyongyang might not be so “undeterrable” after all. But the style of the North Korean leadership has unfortunately been such that almost nothing can be excluded.)

For Pyongyang to use nuclear weapons to destroy Seoul or another South Korean city would be to kill a great number of Korean “countrymen,” the people whom the communist regime has always claimed to identify with and to want to liberate. It would also be to destroy a very valuable economic asset that the Democratic People’s Republic of Korea (DPRK) has always wanted to inherit and

capture, and in the meantime the place from which any economic relief to end the North's material misery would originate.

But if the communist leadership of the North has always claimed to love the Korean cousins in the South, Koreans in general have often voiced a hatred for the Japanese, based on the memories and experience of Tokyo's forty-year occupation of Korea, and on the failure of the current Japanese government to accept fully the guilt or blame for this, whether in new editions of schoolbooks, speeches by public officials, or other fora.

For the DPRK to destroy a Japanese city would be to kill some number of overseas Koreans (a fraction of whom have been identifying with the North Korean regime and remitting substantial amounts of hard currency and material aid to the North), but also to kill a much greater number of Japanese, for whom

A taboo refers to something about which we do not weigh benefits and costs but that we simply reject.

no affection is evident. Yet the world's outrage at such an attack would surely be increased if the target were Japan, theretofore the only victim in history of a nuclear

attack, a victim for which there would thus inevitably be reinforced sympathy. Unless the circumstances are extraordinarily peculiar, then, the world is very likely to denounce, and to be ready to back strong actions against, any use of nuclear weapons by Pyongyang. But this reaction could be counted upon to be all the more vehement if Japan were the target, if Japan had to suffer again.

Because of the seeming irrationality of Pyongyang's past behavior, the Japanese public has been quite sensitive to the possibility of North Korea's acquiring such nuclear warheads, or testing and acquiring the missiles needed to deliver them to a Japanese target. Yet it has also had to live for a longer time with the fact that the People's Republic of China has acquired nuclear weapons and the delivery systems needed to reach Japan, over a period when Beijing at times seemed almost as irrationally disposed toward the outside world as Pyongyang seems today (it must be noted that the PRC once fit all the dimensions of a "rogue state"). There is also still a strong anti-Japanese feeling to be found among the Chinese people, comparable to what one sees among the Koreans.

The trend in Japanese politics and military procurement decisions, in the face of such nuclear threats, is thus not easy to predict. One version is that as long as no nuclear weapons are used anywhere, Japan would simply accept being within reach of potentially hostile nuclear forces, even if Pyongyang keeps on testing missiles or openly acquires nuclear warheads, relying on the American connection, world opinion, or something else to deter any North Korean attack. A very different version of the future would see Japan moving to acquire nuclear weapons of its own.⁴

Many other scenarios remain. One—perhaps tied to an escalation between India and Pakistan, but perhaps not—would be the inherent risk of a nuclear exchange between India and *China*.

Moving westward, in a certain broad sense the existence of Israel is continually in danger because of the hostility of its Arab neighbors, and because of the narrowness of its boundaries, which always poses some doubt about the reliability of a conventional defense. If the rumors of Israel's possessing nuclear weapons have thus served as a reinsurance for Israeli security over the past four decades, one can never rule out the possibility of such weapons coming into actual use.⁵ One must also take into account the bombastic statements that sometimes emerge from Iranian or other pulpits, whereby an Islamic nuclear weapon would be the means for destroying Israel simply by leveling its cities and killing its people in a single strike.⁶ Such a horrendous scenario might seem constrained by concern for the safety of Jerusalem, one of the three holiest sites for any Muslim, and by concern for the safety of Arabs who live in Israel or the West Bank, but the rationality of decision processes in the Middle East has not been reassuring for the outside world.

The sum total of the likelihood of a new use of nuclear weapons must also include an array of threats of insubordinate or outright “crazy” nuclear attacks, as well as attacks by terrorist groups unaffiliated with any existing government. The risks even embrace the possibility that the United States might be the power that uses such weapons again, driven to do so by one situation or another. (One can hardly forget all the decades where the United States had to keep open the “flexible response” option of introducing nuclear weapons for the defense of NATO or South Korea, where a communist conventional aggression could not otherwise have been repulsed.)⁷ Whenever nuclear forces have been present in the arsenals of the states involved in international crises, there have always been the risks of such weapons coming into use if a conventional battle erupted, because of the sheer confusion and chaos of fighting and through the natural reactions of any military unit that faces being overrun conventionally while it has nuclear weapons close at hand.

This inherent risk of escalation, indeed, played a role in making American nuclear responses credible on behalf of NATO in the decades that the Soviet Union was seen as having the conventional advantage in an invasion of Western Europe. An American president might have found it preferable not to introduce nuclear weapons when Warsaw Pact tanks were advancing by conventional force alone, but U.S. units possessing “tactical” nuclear weapons would in any case have been in the path of such a Soviet armored advance. There is an old artillery tradition that one does not allow one's ammunition to be captured but rather goes down firing it at the enemy; the leadership in Moscow could thus never rule

out the possibility that a successful armored advance into Western Europe would have triggered a nuclear response, regardless of the inclinations of a president fearful for American cities.

