

Out of Balance

Will Conventional ICBMs Destroy Deterrence?

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Editorial Abstract: In light of the dissolution of the Soviet Union and the end of the Cold War, some scholars argue that the use of extended-range weapons does not provide deterrence and invites unnecessary risks. In this article, Dr. Butterworth contends that deploying only a small number of ICBMs will not erode US deterrence and that proposing a non-nuclear alternative of conventional ICBMs might boost, rather than erode, Russian confidence that a US nuclear strike is highly unlikely.

IT WOULD BE particularly reckless, according to some views, for the United States to use intercontinental ballistic missiles (ICBM) in new ways—to boost a space-operations, space-maneuver, or common aero vehicle or an advanced conventional penetrator for strikes against time-urgent, high-value, or deeply buried targets worldwide.¹ These missiles would not be carrying nuclear warheads, and they would be based far away from ICBM fields (perhaps four missiles in Florida and four in California), distant from nuclear-storage facilities, unhardened, and open to continual surveillance as well as many transparency measures. The fear is that using them would trigger a Russian nuclear strike.

“The systems built to control Russian nuclear weapons are now crumbling,”² Russian nuclear weapons are now on an unstable hair trigger, and Russia has been losing the “ability to distinguish reliably between natural phenomena or peaceful ventures into space and a true missile attack.”³

In other words, US deterrence cannot be very strong because Russia is very weak.⁴ But is influence really an inverse of power? Would US deterrence be eroded by launching a few conventional ICBMs against a non-Russian target? Would it evaporate if Russia mistakenly believed the target was *not* non-Russian? Only a dozen years ago, the answers across the board were negative. A special White House commission, in fact, was calling on the Pentagon to develop very-long-range, highly accurate, “smart” conventional weapons. The commission membership included Gen Andrew J. Goodpaster, Gen Bernard A. Schriever, Gen John W. Vessey Jr., Dr. Henry Kissinger, Dr. Zbigniew Brzezinski, Dr. Joshua Lederberg, and Adm James L. Holloway III. They found that “current technology makes it possible to attack fixed targets at any range with accuracies within one to three meters. These accuracies and modern munitions give us a high probability of destroying a wide variety of point and area targets with one or a few shots without using nuclear warheads.”⁵ They concluded that such a capability “can make a major contribution to halting Soviet attacks anywhere on the perimeter of the USSR.”⁶

The contrast appears stark. During the Cold War, the United States could expect to use extended-range weapons to kill Soviet troops on their own borders, and those weapons were expected to strengthen deterrence. But today, after the Cold War and the Soviet Union have both disappeared, it is asserted that using such weapons against a terrorist headquarters in Afghanistan would risk Armageddon. Formerly, relative weakness caused worries about US deterrence; today, it is relative strength.

But the contrast is not in fact real. The apparent paradox of strength and weakness is

not the unfolding of military history but an artifact of incomplete analysis. The inferences urged by the alarmist views of Russian affairs are based on overly simplified notions of deterrence and ignore the very different traditions of Russian military assessments.⁷ Moreover, Russia and the United States have been working jointly for years to reduce the possibility and scope of system errors, as well as paint a record of cooperation against which allegations of fatal enmity sound increasingly loony. If the United States wants to field a handful of unprotected ICBMs with conventional warheads, Russian leaders may see a chance to bargain for dollars, but they will not see a mortal threat.

The Fog of Deterrence

In the simple, abstract models of deterrence made popular in academic writing 40 years ago,⁸ ambiguity courted disaster. Effective deterrence required a clear message from one side to the other about the retaliation that certain actions would bring. The goal was to leave no doubt about the nature of the threatened punishment, the circumstances that would trigger it, or the capability to inflict it.

