

1983

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Recommended Citation

Nacht, Michael (1983) "Nuclear Deterrence to the End of the Century," *Naval War College Review*: Vol. 36 : No. 6 , Article 9.
Available at: <https://digital-commons.usnwc.edu/nwc-review/vol36/iss6/9>

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Nuclear Deterrence to the End of the Century

by
Michael Nacht

A decade ago Fred Ikle, then Head of the Social Science Department at the Rand Corporation and later to serve as Director of the Arms Control and Disarmament Agency and Under Secretary of Defense for Policy, posed the question: "Can Nuclear Deterrence Last Out The Century?"¹ He responded that the American strategic community had become unnecessarily wedded to arcane and dangerous concepts of assured destruction that called for the maintenance of rapid-fire, retaliatory nuclear forces targeted on Soviet population centers as the basis for maintaining the nuclear peace. Reminiscent of the "no cities" doctrine briefly espoused and then abandoned by Secretary of Defense Robert McNamara in the early 1960s, Ikle argued that for deterrence to last out the century the United States and the Soviet Union should shift from forces that emphasized counterpopulation targeting to nuclear capabilities that need not be fired promptly or in large numbers.

Subsequently the United States indeed altered its force posture and targeting doctrine consistent with this advice. Selectivity and flexibility—officially endorsed first by Secretary of Defense James Schlesinger, reiterated in Secretary of Defense Harold Brown's countervailing strategy, and embraced more fully by Secretary of Defense Caspar Weinberger's concept of horizontal escalation—have become the central features of American nuclear posture. Nuclear deterrence has not failed in the interim, but one may ask in which direction are we headed? As we progress toward the end of the century are we becoming more or less confident that deterrence will last? Although we cannot answer this question definitively, it can be approached constructively by examining how trends in nuclear force deployments are affecting our thinking about the risk of war.

Force Posture and the Risk of War. From the perspective of the professional American defense analyst, the last decade has been most disturbing in terms of the evolution of Soviet nuclear force posture. Large throw-weight intercontinental ballistic missiles (ICBMs) have been deployed with high-

accuracy multiple independently targetable reentry vehicles (MIRVs) that pose a theoretical capability to destroy the US land-based missile force, strategic bombers on the ground, and ballistic missile-carrying submarines (SSBNs) in port as well as to barrage those US SSBNs at sea whose locations can be roughly determined. Taking into account the increasingly capable Soviet submarine-launched ballistic missiles (SLBM) force, worst case American planning would have to conclude that US command, control, communication, and intelligence (C³I) systems are also at risk. This missile buildup, coupled with a vigorous Soviet program in active and passive defenses and a set of military writings that emphasize nuclear warfighting, can only impress the American defense community that Soviet leaders are purposefully seeking the capabilities to fight and prevail in a nuclear war.

The American reaction, exemplified particularly in the Reagan administration's strategic modernization program, has been in part to emulate the Soviets. The acquisition of a prompt hard target kill capability on land and at sea, the budgetary rejuvenation of air defense and civil defense programs, the push to gain the "high frontier" of the military uses of space, and the explicit urging by President Reagan for the technical community to exploit advanced technologies so that the United States could be in a position to defend effectively against attacking ballistic missiles; these are all elements of a program designed to match, negate, or dominate emerging or projected Soviet capabilities. In the administration's own terms we face a "window of vulnerability" for the next several years—exactly for how long is not made clear—as a consequence of Soviet force deployments of the last decade. It is asserted, however, that once the fruits of the US strategic modernization program have materialized, presumably by the end of the 1980s, the window will not only be shut but the overall strategic advantage will return to American hands.

One need not be complacent about the significance of the Soviet nuclear buildup to at least qualify aspects of the American response. After all we now know that, in terms of actual targeting policy, the single integrated operational plan (SIOP) has for more than twenty years included a wide range of military as well as urban/industrial targets, albeit calling for a large number of weapons for each target set. Consequently, in contrast to many public assertions, the national command authorities have not faced the simple choice of authorizing strikes against Soviet population centers or doing nothing. In this light the doctrinal shifts from Schlesinger's limited nuclear options through the current declaratory policies represent incremental rather than fundamental changes. They reflect more the availability of enhanced technologies of precision than dramatic alterations in the attitudes of American leaders toward nuclear war.