Some of the same inherent motivations and concerns would be at play in a conventional military conflict between China and the United States over Taiwan. Beijing and Washington might both find it in their own supreme national interests to keep such a conventional war quite limited, to prevent nuclear weapons from being introduced. But nuclear warheads might be present on board the warships of either power; if such a ship were to be sunk or even attacked, there is always some risk that the nuclear weapons involved would be fired.⁸

The mere possibility of such a nuclear escalation could lead either side to tighten up its command-and-control arrangements so substantially that this could not happen, or perhaps to pull the nuclear weapons far back so that they would be out of harm's way in any likely confrontation. The Chinese communist regime, in fact, proclaimed a "no first use" policy the moment it tested its first nuclear weapons, suggesting that it wanted not to threaten nuclear escalation but rather, mostly, to deter any adversary from such escalation.⁹

But the same inherent risks can be exploited to make the other side very cautious about getting into even a conventional war, because of the deterring fear that it might lead to a nuclear holocaust. One has in recent years thus seen articles by Chinese defense scholars suggesting that the Chinese military might find *some* battlefield uses for nuclear weapons or might want to brandish the possibility that China would be the first, rather than the second, to employ nuclear weapons once a war had begun.¹⁰ As each side in effect plays "chicken" with such risks, a nuclear escalation could occur, by accident, in the heat of battle.

At the beginning of the twenty-first century, one can envisage only a few such scenarios of warfare breaking out where both sides possess nuclear weapons—in confrontations between Pakistan and India, India and China, or the United States and China—but there would be more such risks in the future if nuclear weapons continue to spread. For almost all such cases, if a nuclear weapon is used, if as "deterrence fails" one side risks bringing the other side's nuclear weapons into use, both sides are likely to regret it.

The inherent nature of the preexisting crisis and conventional confrontation would in many ways have prepared the outside world for the possibility of the introduction of nuclear weapons, so that it would come as a little less of a shock than many of our other scenarios. The immediate target—an American aircraft carrier, a Pakistani troop concentration, etc.—would more likely be a "military" target, perhaps thus affronting the world's moral feelings somewhat less than if a city had been hit. But the sheer number of sailors or soldiers killed in such an escalation would nonetheless be a major shock. For a variety of reasons, the

natural response of the victim of such an attack would be to hit back with a nuclear retaliation, amid the risk that the back-and-forth of such a nuclear exchange would quickly get out of hand and lead to the targeting of major cities.

The net impact of the mere presence of nuclear weapons would thus be of a pattern similar to that achieved in the Cold War: conventional wars would be discouraged, or at least more carefully managed, but the risk would loom of a first-use-since-Nagasaki.

WATCHING FOR THE LESS LIKELY SCENARIOS

If the above survey draws in the most likely scenarios for a nuclear escalation, one also wants to be on guard against a nuclear attack that comes in a much less anticipated form. What we expect the least may cause the greatest damage and shock.

As one contemplates the many different ways in which nuclear weapons could again come into use, important questions pertain to the physical impact of such an escalation, ranging from the very major to the relatively minor. The cases we have to be prepared for include multiple nuclear strikes or a single detonation accompanied by clear signals that more such attacks are to follow. But if a single detonation were accompanied by signals that *nothing* more was threatened for the moment, the world's reactions would be considerably different from those following more sizable nuclear attacks. As a most important index of how damaging an event is, one can envisage on one hand nuclear escalations in which no one is killed, and on the other, escalations in which millions perish.

For predicting the likely reactions of the world and sorting out the presumably best policy responses for the United States, much will thus depend on whether the damage initially inflicted seems containable (and perhaps even preventable thereafter, if proper new defensive steps are taken), or whether it seems to be open-ended. If the use of nuclear weapons looks like a one-time aberration from the normal post-1945 pattern, the situation may seem manageable along the same broad lines as applied since World War II, and outside reactions may be calmer. But if the door on nuclear destructiveness cannot be relocked, much larger and urgent responses may seem in order. Further, as the proliferation of weapons systems continues, much may depend on what kinds of such systems, offensive or defensive, have been deployed by the time a nuclear weapon is used. A great number of relevant possibilities have to be considered. By the time of nuclear escalation, the United States may already have effective missile defenses and resuscitated air defenses, or it may not; also, it may or may not have already seen a widespread proliferation of chemical and biological weapons.¹¹

As in all the wars and the war plans of the past, much will depend on what kinds of targets are hit. Nuclear weapons are most often thought of as “counter-value” weapons, capable of destroying entire cities as at Hiroshima and

Nagasaki; nonetheless, contingencies have existed ever since the onset of the Cold War for much more strictly countermilitary, or “counterforce,” uses of such weapons.¹² Again, there may be a great variation in the results achieved in such an attack. If important military goals are achieved in the escalation, very different responses might emerge than if the nuclear escalation has proven relatively fruitless.