Those simple models were intellectual toys, devoid of historical relevance. In practice, deterrence was never so clear.⁹ Instead of the models’ “actors,” former undersecretary of defense Fred Ikle reminds us that there are governments and military organizations as well as bureaucratic and political complexes run “by people who are ignorant of many facts, people who can be gripped by anger or fear, people who make mistakes—sometimes dreadful mistakes.”¹⁰ Instead of the models’ “messages,” there are force postures—complex amalgams of policy, doctrine, and forces—that must serve many goals and address many contingencies, including notably both deterrence and what to do if deterrence fails.¹¹ It also embodies a mixture of declaratory policy, employment doctrine, and acquisition programs, each of which is at least chronologically out of step with the others.

As former Arms Control and Disarmament Agency official Janne Nolan observes, “Generalities about deterrence hide the continuing probability of being compelled to rely on forces dedicated to warfighting in the event of the failure of deterrence.”¹²

Nolan’s statement itself masks a mountain of unavoidable operational ambiguity. Consider, for example, a planning scenario described by George Seiler:

A target-rich, weapon-poor situation in which the weapons are not survivable or executable due to C³ [command, control, and communications] considerations after riding out a Soviet attack. In such a scenario, it becomes difficult to decide where to place the allocation emphasis [for targeting residual US forces]—nuclear forces, conventional forces, leadership, or the industrial and economic base. Also, if the goal of escalation control is considered, rules of allocation would shift the least survivable forces to the target set with the highest probability of execution which still limits escalation, possibly resulting in a weapon-target mismatch.¹³

Deterrence issues in practice, unlike the modelers’ artifice, are inherently speculative; assessments of cause and effect depend centrally on counterfactual inferences and so invite “*post hoc, ergo propter hoc*” fallacies. Like civil-court proceedings, assessments must be based on reasonableness, probabilities, and the preponderance of evidence. As a result, Nolan observes, “It is difficult to state categorically what is effective deterrence and what is not.”¹⁴ But it is not difficult to distrust sweeping conclusions that are based on one or two factors. Conventionally armed ICBMs may present some ambiguity to Russian analysts, but it will be small compared to what they and their predecessors have been confronting and reducing for half a century.

The Soviet Legacy

James Schlesinger explained deterrence quite directly when he was secretary of defense: “The purpose of all U.S. strategic forces, indeed the entire U.S. military establishment, after all, is to influence calculations

by the Soviet Union in such a way that there is always a commanding voice in the Kremlin saying ‘Not today, Comrade.’”¹⁵ Today, Russian calculations determine whether US deterrence succeeds or fails, but the analytic approach—like the nuclear forces themselves—is a legacy from Soviet days.

Soviet rhetoric about deterrence generally shifted over time with changes in the correlation of forces. During the Khrushchev years, the Soviet posture was relatively weak, and the threats bombastic and unrestrained. Later, once larger and more survivable forces had been fielded, Soviet rhetoric became much less inflammatory.¹⁶

Unlike the declaratory rhetoric, the fundamental analytic approach seemed quite stable—and quite different from US approaches. Soviet analysts paid particular attention to operational considerations within a total scenario assessment¹⁷ and were “unaccustomed to thinking about weapons and technological competition outside the full operational context in which they would be used.”¹⁸ Forces would be used for different purposes in different circumstances. As Stephen Meyer notes, it was, therefore, pointless to argue whether Soviet programs were aimed at building disarming capabilities, carrying out preemptive strikes, retaliating by launching on warning, or ensuring assured destruction.¹⁹

Nor did Soviet analysts share the US concern with a surprise bolt out of the blue (BOOB) attack. Once again, they looked instead to the strategic setting. “Surprise attack, in the Soviet historical experience, does not arise in a political vacuum but in an identifiable political-military context.”²⁰ Moreover, nuclear strikes would not end the war: “[Soviet] doctrine stresses the reconstitution of remaining forces and the continuation of the offensive where possible, despite heavy losses and widespread devastation.”²¹

Overall, traditional Soviet assessments would have found little threat in American proposals to deploy a handful of conventionally armed, unprotected, treaty-constrained ICBMs on the Florida and California coasts.²² The missiles would be too few, too weak, and

too vulnerable to influence the strategic balance. Like many weapons, they could be launched without warning against Russian targets, but Soviet analysts would not see a BOOB attack as a serious possibility in light of history, the correlation of forces, and the prevailing tenor of interactions.