Moreover, Soviet capabilities in at least two areas can be seriously questioned. The Soviet air defense systems, although highly formidable in

quantitative terms, may well be subject to extensive penetration using a combination of air-launched cruise missiles (ALCMs) and short-range attack missiles (SRAMs) carried by B-52s—eventually by B-1Bs and Stealth aircraft—that could attack targets in concentrated formations to create bomber corridors. Indeed, to the extent that the 1982 Israeli experience against Soviet surface-to-air missile systems (SAMS) in the Bekaa Valley in Lebanon is a guide, Soviet systems even when forming a layered defense are vulnerable to attack using a combination of drones, electronic countermeasures (ECMs), and attack aircraft. In addition, Soviet SSBNs must reach the open ocean from a few well-known exit areas that are closely monitored by US attack submarines. Given the continuing disparity in noise levels between Soviet and American submarines, it may well be that Soviet SSBNs are far more vulnerable to attack than the US Navy would lead us to believe.

On balance, it is probably accurate to characterize the prevailing view of the professional defense community as one of nervousness over how the Soviets might seek to exploit their temporary advantage in ICBM hard target kill capability. But the expectation is that such exploitation would be political in form rather than military and that the United States is moving in the right direction by acquiring forces that could deter a Soviet attack across a broad spectrum of threat.

These judgments are far from universally shared, however. Those who consider themselves members of the arms control community or are members of the nuclear freeze movement or who take a predominantly moral perspective on nuclear weapons issues hold fundamentally different views. While it is no simple task to summarize the perspectives of so many disparate groups they cluster around the following key points:

- Increased selectivity and flexibility lowers rather than raises the nuclear threshold. With the acquisition of such weapons nuclear warfighting becomes more thinkable and nuclear war itself more, not less, likely.

- Especially pernicious are prompt, hard target killing weapons systems such as the MX. Such weapons, it is argued, are only useful as first-strike weapons. Once struck initially, the United States would have no need for the prompt responsiveness of these weapons because the attackers would launch a third strike on warning and the second-strike forces would only destroy empty silos. (Destroying reload capability is not considered significant by those who hold this view.)

- The accumulation by the United States and the Soviet Union combined of roughly 50,000 nuclear weapons has produced an aggregate level of nuclear armaments completely beyond any rational political or military purpose. Putting aside the rationale for specific systems, there is a general sense that “enough is enough” and the process of disarmament should now commence.

From these critical perspectives, the rhetoric of the Reagan administration has produced public concern that the likelihood of nuclear war is increasing. Peace groups in Europe, freeze movements in the United States, and a variety of professional groups "for social responsibility" have been formed to call attention to the dangers of the US-Soviet nuclear arms buildup. Students from grade school to graduate school have become attentive to these issues and, for the most part, are highly skeptical of the necessity for the US strategic modernization program. Most importantly, much of the underlying policy assumptions of the Reagan policy has been criticized on moral grounds by the National Conference of Catholic Bishops. This is significant not only in itself but because it challenges the basic moral premise of those who initially criticized assured destruction.

Historically and for good reason the professional defense community has paid scant attention to the views of various nonspecialist groups on nuclear issues. With the notable exception of protests over atmospheric testing that led to the 1963 Limited Test Ban Treaty and the opposition to antiballistic missile (ABM) system deployments in New England in the late 1960s, the public has been largely uninvolved in the American nuclear weapons debate. Popularization of the nuclear debate, however, may now truly be underway. Whereas in the early 1970s one could point to the absence of published articles on nuclear-related issues as evidence that the public was "forgetting about the unthinkable,"² the subject is now debated routinely in all sorts of educational and community forums. George Quester, a well-published student of nuclear weapons policy, used to remark somewhat whimsically that American policy would be in difficulty when his grandmother inquired about the CEP (circular error probable) of an SS-9 Soviet ICBM! We are not far from this condition today.

Put simply, the concerned public and the defense community hold fundamentally different views on the consequences of acquiring prompt hard target kill capabilities, as illustrated in the matrix below.