The next power to use a nuclear weapon in combat could be a state hostile to the United States; this scenario, to the extent that they have been thinking about this problem at all, naturally captures the most attention of Americans. But the user could instead be a power that is neither hostile nor friendly to the United States, involved in a conflict in which it is difficult for Americans to identify with either side. The nuclear escalator might even be an ally of the United States. Finally, as noted, the scenarios for the next use of nuclear weapons also must include those involving such use by U.S. armed forces.

The victim of the attack might be the United States itself, with impact on American territory, an American military base abroad, or ships of the U.S. Navy. Or the victim might be a state closely allied with the United States, a military ally, or a nation that for historical and cultural reasons is regarded with particular friendship by Americans.

Alternatively, the nuclear escalation could come in such circumstances that the United States does not feel particular pain at the victimization of either side. The United States might see the target (to cite an example, Iran) as an enemy, viewing its government and perhaps even most of its people as hostile to Americans in the previous months and years. (Extensive and vivid coverage of the destruction by CNN or its equivalent might produce some sympathetic identification here, of course.)¹³

The country using the nuclear weapon, or the victim, or both, might have extensive followings around the world, linkages of ethnicity or ideology that produce widespread sympathy. Two obvious examples would be an Islamic regime or a radical, perhaps Marxist, one, which might be viewed elsewhere as representing the economically downtrodden of the world. By comparison, either the perpetrator or the victim might be a state that is relatively isolated (Israel or India being plausible examples).

Yet another category of differences relates to what the nuclear weapons had been used in response to. The scenarios here may include someone else’s use of another kind of weapon of mass destruction (WMD)—that is, chemical or biological—or someone else’s launching of a major conventional military attack.¹⁴ If the nuclear attack came after a prolonged and very destructive conventional war in which hundreds of thousands of people had already become casualties, the shock in the outside world at the nuclear escalation would be much less.

Shock and indignation are very much functions of expectations and context. Such shock might be least, for instance, if, as in August 1945, the introduction of nuclear weapons suddenly brought a horrible conventional war to a close. However, the nuclear escalation might not have been a response to any external event at all; it may not even have reflected any conscious governmental decision. It may instead have been a result of insubordination or insanity, or an act by a terrorist movement with no following and no territory to control, perhaps designed to damage the very government the nuclear weapons of which had been put to use.

Differences in motivation and responsibility for the use of nuclear weapons will thus be enormously important, ranging from the carefully calculated and centrally managed, to possibilities of insubordination, derangement, or berserk systems. In relation especially to counterforce motivation, the attack might be driven by anticipations of a comparable attack from the other side, thus basically a preemptive attack, with all the tension, and mutual reinforcement of tension, that such preemptive scenarios have always included.

To move away slightly from the distinction between countervalue and counterforce targets, and between military and civilian targets, some victims of nuclear attack might be seen in the world, and in the United States specifically, as innocent of any wrongdoing, of anything that might justify such an attack, while others might seem much more “guilty” by some standard and thereby more understandably a target of retribution. Aside from guilt or innocence, the use of nuclear weapons might strike the world variously as more defensive or as more offensive—that is, nuclear weapons could be employed to repulse a conventional aggression that would otherwise have changed the territorial status quo. Such weapons might, in contrast, have been employed to reinforce and facilitate such an aggression.

THE NATURE OF A TABOO

The background of the possibilities we are considering here must also include some discussion of the nature of a taboo.¹⁵ One often hears references to a “taboo” on the use of nuclear weapons, but people usually have difficulty putting their finger on exactly what that means. A taboo surely is more than simply something we want to avoid, something we disapprove of, for we do not hear of taboos on bank robberies or on murder. A taboo, then, refers to something that we are not willing even to think about doing, something about which we do not weigh benefits and costs but that we simply reject.

The best example in ordinary life is the taboo on incest. If a six-year-old girl asks whether she could marry her brother when they grow up, her parents typically do not reason with her, perhaps suggesting, “Your brother and you are always squabbling about your toys; surely you can find someone else more

compatible to marry.” We instead respond simply, “No one marries their brother or sister!” The child quickly enough picks up the signal that this is something that is simply not done. Another such taboo is, of course, cannibalism. Air Force crews are briefed on hundreds of measures they can take to survive after a crash, but one subject never touched upon is that of avoiding starvation by consuming the body of a dead comrade. The entire question is just not thinkable.

The taboo on nuclear weapons use that seems to have settled into place over the nearly sixty years since Nagasaki may indeed have taken this form. We do not hear many discussions of the costs and benefits of a nuclear escalation, but a somewhat unthinking and unchallenged conclusion that such escalation is simply out of the question. Related, though hardly identical, is speculation as to

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whether a “customary international law” on the use of nuclear weapons may be said to have emerged, by which the battlefield application of such weapons has

become illegal without any international treaties being signed or ratified, simply because they have gone so long unused.¹⁶ How such a custom or taboo is developed and what happens to it when violated will play an important part in our assessment of what the world would be like after a new nuclear attack.