The Context Today

But is the Soviet approach still relevant? Russian assessments today are made by people trained in Soviet methods but facing dramatically changed circumstances.²³ When the USSR collapsed, its military was already in the midst of “ongoing restructuring plans, crisis in the ranks, declining respect for the armed forces, republic challenges to the military draft evasion, declining quality and morale of conscripts, demoralized officer corps, and military reform.”²⁴ Ten years later, both the Soviet empire and its successor (the Commonwealth of Independent States) have dissolved; part of the former empire is at war with Russia; parts of the former bloc are members of the North Atlantic Treaty Organization (NATO); and Soviet-style communist governments have disappeared everywhere except North Korea and Cuba. Internally, economic relations, political authority, and military systems have all crumbled. To the inefficiencies of Soviet organizations have been added pervasive corruption, rotting institutions, and aberrant leadership. Bruce Blair lists several problems affecting the nuclear forces: “coups, rebellions, secession, severe civil-military tensions, huge cuts in defense spending, dire working and living conditions even for elite nuclear units, operational atrophy and declining proficiency in matters of operational safety, widespread corruption, and pervasive demoralization.”²⁵

Such powerful pressures lead some Western observers to expect to see sharp inversions in post-Soviet Russia’s strategic behavior. Some observers believe that “the ‘nuclear threshold’ is being lowered” because “Russia will lack strategic options between low-intensity operations and full nuclear response.”²⁶

Others worry that the United States might face several thresholds, corresponding to separate nuclear warlords. Blair raises “the specter of nuclear anarchy in the former Soviet Union,”²⁷ and Daniel Goure believes that regional political leaders might form alliances with military forces in their territories, “and you wind up with a kind of Chinese warlord situation. . . . There’s a real chance the center will not hold.”²⁸

In view of these changes, will Russia continue to analyze military affairs using approaches developed during the Soviet years? Perhaps not; eventually, as the influence of the Bolshevik “super rationality” approach to analysis fades, military assessments might become different in method as well as circumstance. Or perhaps the legacy approach will be jettisoned by a new ideology. Certainly, the prevailing military mood and outlook seem darker. To traditional conservatism have been added feelings of weakness, hopelessness, shock at the loss of the Soviet empire, and helplessness in the face of world events beyond Russian influence. Such discontents can nurture extremist, perhaps ultranationalist, policies.

Change Is Not Imminent

But that day has not yet come. Russian behavior to date reveals no change in approach to reaching assessments, and official statements on current doctrine and strategy are consistent with traditional Soviet methods applied in current circumstances. How to configure its strategic nuclear forces has been an acutely important debate within Russia’s military.²⁹ According to the 1997 “National Security Concept of the Russian Federation,”

Russia does not strive for parity in the armaments and armed forces with the major states of the world and seeks to implement a principle of realistic deterrence based on determination to make an adequate use of the available military might for preventing aggression; . . . the main task of the Armed Forces of the Russian Federation is to ensure nuclear deterrence, which is to prevent both a nuclear and conventional large-scale or regional war; [and] to accomplish

this task the Russian Federation should have a potential of nuclear forces which can guarantee that planned damage will be caused to any aggressor state or a coalition of states.³⁰

One Russian analyst observed that “there is no real alternative to nuclear deterrence, and all the indications are that President [Vladimir] Putin will continue the former nuclear policy.”³¹ Russia also approved a new military doctrine on 21 April 2000. It reflects the belief that there has been “a decline in the threat of large-scale war, including nuclear war.”³²

As described by Nikolai Sokov, “No longer are nuclear weapons reserved solely for extreme situations; now they can be used in a small-scale war that does not necessarily threaten Russia’s existence.”