By mobilizing politically the concerned public could generate sufficient congressional support to thwart procurement of elements of the strategic modernization program, especially the MX, as well as induce the administration to adopt more conciliatory arms control negotiating positions in both the Strategic Arms Reduction Talks (START) and the Intermediate Nuclear Force (INF) negotiations.

To be sure this matrix is a highly simplified abstraction of a complex reality, a reality which includes on the one hand former Director of Central Intelligence Stansfield Turner who characterizes the MX as "folly" and on the other hand many lay public supporters of President Reagan who strongly endorse the MX deployment. The matrix is nonetheless intended to convey the central tendencies of the two groups. Whereas the defense community focuses on Soviet prompt, hard target kill capabilities as the most pernicious

**Deterrence Perception Matrix
Capability**

Community		PHT	AD
	DC CP	S W	W S

where DC = defense community
 CP = concerned public
 PHT = prompt hard target kill capability
 AD = assured destruction capability
 S = deterrence perceived strong
 W = deterrence perceived weak

development of recent times, the concerned public is disturbed by the bilateral accumulation of nuclear weapons and by the perceived belligerence of the Reagan administration reflected both in declaratory policies and in weapons deployment decisions.

Admittedly we are all flying somewhat blind in trying to assess what deters Soviet decision-makers. Recall that it was in the period of the American nuclear monopoly that Soviet territorial acquisitions reached their peak. American nuclear superiority certainly did not prevent the initiation of the Korean War, the various Berlin crises, or the Cuban missile crisis, although the outcome of each may well have been influenced by the nuclear balance of forces. And since the Soviets were acknowledged to have reached nuclear parity with the United States in the early 1970s, we have witnessed only one serious rhetorical exercise of nuclear muscle—the shift to Defense Condition Three of US strategic nuclear forces during the 1973 Middle East War—and it is not at all clear what effect this exercise had on the Soviet decision not to intervene militarily against Israeli forces in the Sinai.

We have now lived roughly a decade since the Soviets gained the edge in most static indicators of the strategic nuclear forces and at least a few years since they established an advantage in ICBM countersilo kill capability. No political or military benefit of note has yet been derived by Moscow as a consequence. Although it is hazardous to project the future by extrapolating from the past, it just may be that there are sufficient numbers of invulnerable American weapons and the risks of nuclear war or even nuclear coercion are seen by the Soviet leadership as so great that the Soviet Union will simply be unable to translate its nuclear might into even modest political gain. However, some observers would disagree with this judgment, pointing to the growing fragmentation of the Nato Alliance as a product of Soviet nuclear superiority.

It is plausible to conclude that as long as the principal characteristic of the strategic nuclear balance remains one of offense dominance, a nuclear stalemate will remain in place. This stalemate will keep the probability of nuclear war between the superpowers exceedingly low and will also ensure the continuance of a pattern of US-Soviet military competition carried out by proxies with the deliberate avoidance of direct combat between Soviet and American forces even at the lowest levels of violence. Ironically, however, the concerned public is indeed increasingly concerned that this strenuous nuclear competition will lead by design or by accident to nuclear war. Based on an unscientific, nonrandom sampling of expert and public opinion, this author is convinced that the public assesses the probability of nuclear war in this century as substantial (10-30 percent), placing it several orders of magnitude greater than the judgments of most specialists.

If War Comes. If nuclear weapons should be used in a Soviet-American war, how might the war start and how might the weapons be used? Four scenarios can be cited: (1) bolt-out-of-the-blue; (2) escalation of a conventional war; (3) preemptive strike in a deep crisis; (4) accident.³ For the first to make any sense at all the Soviet leadership must be persuaded that a successful disarming first strike could be carried out with a very high probability of success. This is now infeasible. It would take a fundamental breakthrough in ASW technology to take on an air of reality. Despite the enormous sums expended to date, no combination of passive and active detection systems yet poses a serious threat to the United States' SSBN fleet. One fruitful area of work concerns the development of satellite-based detection systems that could scan vast ocean areas, detect SSBN locations, and then command strikes on these locations either by ICBM barrage attacks or by space-based directed energy weapons. Should a disarming first-strike capability be acquired, it would make strategic sense to restrict the attack to a counterforce mode so that there would be a limited incentive for the American leadership to respond with a countercity attack by whatever residual force survives the initial strike.