The fact that the nuclear taboo is not violated decade after decade, that nuclear weapons are not used again in anger, arguably strengthens the taboo, but there are also a few ways in which that state of affairs may endanger it. The reinforcement comes simply from the general sense that such an act must be unthinkable because no one has initiated one for so long; it is in this sense that “customary international law” is held to be settling into place by which the abstinence of other states presses our own state to abstain. People did not begin speaking about a “nuclear taboo” for a number of years after Nagasaki. It was only in the late 1950s, after more than a decade had passed without repetition of the experiences of Hiroshima and Nagasaki, that the feeling arose that a barrier now existed to treating nuclear weapons as “just another weapon.”¹⁷

But in time there will be hardly anyone alive who was a victim of the 1945 attacks, hardly anyone who remembers seeing the first photographs of their victims or who recalls the nuclear testing programs of the 1950s and 1960s. Further, an unwelcome result of the bans on nuclear testing, intended to shield the environment and discourage horizontal and vertical nuclear proliferation, is that some of the perceived horror of such weapons may be fading, so that ordinary human beings will be a little less primed to reject automatically the idea of such weapons being used again.

The only fair test of the long-term viability of the nuclear taboo would, of course, be for the world to manage to keep that taboo observed and intact. The net trend, the net result, of a prolongation of non-use is most probably that such non-use will be strengthened and renewed thereby, just as it seems to have been over the decades of the Cold War and its aftermath.

There have been parallel “taboos” in other areas of warfare, taboos that have indeed been violated in the last several decades. The world for many years sensed the development of such a taboo on chemical warfare; the effective prohibition was reinforced by the Geneva Protocol but observed even by states that had not yet ratified the protocol (the best example being the United States at its entry into World War II). A similar taboo-like aversion was thought to apply to biological warfare.¹⁸ The long period since naval forces have confronted each other on the high seas (broken only by the Argentine-British war over the Falklands) may have had some similar characteristics. The longer one goes without engaging in some form of warfare, the stranger and less manageable that kind of conflict will seem, and the more the public and others will regard it as simply not to be contemplated.

Similarly, the world’s resistance to the proliferation of nuclear weapons has at times seemed to be mobilizing a widespread popular feeling that a taboo or “customary international law” was developing on proliferation as well. Ordinary people and even military professionals in many countries were coming to assume that nuclear weapons were so horrible, and so different, that it simply made no sense to think of even acquiring them.¹⁹

One more kind of taboo on weapons use was grossly violated in the attacks on the American homeland beginning on 11 September—a pattern, not easily explained while it persisted, by which terrorists had not engaged in attacks using “weapons of mass destruction.” Analysts of terrorism used to wrestle with why such attacks had thus far never threatened more than dozens or hundreds of innocent people and had not utilized chemical or biological weapons.²⁰ Some argued that the chemical and biological weapons were too difficult to acquire, while other experts in those technical areas scoffed, suggesting that their first-year graduate students could produce such weapons.

The explanations then tended to shift to the motivation of the terrorists; possibly they were seeking to win the sympathies of the populations that they were attacking. With regard to WMD, some analysts sensed that terrorists might be imitating governments, perhaps because the terrorists were seeking to become governments themselves. That is, the argument went, since governments were not using chemical and biological weapons terrorists were not using them either, being affected to some extent by the same cultural norms, the same taboo. It was perhaps because governments were not killing thousands of people in nuclear exchanges that terrorists were steered away from killing thousands themselves.

All of this was, of course, very badly shaken after 11 September, as the airliners that were seized and flown into large buildings put more than sixty-five thousand people at risk; as the use of anthrax in letters mailed to various public figures introduced a biological warfare element into terrorism;²¹ and just as the 1995 nerve gas attack on the Tokyo subway by the Aum Shinrikyo cult had already introduced the chemical weapons element.²²

Thus, when taboos are violated, the question immediately arises whether the taboos will remain or whether violation by many more parties has become much more thinkable. We may be able to learn something from the aftermath of cases where other taboos were violated. The world has seen several rounds of chemical warfare since the 1950s, though this was the one kind of warfare that the Allies and the Axis largely managed to abstain from during World War II.²³ There have been reports that the Soviet Union and its allies experimented with various forms of biological warfare in Cambodia and in Afghanistan (and during World War II the Japanese engaged in horrible experiments with biological warfare in China).²⁴

The Indian and Pakistani detonations of nuclear warheads in 1998 may not have changed very much of the reality of nuclear proliferation in South Asia, as India was projected to have enough plutonium already for as many as seventy-five nuclear weapons (and had already detonated a “peaceful nuclear explosive” in 1975) and as Pakistan was assumed to have enough enriched uranium for as many as ten warheads.²⁵ Yet the blatancy of the detonations again challenged the idea that a further spread of nuclear weapons was unthinkable, that it was somehow taboo.

Pessimists might thus have expected extensive nuclear weapons proliferation around the world after India and Pakistan had made such an open display of their newly acquired weapons, as they might have expected numerous conflicts on the high seas after the Falklands War. Fortunately for the world, neither has happened. In these parallels, then, single violations did not totally shatter the pattern of restraint or eliminate the world public opinion behind that restraint.