Current Russian policy explicitly reverses earlier Russian and Soviet promises not to be the first to use nuclear weapons in war, but American leaders consider this change unimportant. “The Russian Federation reserves the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and (or) its allies, as well as in response to large-scale aggression using conventional weapons in situations critical to the national security of the Russian Federation.”³³ Western analysts believe that “the rationale behind the change is that Russia’s conventional forces, which continue to deteriorate, would be no match for that of most potential adversaries.”³⁴ This modified posture is the Russian confirmation of what US officials believed for some time. “The old Russian doctrine . . . about no first-use of nuclear weapons was nothing that we took particularly seriously. . . . The current doctrine . . . says that Russia reserves the right to use nuclear weapons first in extremis. . . . That has a certain similarity to . . . American

policy since 1962 and NATO policy since 1967.”³⁵ In the view of Mary FitzGerald, “the new stance stems logically from [Russia’s] loss of quantitative superiority in conventional arms, from the proliferation of nuclear weapons, and especially from [Russia’s] ongoing lag in the [revolution in military affairs]—especially as epitomized by Desert Storm.”³⁶

Russian statements and exercises in recent years reflect worries about weakness in conventional forces and suggest that that defense against an invasion might not be possible without using nuclear weapons.³⁷ “Deputy Director of the Russian Strategic Analysis Centre Konstantin Makiyenko considers it quite logical that Russia should allow itself to use nuclear weapons, even in response to a non-nuclear attack.”³⁸ Editorial writers in the United States saw here “an alarming shift in planning,” wherein Russian leaders now felt “obliged to rely on nuclear weapons to defend their frontiers against even a nonnuclear attack.”³⁹ The most recent Russian “National Security Concept,” published on 14 January 2000, appeared to widen the range of circumstances under which Russia might employ nuclear weapons. As described by Nikolai Sokov, “No longer are nuclear weapons reserved solely for extreme situations; now they can be used in a small-scale war that does not necessarily threaten Russia’s existence.”⁴⁰

But Soviet authorities might have used nuclear weapons under similar circumstances 15 years ago, depending on their calculations of force balances and perceptions of Western intentions. According to an American defense official, “We always believed that Russian doctrine allowed for the early first-use of nuclear weapons. And as I recall, some of the documents that were found by the Germans after the Russian forces departed East Germany seemed to indicate quite strongly that the war plans called for early nuclear strikes.”⁴¹ Possession of conventional options per se (or the lack of them) says nothing about preferences for or likelihood of nuclear use. In fact, according to Alexei Arbatov, in Russian strategic nuclear thinking,

“nuclear weapons employment strategy . . . is not seen as closely related to force levels, structure, posture, and systems characteristics. . . . Any declaration on the need to compensate Russian conventional weakness with nuclear strength is predominantly a general political argument, not a reflection of a consistent strategic analysis, assessment of contingencies, or planning of defense policy options.”⁴² There is a domestic audience for these events too, as contending views of military reform compete for money and power.⁴³ As one Western analyst concluded recently, “A new military doctrine . . . will provide only more declaratory statements and more military guidelines [and] . . . cannot be fully implemented financially, given current defense spending.”⁴⁴

Nor have worries about funding, threats, and decay derailed the rigorous strategic focus that characterized Soviet assessments. Press accounts of the recent “security concept” also reported that the deputy chief of the Russian Defense Ministry’s general staff said that “the strategy’s apparent suspicion of Western intentions should not be blown out of proportion” and that Russia “remained interested in ‘mutually beneficial and neighborly cooperation on an equal footing with Western countries.’”⁴⁵ In addition, “Mr. Putin, who spent a decade or more watching the West as a K.G.B. agent in East Germany, is said by friends to be well aware that any threat that Europe and the United States pose to Russia is not military, but economic and cultural.”⁴⁶ The recent security concept itself “stresses that Russia can regain superpower status—its clear aim—only if it pursues capitalism and integrates itself further in the global economy and political system.”⁴⁷