A different avenue for arriving at a bolt-out-of-the-blue attack would be if either side acquired a leak-proof defense. Here again the technology is simply not at hand. In the MIRV era, saturation attacks, the uses of decoys and ECM, and the vulnerability of BMD sensing devices make it exceedingly unlikely that a workable defense could be deployed to protect population centers or even hardened military targets from a sophisticated attack. This is not to deny, however, that BMD coupled with certain ICBM deployment patterns such as multiple protective shelters greatly reduce the cost-exchange calculations favoring the attacker. Technologies based on new physical principles, however, would have to be mastered and deployed before the offense-defense balance shifted from the former to the latter.

A third and more restrictive bolt-out-of-the-blue scenario, popularized by Paul Nitze, envisages a Soviet attack on US ICBMs, SAC aircraft, and SSBNs. A highly successful attack would still leave the United States with a residual force of perhaps 3,000 warheads based on the SSBNs at sea and on a few surviving ICBMs and long-range bombers. Nitze has argued with some persuasiveness that in such a situation the US national command authorities (NCA) would eschew countercity retaliatory attacks for fear of Soviet reprisals in a third strike. The absence of a credible counterforce and in particular countersilo retaliatory capability would leave the NCA with no adequate response. This logic can be questioned on several grounds: first, US countersilo retaliation would probably be of limited value since the Soviets would have to be expected to launch under attack having themselves already initiated nuclear war; second, a large number of military and industrial targets could be struck in retaliation that would be militarily effective and demonstrate American resolve to proceed up the ladder of nuclear escalation; and third, it seems implausible that the highly conservative and risk-averse Soviet leadership would gamble that Nitze's logic was fully embraced by the American President and that Moscow and other key Soviet assets would in fact be spared nuclear retaliation.

A variation on the bolt-out-of-the-blue theme concerns an initial Soviet strike on the United States' C³I system so that the NCA is uncertain of the nature of the attack. While this approach would surely complicate the US decision-making process if implemented successfully and could hamper greatly the American ability to respond effectively, the Soviets would nonetheless be supplying a formidable strategic warning to Washington and would in all probability be leaving the fate of their own society in the hands of their enemy. This must be seen as an extremely high-risk strategy in Moscow with a very uncertain payoff. On balance, a bolt-out-of-the-blue attack, even if restricted to a counterforce mode, would still call for the detonation of several thousand warheads to make any military sense (assuming, for example, two-on-one lay down attacks on ICBM fields). The risk that this would spread to countercity strikes and an all-out strategic nuclear exchange is significant and, therefore, this scenario while imaginable must be judged as highly improbable.

The use of nuclear weapons in the escalation of a conventional war raises somewhat different prospects. A conventional war in Europe initiated by a Warsaw Pact attack against Nato forces could produce at least three follow-on uses of nuclear weapons. Nato could, as former Secretary of State Haig suggested, launch a nuclear warning shot across the bow—a limited and highly discriminating attack against a single high-value Pact target or simply a high-altitude burst over the Baltic—early in the conflict to demonstrate resolve and to persuade Moscow to call a halt to hostilities before full-scale nuclear war ensues. In a more advanced stage, if Nato forces were clearly

being defeated, nuclear forces could be called upon both to interdict the attacking Pact armies and to strike second-echelon forces and other high-value targets in Eastern Europe. It should be noted however that various JCS and other gaming exercises indicate that Nato fails to gain from such a response once Warsaw Pact counterstrikes are taken into account. Finally, Soviet SS-20s and other prompt counterforce weapons could be used in either a preventive or preemptive fashion to disarm Nato of some in-theater nuclear escalatory capabilities, although whether this would ensure that the Soviets retain escalation control throughout the conflict is highly problematical.