Pessimists might expect that the use of chemical and biological warfare is now generally more likely, as more and more states and even nonstate actors are able to lay their hands on such weapons and as the instances of state and nonstate exploitation of such weapons erode the taboo. One has to be very careful not to ignore the pessimistic forecasts here—just as one cannot assume that the attacks on the World Trade Center will be one-of-a-kind operations just because the immediate perpetrators killed themselves in the process. Other attacks are likely to be launched against tall buildings, by agents of the same organization that launched the 11 September attacks or by “copycat” imitators.

Yet neither should one simply conclude that nothing good is possible hereafter, that the world's feelings about what is "thinkable" or "unthinkable" make no difference.

If nuclear weapons are used, whatever taboo had been at work will have been violated, and further uses of such weapons will seem more thinkable. Yet the very possibility that a taboo had been in place suggests that it could be renewed and retained even then. If most of the world now regards a given kind of military action as "unthinkable," an actual instance would challenge that attitude but not necessarily demolish it.

INPUTS FROM SIMULATIONS

One can learn from simulations of possible future scenarios, and one can teach the participants in such simulations a great deal about the choices and options that a national decision maker would face in some future crisis.²⁶ Yet one can also exaggerate the reliability of such simulations as a research tool and as a predictor of future behavior, because the individuals taking part may be excessively self-conscious about role playing.

It was commonly observed in the Cold War that the players in simulations were surprisingly reluctant to employ nuclear weapons—reluctant to escalate even when the scenario was specifically designed to explore what the nuclear phase of a war would be like. All in all, such simulation results might be good news, suggesting that the entire premise of the present study is too pessimistic, that nuclear weapons are not likely to come into use. But these simulations might also support the more worrisome inference that the players in such exercises are themselves under the influence of the "nuclear taboo," inclined to see a use of such weapons as unthinkable, and hence reinforcing our disinclination even to think about nuclear escalation and its consequences.

That the players in simulations are not ready to use nuclear weapons might simply mean that no one is ready for this possibility—no one, that is, but the solitary rogue-state decision maker who one day launches such weapons.

COUNTERVALUE OR COUNTERFORCE TARGETING

Since 1945, nuclear weapons have been seen primarily as a "countervalue" instrument, more significant for how they affect the motivations of the opposing side than for what they can do to its capabilities. These weapons *persuaded* the Japanese to surrender and *persuaded* the Soviets not to exploit their advantage in conventional forces in Europe; they did not cripple the Japanese invasion defenses or the Warsaw Pact's arrays of tanks.

All through the Cold War one saw advocates of "tactical," battlefield, applications of nuclear weapons, typically requiring the development of more

advanced designs, lower in yield and lighter in weight. Skeptics, however, often saw tactical nuclear weapons mainly as “tripwires,” designed to do little more than push a prospective conflict over the conventional/nuclear line, leading to all-out escalation and World War III—the mere prospect of which would presumably deter the launching of a war in the first place.

The deterring and compelling impact of the awesome destructive power of nuclear weapons was thus mainly a matter of brandishing weapons that were not used but held in reserve. Hiroshima and Nagasaki had to suffer actual destruction because nuclear weapons had not yet shown what they could do. No Americans wanted Hiroshima or Nagasaki destroyed; they wanted Japan to surrender so that such cities could be occupied by American military forces and then democratized. Indeed, some nuclear scientists had urged that the first atomic bombs be demonstrated on some uninhabited island, so that Japan could see what fate threatened its cities, without seeing one actually destroyed. The demonstration would have posed a “countervalue” threat against cities, as did the later thermonuclear weapons tests at Eniwetok, but a potential threat held in reserve.

As we look forward to the prospect of nuclear weapons use, however, we must consider some *real* uses of such weapons, intended to cripple or destroy real targets, not merely to deter or compel opposing-party behavior. Some scenarios emerge because of improved nuclear warheads with lower yields of radioactivity, blast, and heat; such warheads would serve as effective antitank weapons, destroying less of the countryside in the process of repulsing an armored attack than older designs would have.²⁷ Other strands will develop because of new motivations for conflict that affect the confrontations of states.

Two current speculative examples can be cited of nuclear weapons being used actually to kill an opponent, rather than to intimidate it by threatening the loss of its population. The case is sometimes made that if the leadership of some terrorist group, such as al-Qa‘ida, buried itself in an underground bunker, perhaps with a rudimentary stockpile of biological weapons or its first atomic bombs, advanced deep-penetration nuclear warheads could be legitimately used to dig out and destroy it.²⁸ The world would be less likely to condemn, and more likely to applaud, the next use of nuclear weapons if it preempted and headed off a WMD attack against a major population center.