Russian actions have also been reassuring. Previously deployed nonstrategic nuclear weapons have been called back to Russia, although efforts to dismantle them have been slow. Strategic arms reductions have continued toward the limits called for by START I. START II was ratified by the Russian Duma on 14 April 2000, which also opened the way for talks on START III to begin.⁴⁸ Some weapons modernization has continued, along with

work on underground defense facilities, exercises and testing, and discussions with the United States on a range of arms-control measures. Despite some interruptions and friction—saber rattling over NATO enlargement, friction with peacekeeping partners in Kosovo, and delay in arms-control measures—Russia cooperates with NATO in strategic discussions, regional security agreements, and international peacekeeping work. On the whole, Russian words and deeds are consistent so far with an approach to nuclear issues that is not significantly different from Soviet methods.

Some observers believe that the question of Russian assessments has become moot, overtaken by the hazards of system decay. “The nuclear danger of the next decade,” according to Graham Allison, “arises less from malicious [national military] intent than from mistakes, incompetence, theft, or loss.”⁴⁹ Blair agrees that “all the trends pertinent to the functioning of Russia’s nuclear command and early warning system are negative, casting strong doubt on its ability to endure the stress and strain indefinitely. Russian nuclear forces are becoming more susceptible to accidental, unauthorized, or mistaken launch.”⁵⁰ These worries concern both the command and control (C²) systems, which are reported to need modernization urgently, and the radar and satellite early warning systems, which have substantial gaps in geographic and temporal coverage.⁵¹ “Russia’s early-warning system is so decayed that Moscow is unable to detect U.S. intercontinental ballistic missile launches for at least seven hours a day and no longer can spot missiles fired from American submarines at all.”⁵² Without funds to remedy these failings and to address “Y2K” problems, some Western observers fear that Russian leaders might decide to retaliate, based on uncertain warning, or to decentralize the nuclear-release decision. Central authorities might lose control over nuclear weapons in any case, owing to splintering of authority at the top or to local insubordination.⁵³

Such anxieties seem determinedly overblown. After a visit to Russia's Strategic Rocket Forces in October 1997, Gen Eugene Habiger, commander in chief of US Strategic Command, reported that he was impressed that the Russians "have a program which is ensuring the safe, secure processes involved regarding nuclear weapons" and that "the thing that struck me about going into their command centers, command-and-control centers is that they are very much geared to a fail-safe mode. And what I mean by that is that any one of the command centers, from the national level down to the unit level, can inhibit the launch of an intercontinental ballistic missile."⁵⁴ The following spring, Habiger testified that he was "confident in the safety, reliability, and security of the strategic command and control elements within Russia. I follow the de-alerting debate with interest and concern. In large part, it appears to be a resolution without a problem."⁵⁵ Three months later, after a visit from Russian nuclear security experts and another tour of Russian strategic forces, Habiger again reported that he did not at that time "have any serious concerns [about Russian nuclear weapons programs and security]. I see some things they can improve upon."⁵⁶ Press accounts quoted George Robertson, NATO's secretary-general, as saying that the status of Russia's strategic missile system "should not be a matter of mutual concern at the moment."⁵⁷ Russia also plans to reduce its strategic nuclear forces over the next few years by retiring some aging ICBMs.⁵⁸

Enduring Efforts to Ensure Stability

Several cooperative programs are further shrinking these risks. The Cooperative Threat Reduction ([Sen. Sam] Nunn-[Sen. Richard] Lugar) Program has provided technical and financial help to Russian nuclear-weapons-management programs for several years. The United States has been particularly interested in finding ways to strengthen mutual confidence in strategic early warning,⁵⁹ believing that "Russia's early-warning system is incomplete and does not provide the level of assur-

ance that the United States has demanded from its own system for many years."⁶⁰ Russia, like the Soviet Union before it, was never able to monitor all potential avenues of attack all the time. Such a situation would be intolerable to the United States, but such shortcomings appear to be less exigent in Russian assessments. They, like Soviet calculations, appear to give considerable weight to the ongoing tenor of strategic relations when evaluating indicators of possible attack.⁶¹