Conceivably a US-Soviet conventional war that initiates outside the European theater (e.g., a Middle Eastern scenario in which Israel attacks Syrian SAM sites and kills Soviet advisers, the Soviets respond by striking at Israeli air forces, and American and Soviet forces come to blows protecting their ally's forces) could result in limited loss of life or in prolonged nonnuclear horizontal escalation without crossing the nuclear threshold. To the extent that the respective leaderships in Moscow and Washington sought to continue the conflict, it is indeed highly likely that they would seek to widen its scope at the conventional level rather than escalate to the use of nuclear weapons in the initial area of conflict since the former option would probably be seen as more easily controllable than the latter.

The notion of a preemptive strike in a deep crisis also raises serious obstacles for the attacker. A crisis usually implies a distinctive set of characteristics which set it apart from business as usual: (1) a pervasive sense that an important decision point has been reached and that the path subsequently chosen will have highly significant effects on future events; (2) a departure from utilizing standard operating procedures and a reliance instead on ad hoc decision-making processes; (3) a premium on specialized expertise to bring to bear on the problem; (4) a sense, as exemplified in the Cuban missile crisis, that the adversary must be given face-saving options to retreat rather than closing off all avenues but acts of desperation; (5) a general understanding that "time is of the essence" and that the issue must be dealt with immediately and should take priority over other pressing matters; (6) an understanding by some that a crisis cannot be merely an exercise in avoiding the "minefields" but could provide opportunities to realize gains or take initiatives not feasible under normal circumstances.

If an intense US-Soviet crisis develops over a political, military, or economic issue anywhere in the world two characteristics are likely to be prevalent: a heavy reliance on maintaining channels of communication to minimize the likelihood of misunderstanding and to convey both capabilities and intentions in a fashion designed to defuse the crisis and avoid war; and the generation of the nuclear and conventional forces to higher-than-normal alert status. While it might be assumed that the latter step could push the

leadership to a dangerous hair-trigger response, the opposite may well be true. For "generated" nuclear forces are markedly less vulnerable to counterforce attacks than when they are on a normal alert status. While such forces cannot remain at peak operating effectiveness indefinitely, their high alert status must reduce the adversary's confidence in carrying out a successful preemptive strike and this could well have salutary rather than destabilizing effects.

Accidental war, a matter of great concern in the 1950s and early 1960s, has since waned as a subject of inquiry at least within the American strategic community with the introduction of permissive action links and other means of enhanced control over nuclear weapon use. Nonetheless, as indicated by the relatively high failure rate of the NORAD early warning system, the launching of nuclear forces either because of a system malfunction or by unauthorized personnel cannot be ruled out. Under such unfortunate circumstances several attributes would clearly be desirable to possess: the ability to communicate to the adversary concerning the nature of the malfunction; an ability to recall, disarm, or destroy the delivery vehicle before it reaches its designated target; and, in the eventuality of a tit-for-tat response (à la the denouement of *Fail Safe*), the ability to respond to an accidental nuclear attack in a highly circumscribed fashion.

Is There a Substitute for Victory? General Douglas MacArthur observed that there is no substitute for victory. Does this maxim extend to nuclear war? While many publicists visualize the destruction of the planet once nuclear war begins, some nuclear strategists conceive of a postattack recovery phase with "winners" and "losers." Recognition of a Soviet civil defense effort designed to protect leadership, industry, and foodstuffs stimulated American assertions that a "war survivability gap" existed between the Soviet and American societies such that, in relative terms, the Soviet Union would suffer far fewer casualties and recover from nuclear war much more rapidly than the United States. The analytical basis for such assertions is highly suspect, however, given the uncertain effectiveness of evacuation procedures. In fact, of course, no one knows what such a world would look like. No one knows how national leaders will react when they realize (assuming they are alive) what the horror of nuclear war really means. Moreover, despite extensive modeling efforts, no one really knows what would be the degree of environmental damage—to the ozone layer and to plant life for example—as a consequence of the detonation in a highly compressed time period of several hundred or several thousand thermonuclear weapons.