A very different example of this emerging strand of motivation is illustrated in the statements noted earlier by Iranian strategic analysts to the effect that an Islamic nuclear weapon would be used to “kill” Israel, not to deter the Israelis or to defeat their military forces. It would be used to solve the Arab problem with Israel once and for all by destroying Tel Aviv, Haifa, and the other Israeli population centers, so that the Palestinian Arabs could live the way they have always wanted to live, all by themselves in Palestine.²⁹

What would have made such a scenario much less thinkable in the past, even from the most hostile Arab or Iranian view, was the fact that a large number of Islamic Arabs would be killed as well in this nuclear attack, since Arabs and Jews have been intermixed for so long. The mutual-deterrence relationship between Israel and its Arab enemies has thus all along been very asymmetrical—Israel could meaningfully pose a threat of the destruction of Damascus or Cairo as its retaliation for an Arab conventional military attack, but the Arab states could not pose a parallel threat to Haifa, with its sizable Arab population, or to much of the rest of Israel, or to Jerusalem, the third holiest site for Islam and the home of a substantial Arab population. The Arabs living close by may have been seen as generally unwelcome by the Israelis, but they served at the same time as hostages limiting the advantages for the Arabs of brandishing nuclear weapons.

But over time, in response to Arab conventional suicide bombers and ordinary terrorism, the Israelis may be driven to a greater and greater separation of the two populations; some hard-liners are already suggesting that they would welcome most of the Arabs' moving across the Jordan River, and so on. If the Israelis, for one reason or another, become persuaded that they are better off living by themselves, their enemies may think of nuclear attack as a viable approach. Such a malevolent Iranian or other Islamic nuclear strategist would still have to provide for the preservation of Jerusalem and deal with the prospect of lingering radioactivity on the Palestinian land, once Arabs were finally free to reclaim Jaffa, etc.

OPTIMISM OVER PESSIMISM?

This entire question might seem the more interesting at first to those who are pessimistic about future risks and who might thus regard speculation about an end to the nuclear taboo as overdue. Yet, to repeat, pessimism may not be necessary, since analysis of the likely consequences of nuclear escalation might stimulate governments and publics to head it off. The chances are as good as three out of five that no nuclear event will occur in the period up to the year 2045—that there is a better than even chance that the world will be commemorating a full century, since Nagasaki, of the non-use of such weapons. But analysts and ordinary citizens around the world to whom the author has put these odds typically dismiss them as too optimistic. Indeed, the response has often been a bit bizarre, essentially that “we have not been thinking at all about the next use of nuclear weapons, but we think that you are too optimistic about such use being avoided.” Such responses in Israel, Sweden, Japan, or the United States might support the worry that people around the world have simply been repressing an unpleasant reality, refusing to think about a very real danger. Yet the possibility remains that the relative inattention is not simply a repression of reality but rather a manifestation of the unthinkable of nuclear weapons use.

One could also introduce another wedge of hope, that any such use of nuclear weapons between now and 2045 would be followed by reactions and consequences that reinforced rather than eroded the taboo. That would be the case if the world did not retreat in the face of such use but rallied to punish it, and as a result the perpetrator did not advance its interests by such an escalation but actually lost the battles and territories that were at issue. The “centenary celebration” would then be less grand, but a basic pattern of optimism rather than pessimism would still be in place.

A very much more pessimistic strand of overall analysis intrudes as attention shifts to other weapons of mass destruction—chemical and biological. By 2045 the spread of latent capabilities for such weapons may have been so enormous,

The next power to use a nuclear weapon in combat could be a state hostile to the United States.

because of the inherent dual-use nature of the science and technology in these fields, that a large number of nations and sub-national terrorist groups will be able to lay their hands on them. If

a biological warfare attack can kill more people than were killed at Hiroshima or Nagasaki, what would have been the worth of continued non-use of *nuclear* weapons for a full hundred years?³⁰

The length of time involved, and the speed we now see in the advances of technology, might also suggest that some entirely new approaches to mass destruction will emerge, involving approaches as unimaginable as nuclear physics might have been for almost everyone in the year 1905. The speculation about cyberterrorism at the beginning of the millennium foreshadowed such a threat. As a happy result of the “Y2K” software patches, on 1 January 2000 banking and other important systems did not break down and the storage of drinking water, etc., around the globe turned out to be unnecessary. But specialists on information technology can see ways in which someone intent on disrupting computer networks could do much more damage than merely delaying e-mail transmissions or automated teller machine operations, even causing major explosions and killing large numbers of people.

Yet none of such speculation about an unfolding array of approaches to mass destruction—chemical, biological, computer hacking, or entirely new realms of science—negates the existing destructive potential of nuclear and thermonuclear weapons. None negates the premise that we would all be profoundly shocked, beyond our ability to forecast such shock, by most of the foreseeable uses of nuclear weapons. Avoiding the use of those weapons remains a major and self-renewing accomplishment.

For the foreseeable future, nuclear weapons continue to be uniquely and distinctly threatening as weapons of mass destruction, in the amount of damage they can do and the rapidity with which they can do it. The threat of other WMD does not yet suggest that this particular nuclear element has lost its relevance or that there is no point in focusing on nuclear weapons and whether they will kept out of use.

Certainly we have reason to be horrified by what a smallpox or anthrax attack could inflict on an unprotected population. A biological or chemical attack inspires fears not associated with a nuclear event; the attack would be ambiguous in its earliest symptoms, leaving governments and private citizens unsure from day to day whether an attack was even under way, thus generating waves of false alarms, etc. Yet the absence of any nuclear attacks since Nagasaki and the numbing of our feelings through all the Cold War years of preparation for a thermo-nuclear holocaust might also have caused us collectively to underrate the real horror of a nuclear attack on a city. The horror after a nuclear attack would almost certainly be significantly greater than what other weapons could inflict.