Still, improved transparency and cooperation could certainly be welcomed. Assistant Secretary of Defense Edward Warner announced in March 1998 that an interagency working group was "examining a range of measures that the U.S. and Russia might take cooperatively or in parallel to address such concerns."⁶² Six months later, President Bill Clinton and President Boris Yeltsin agreed to an initiative on shared early warning.⁶³

In early 1999, Russia and the United States agreed to extend this effort to include establishing a special facility near Air Force Space Command (Colorado), where Russian and US launch specialists monitored events during the period of peak concern about Y2K failures (mid-December 1999 through mid-January 2000).⁶⁴ Despite serious differences over Kosovo and other issues, the Center for Year 2000 Strategic Stability was established close to Headquarters NORAD, was operated by Russian and American officers, and successfully accomplished its purposes.⁶⁵

Cooperation on early warning continues today. On 4 June 2000, Presidents Clinton and Putin agreed "to a permanent military collaboration [by establishing] a jointly staffed monitoring agency for missile launches."⁶⁶ This Joint Data Exchange Center (JDEC) will be housed in Moscow; it was scheduled to start in June 2001 and be in full operation in September.⁶⁷ Further measures to improve transparency and mutual confidence were agreed upon in December 2000, when the two countries negotiated a "Memorandum of Understanding on Missile Launch Notifications," which "covers both pre- and post-launch notification and incorporates

legally binding obligations as well as voluntary commitments that substantially exceed those contained in existing agreements."⁶⁸ Also under way is another joint early warning project, the Russian-American Observation Satellite (RAMOS). Scientists from both countries "will design, build, launch, and operate two satellites that will provide stereoscopic observations of the earth's atmosphere and ballistic missile launches in short wavelength and mid-to-long wavelength infrared bands. . . . The satellites are scheduled for launch in FY04 with a nominal two-year life expectancy."⁶⁹

Cooperation for reducing nuclear threats now includes a number of activities, some of which are funded from the Nunn-Lugar Cooperative Threat Reduction Program, and others separately or from agency and departmental appropriations. They include funding for International Science and Technology Centers (in Moscow and Kiev); Material Protection, Control, and Accounting Programs; Initiatives for Proliferation Prevention; and several bilateral forums (US-Russian Commission on Economic and Technological Cooperation; Strategic Stability Working Group; and Safeguards, Transparency, and Irreversibility Talks).⁷⁰

In addition, the United States sought to help stabilize Russia's political and economic affairs. Part of the endeavor involved joint efforts to assure secure control of nuclear weapons and related material, together with mutual visibility into each country's assurance programs. On a broader front, "the United States has undertaken extensive efforts, successful in many cases, to build a partnership with Russia across political, economic, and security fields. Russia's agreement with NATO will assist in peacefully integrating it into a broader European security architecture. These arrangements may ultimately alter Russian attitudes towards NATO and western security structures and shape a stable European security environment."⁷¹

There have been questions within the United States about the effectiveness of some of these activities, and there are also reduc-

tions in the budget proposed for them for fiscal year 2002.⁷² Although these cuts face opposition,⁷³ they are not being presented as a departure from earlier US policy goals.

Conclusion

If Russian actions were purely reactive, determined by technical shortcomings and system failures instead of by policy, American deployment of conventional ICBMs would be irrelevant to deterrence. The missiles would neither exacerbate nor assuage existing Russian weaknesses in early warning, C², safety assurance, and survivability. Of course, deterrence itself would also be irrelevant. Why try to exercise influence if actions are divorced from policy?