If the scenarios cited above are any guide, defining victory after a full-scale thermonuclear exchange is of less interest than under more limited attack situations. It would seem plausible that nuclear war would most likely begin with the use of small numbers of weapons to achieve specific military and

political purposes. After some form of postattack assessment has been conducted there may well be enormous psychological and peer pressure on the leadership to terminate hostilities on the best or the least unfavorable terms, rather than march inexorably up the nuclear escalation ladder toward armageddon. After a few nuclear exchanges the original political and military purposes for initiating nuclear war may well be replaced by the intrinsic penchant for survival. And therefore a war termination status that could be defined as "non-loss" may become extraordinarily appealing if the only alternative is radioactive incineration. If the homelands of the superpowers are struck with even a small number of nuclear weapons the magnitude of the effort required to effectuate recovery will be enormous. The status quo ante could then become a compelling denouement. Because of the enormous destructive power of nuclear weapons, it does not necessarily follow that governments which have decided to cross the nuclear threshold will see nuclear escalation as the inexorable consequence of their initial acts. In the world of nuclear war, peace without conquest could indeed be a substitute for victory.

Desirable Assets. Given this examination of different perspectives on the risks of nuclear war, how it may start and how it might end, we are left with a few guidelines for policy and force posture:

- Nuclear war is very serious business and should be addressed in public only by the President in the most sober, respectful, and cautious of terms. Deviations from this public posture produce all sorts of political nervousness that, while understandable, can impede the conduct of a rational and informed strategic debate. Moreover, a serious and sustained commitment to nuclear arms control negotiations and agreements as part of a comprehensive national security strategy is essential in order to retain the necessary political consensus required to support a strategic force modernization program. Dual support for peace *and* strength is required to achieve either. This might be termed a "one sigma posture," reflecting that only modest deviations from the public mean are politically sustainable. As President Carter learned when relying too heavily on arms control negotiations and as President Reagan realized when emphasizing military preparedness too strenuously, the American people seek in game theoretic terms a "mixed" rather than a "pure" strategy.

- The public is much more influenced by declaratory policies than is the defense community. With this in mind, it is important to articulate defense priorities and a defense strategy rather than merely assert that more is better. Rhetoric concerning strategic inferiority is of limited long-term credibility even if a useful ploy in budgetary politics. Emphasis instead should be placed on the *process* of modernization, the need for *patience* in negotiations, and the *progress* that has been achieved in maintaining a stable nuclear balance.

- The dynamics of the arms competition are inherent in the US-Soviet rivalry. Nuclear forces are deployed: (1) as hedges against uncertainty; (2) as products of "technology push"; (3) as bargaining chips for arms control negotiations; (4) to compensate for weaknesses in conventional forces; (5) as a product of legislative politics and the budgetary process; and (6) as a product of the American electoral process, in addition to serving the interests of national strategy. Arms control agreements can, to a limited degree, bound the problem and provide a more stable strategic environment, but they cannot fundamentally transform either the competitive superpower relationship or the domestic political pressures in both countries that sustain the arms competition.

- The weapon systems most valuable for both deterrence and warfighting are largely invulnerable forces of high precision and control that can be used both to fulfill concrete and limited military missions and to convey explicit political statements. In this respect large numbers of relatively invulnerable, dispersed cruise missiles are highly preferable to small numbers of high-value prompt counterforce weapons whose deployment in vulnerable fixed silos do not strengthen deterrence, are of limited warfighting value if used in a retaliatory mode; and, besides, they are a highly valued target serving as a magnet for enemy warheads. Invulnerability and discrimination are the most desirable weapon systems attributes for both deterrence and warfighting. Systems deployed in a "use them or lose them" mode do not serve well either objective.

Notes

1. Fred Charles Ikle, "Can Nuclear Deterrence Last Out the Century?," *Foreign Affairs*, January 1973, pp. 267-285.

2. Rob Poarlberg, "Forgetting About the Unthinkable," *Foreign Policy*, Spring 1973, pp. 132-140.

3. Two forms of nuclear war initiation are not included. Catalytic war, in which a third party seeks to induce a Soviet-American nuclear exchange by initiating a nuclear strike on one superpower in the guise of the other is not addressed since contemporary reconnaissance and early warning systems have sufficient resolution to make this an extremely high-risk strategy for the third party. Moreover, acts of nuclear terrorism initiated by sub-state actors that somehow escalate to a US-Soviet conflict insist on a chain of logic considered too implausible to address further.

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