In fact, there are important policy choices to be made about whether nuclear, chemical, and biological weapons should be lumped together as “WMD” or should be handled separately, in the nonproliferation efforts to head off the *acquisition* of such weapons and in the deterrence arrayed to head off their use.³¹ Since 1945 the world has handled the dual-use aspect of nuclear technology fairly successfully, putting in place the safeguards, precedents, and procedures of the International Atomic Energy Agency (IAEA) and inducing most nations to renounce the possession of nuclear weapons for themselves (accepting the principle that they can utilize nuclear technology for peaceful purposes only if they submit such operations to IAEA inspection) even though the first five possessors of nuclear weapons continue to possess them.³² However, the dual-use problems in the chemical and biological fields may be much more difficult to manage.³³ Lumping all destructive weapons together in a single nonproliferation effort would be far from optimal if it were to dilute, perhaps squander, accomplishments in specifically nuclear proliferation.

Similarly, a “no first use” policy specifically for nuclear weapons is substantially different from “no first use of WMD.” The latter may have the benefit of making the introduction of chemical or biological weapons less likely, but at the price of introducing one more scenario in which nuclear weapons could come into use, perhaps even again by the United States.

This analysis thus directs itself, if for no other good reason than the public imagery involved, to 2045 as a meaningful anniversary. The maintenance of the non-use of *nuclear* weapons until the hundredth year after Nagasaki would seem a very important accomplishment. If abstention from nuclear attack can be

maintained until then, the idea that the use of such weapons has become somehow unthinkable will most probably be reinforced.

SORTING THE CATEGORIES OF NUCLEAR ESCALATION

Rather than simply striving to see how many different scenarios we can imagine for a new use of nuclear weapons, we might more appropriately look for “differences that make a difference.” We might thus close here with an attempt at collecting all the many ways that nuclear weapons could again be used into categories that might lead to very different likely responses by Americans and other peoples around the world and might suggest policy responses by their governments that might not have been immediately evident.

Cases of ambiguity, because of either uncertainty of definitions or doubts about the facts as to whether the nuclear taboo had indeed been violated, constitute one such category. Examples could include the use of a nuclear-waste “garbage bomb,” or rumors of a large detonation that might have been either nuclear or conventional, or a conventional attack on a nuclear power plant. It is possible that the best policy here would be to encourage the world to define away such cases as nonviolation of the taboo, if for no other reason than to keep the taboo alive.

Nuclear attacks with little or no collateral damage to civilians, where the weapons were used mostly or entirely against military targets, form a second group. An example here might be a nuclear warhead on a defensive missile that intercepts an incoming missile carrying a conventional or chemical-biological warhead. If such a relatively nonlethal use occurred (perhaps launched by a friend of the United States, or by American forces themselves), it might be important to try to reshape the taboo, to dignify as acceptable such uses of nuclear weapons while continuing to condemn the other uses.

Cases involving uncertainty about responsibility for the initiation of the attacks, ranging from simple accident to insubordination or outright madness and nuclear terrorism, make a third set. This may be our paramount fear in the aftermath of 9/11, and it may suggest the value of widespread sharing of the command-and-control technology and techniques appropriate to nuclear weapons, even if it might seem to be “rewarding nuclear proliferation.”

Clear and highly destructive nuclear escalation, with definite government responsibility and a general inclination to acquiesce, represents a fourth category. This is another candidate for our worst fear, simply because it would encourage many other regimes to acquire and use nuclear weapons. The prospect suggests a need for an extensive culling and advance analysis of scenarios wherein world opinion could be mobilized against nuclear use only with difficulty.

Clear and highly destructive nuclear escalation launched by a sort of “rogue state” but with definite government responsibility and a braver world response

constitutes a fifth group. If the world can be mobilized to punish such a state resolutely, the beneficial result might be a nuclear taboo renewed by experience rather than erased. It may be very important to seek to convey that the use of nuclear weapons did not reward the perpetrator. If the world were to celebrate the hundredth anniversary of Nagasaki with “just” one use of nuclear weapons, this exception could be made to prove “the rule.”

A sixth category is that of clear and highly destructive nuclear escalation, but in a contest where two opposing sides hit each other’s cities with nuclear weapons. Here the most urgent need for the United States and other outside powers witnessing millions of casualties each day might become intervention to end the war, placing it above alliance considerations and the collective-security standard of punishing the war initiator.

Seventh and finally comes nuclear escalation that is similarly clear and destructive but is launched by a perpetrator who retains a major residual nuclear force thereafter. The extensive literature that was developed during the Cold War on the possibilities of “limited strategic war” may be applicable here, though no such partial use of nuclear weapons ever occurred in that era.