But in fact, policy is still relevant to Russian behavior although its depth and basis are not easily gauged these days. Leadership questions—authorities, stability, and continuity—make it ever harder to determine how assessments are reached and whose views are influential. The demand for money is so great and corruption so extensive that one wonders how much is staged solely to keep American funds coming. A few years ago, as Patrick Garrity notes, Russia seemed particularly determined to play upon "Western fears about the nuclear-related consequences of Russia's political turmoil to gain outside support for Moscow's efforts to hold the federation together and to maintain the semblance of Russian great power status. . . . The Russians act as if this nuclear card will allow them substantially to determine the conditions for Western financial assistance, and otherwise to limit intrusions on Russian sovereignty." There has been less of this recently; indeed, Garrity noted in early 1995 that this "Russian strategy is already starting to wear thin in the United States."⁷⁴

Nevertheless, it is clear from the events of NATO expansion, Balkan peacekeeping, and arms-control negotiations that Russian nuclear operations remain under the control of Russian policy and that the policy reflects traditional, Soviet-style assessments. The leadership,

as FitzGerald notes, seems “well aware of the dangers involved in any resort to nuclear weapons. They seem dedicated, through arms control limitations and other measures to ensure that such weapons are never used.”⁷⁵

Perhaps, by providing the United States with a nonnuclear option for prompt response at intercontinental ranges, these weapons would even increase Russian confidence that a nuclear strike by the United States against a target anywhere is most improbable.

Such conservatism fits comfortably within post-Soviet circumstances. Gone are the institutional pressures toward strategic assertiveness—revolutionary ideology, protection of empire, and global competition. Gone are the military prospects for being able to fight, let alone win, a strategic nuclear war. Gone, too, must be any sense of practical military threat from the West. Alarmists, for example, have painted the Russian reaction to the launch of a sounding rocket from Norway in late 1995 as evidence of Moscow’s vulnerability to surprise and miscalculation. Yet, Russian and American analysts alike note the operational reli-

ability of the warning procedures and the prudence of Russian authorities.⁷⁶ Nor have they been disquieted by the use in combat of US “strategic deterrent” forces. In recent years, the United States has launched “deterrent” weapons against Afghanistan, Sudan, Iraq, and the Balkans. None had nuclear warheads, but many were on trajectories that could have extended into Russian territories.⁷⁷ Recent operations in Kosovo included attacks by B-2 bombers from bases in the continental United States. Apparently, US deterrence is still sufficiently strong to withstand nomenclatural deviancy.

On balance, US deployment of a small number of conventionally armed ICBMs would not erode US deterrence. It might provide another opportunity for Russian leaders to bargain for dollars, but Russian military assessments will not be disturbed. In fact, particularly in light of the ease with which conventionally armed ICBMs can be adapted to several transparency measures, it is difficult to construct a plausible scenario in which Russian assessments would find them unsettling. Perhaps, by providing the United States with a nonnuclear option for prompt response at intercontinental ranges, these weapons would even increase Russian confidence that a nuclear strike by the United States against a target anywhere is most improbable. □

Notes

1. Missions for and interest in such applications are shown, for example, in Defense Science Board, “1998 Summer Study Task Force on Joint Operations Superiority in the 21st Century,” vol. 1, “Final Report” (Washington, D.C.: Undersecretary of Defense for Acquisition and Technology, October 1998), 30–31 and H1–H7; USAF Scientific Advisory Board, “Report on a Space Roadmap for the 21st Century Aerospace Force,” vol. 1, “Summary,” SAB-TR-98-01 (Washington, D.C.: Department of the Air Force, November 1998), 26–28; US Space Command, *Long-Term Plan* (Colorado Springs, Colo.: USSPACECOM, 1998), chap. 6 (“Global Engagement”) and subchapter on “Force Application,” on-line, Internet, 9 May 2001, available from <http://www.peterson.af.mil/usspace/LRP/ch06.htm#ForceApplication>; and Robert Wall, “USAF Weighs Multi-Role ICBM,” *Aviation Week and Space Technology*, 18 October 1999, 34. On deeply buried targets, see Lt Col Eric M. Sepp, *Deeply Buried Facilities: Implications for Military Operations*, Occasional Paper no. 14 (Maxwell AFB, Ala.: Center for Strategy and Technology, Air War College, May 2000).