NOTES

1. Useful data on the likely physical impact of nuclear explosions can be found in Samuel Glasstone and Philip J. Dolan, *The Effects of Nuclear Weapons* (Washington, D.C.: Departments of Defense and Energy Research and Development Administration, 1977).
2. This kind of optimism on the impact of nuclear proliferation in general is outlined very well by Kenneth Waltz, *The Spread of Nuclear Weapons: More May Be Better*, Adelphi Paper 171 (London: International Institute for Strategic Studies, 1981).
3. A useful overview of North Korean behavior can be found in Michael Mazarr, *North Korea and the Bomb* (New York: Macmillan, 1995).
4. Japanese considerations on future nuclear choices are discussed in Shawn Burnie and Aileen Mioko Smith, “Japan’s Nuclear Twilight Zone,” *Bulletin of the Atomic Scientists* 57, no. 3 (May/June 2001), pp. 58–62.
5. The risks of Israeli nuclear weapons coming into use are discussed in Yair Evron, *Israel’s Nuclear Dilemma* (New York: Routledge, 1994).
6. For a reference to such Iranian statements, see George Perkovich, *Dealing with Iran’s Nuclear Challenge* (Washington, D.C.: Carnegie Endowment for International Peace, 2003).
7. On the history of the American declaratory policy here, see Ivo Daalder, *The Nature and Practice of Flexible Response* (New York: Columbia Univ. Press, 1991).
8. On crisis diplomacy and the Taiwan dispute, see Robert S. Ross, “The 1995–1996 Taiwan Strait Confrontation: Coercion, Credibility and the Use of Force,” *International Security* 25, no. 2 (Fall 2000), pp. 87–123.
9. The historical evolution of Chinese statements about the use of nuclear weapons is outlined in Avery Goldstein, *Deterrence and Security in the 21st Century* (Stanford, Calif.: Stanford Univ. Press, 2000).
10. Some of such hints of a change in Chinese policy are noted in Alastair Iain Johnston, “China’s New ‘Old Thinking’: The Concept of Limited Deterrence,” *International Security* 20, no. 3 (Winter 1995–96), pp. 5–42.

11. See Joseph Cirincione et al., *Deadly Arsenals: Tracking Weapons of Mass Destruction* (Washington, D.C.: Carnegie Endowment for International Peace, 2000), for a useful projection of trends in weapons proliferation.
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13. On the impact of the presence or absence of live television coverage of human suffering, see Lee Edwards, *Media Politik: How the Mass Media Have Transformed the World* (Washington, D.C.: Catholic Univ. of America Press, 2001).
14. On nuclear responses to attacks by other kinds of weapons of mass destruction, see Barry R. Posen, "U.S. Security Policy in a Nuclear Armed World," in *The Coming Crisis: Nuclear Proliferation, U.S. Interest and World Order*, ed. Victor Utgoff (Cambridge, Mass.: MIT Press, 2000), pp. 157–90.
15. See Peter Gizewski, "From Winning Weapon to Destroyer of the World: The Nuclear Taboo in International Politics," *International Journal* 51, no. 2 (Summer 1996), pp. 397–419; Richard Price and Nina Tannenwald, "Norms and Deterrence: The Nuclear and Chemical Weapons Taboos," in *The Culture of National Security: Norms and Identity in World Politics*, ed. Peter Katzenstein (New York: Columbia Univ. Press, 1996), pp. 114–52; and T. V. Paul, "Nuclear Taboo and War," *Journal of Conflict Resolution* 39, no. 4 (December 1995), pp. 696–717, on the evolution of the nuclear "taboo." On the broader development of the pattern of non-use of nuclear weapons, see Robert Jervis, *The Meaning of the Nuclear Revolution* (Ithaca, N.Y.: Cornell Univ. Press, 1989).
16. For such arguments about the evolution of a "customary international law" here, see Nicholas Rostow, "The World Health Organization, The International Court of Justice, and Nuclear Weapons," *Yale Journal of International Law* 20, no. 1 (Winter 1995), pp. 151–85; and Saul Mendlovitz and Peter Weiss, "Judging the Legitimacy of Nuclear Weapons," *Arms Control Today* 26, no. 1 (February 1996), pp. 10–14.
17. On the slow emergence of the nuclear taboo, see Thomas C. Schelling, "The Legacy of Hiroshima: A Half Century without Nuclear War," *Philosophy and Public Policy* 20, no. 2–3 (Summer 2000), pp. 7–13.
18. On the perceived taboos on these kinds of warfare, see Edward Spiers, *Chemical Warfare* (Champaign-Urbana: Univ. of Illinois Press, 1986).
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23. The World War II abstention from chemical warfare is analyzed in Jeffrey Legro, *Cooperation under Fire* (Ithaca, N.Y.: Cornell Univ. Press, 1995).
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25. The likely state of the arsenals is outlined in George Perkovich, *India's Nuclear Bomb* (Berkeley: Univ. of California Press, 1999).
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29. For such Iranian statements, see Perkovich, *Dealing with Iran’s Nuclear Capability*.
30. Some very pessimistic projections of the killing power of future biological weapons can be found in Jonathan Tucker, “Preventing the Misuse of Pathogens,” *Arms Control Today* 33, no. 5 (June 2003), pp. 3–10.
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