2. Bruce G. Blair, Harold A. Feiveson, and Frank N. von Hippel, “Taking Nuclear Weapons Off Hair-Trigger Alert,” *Scientific American*, November 1997, 76.

3. *Ibid.*, 79.

4. The editor of the *Bulletin of the Atomic Scientists*, for example, writes that “America’s decisive lead in the Revolution in Military Affairs Sweepstakes may in the long run promote the proliferation of weapons of mass destruction and encourage Russia to rely ever more heavily on nuclear arms. Deterrence on the cheap.” Mike Moore, “Unintended Consequences,” *Bulletin of the Atomic Scientists*, January/February 2000, 64.

5. Commission on Integrated Long-Term Strategy, Fred C. Ikle and Albert Wohlstetter, cochairmen, *Discriminate Deterrence: Report of the Commission on Integrated Long-Term Strategy* (Washington, D.C.: The Commission, January 1988), 50.

6. *Ibid.*

7. The indictment by George and Smoke remains valid today: “The large deterrence literature has grown up with almost

no systematic attention to historical cases of deterrence, to the explanation thereof, or to inductive theory-building therefrom." Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974), 61.

8. For example, see Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, Mass.: Harvard University Press, 1960).

9. As George and Smoke note, "The many kinds of situations in which this relationship between actors can occur and the historically changing international system within which such situations arise generate enormous complexity" (11).

10. Fred Charles Ikle, "Nuclear Strategy: Can There Be a Happy Ending?" *Foreign Affairs*, Spring 1985, 810.

11. Herman Kahn, "The Arms Race and Some of Its Hazards," in *Arms Control, Disarmament, and National Security*, ed. Donald G. Brennan (New York: George Braziller, 1961), 90–91.

12. Janne Nolan, "Future Nuclear Doctrine," in *Transforming Nuclear Deterrence*, ed. Hans Binnendijk and James Goodby (Washington, D.C.: National Defense University Press, July 1997), 48.

13. George J. Seiler, *Strategic Nuclear Force Requirements and Issues*, Research Report AU-ARI-82-1, rev. ed. (Maxwell AFB, Ala.: Air University Press, 1983), 27.

14. Nolan, 49.

15. James R. Schlesinger, "The Strategic Environment," *Washington Quarterly* 4, no. 4 (Autumn 1981): 56. Understanding and replicating Soviet calculations, in order to influence them more effectively, was the primary mission of the Office of Net Assessment, which Schlesinger established upon becoming secretary of defense. Andrew Marshall created the office for Schlesinger and has directed its work ever since.

16. "Once the Soviet force-posture began to acquire sizable numbers of hardened ICBMs and submarine-launched missiles . . . [there came] a new emphasis on quiet self-confidence and circumspection . . . [including] a substantial downplaying (though not total abandonment) of the former urgency assigned to pre-emption, a sharply reduced estimate of the probability of American attack against the Soviet homeland, and a growing willingness to hedge assertions that a central war in Europe would 'inevitably' erupt to the strategic nuclear level with qualified pronouncements that such a war might stand a chance of remaining limited." Benjamin S. Lambeth, "The Sources of Soviet Military Doctrine," in *Comparative Defense Policy*, ed. Frank B. Horton III, Anthony C. Rogerson, and Edward L. Warner III (Baltimore: Johns Hopkins University Press, 1974), 206.

17. The framework of this discussion draws from a lecture delivered by Andrew W. Marshall, director of the Office of Net Assessment in the Department of Defense, to a meeting of the Defense Policy and Program course of George Washington University held at the headquarters of the National Security Agency on 8 November 1984.

18. John G. Hines and George F. Kraus, "Soviet Strategies for Military Competition," *Parameters* 16, no. 3 (Autumn 1986): 28.

19. "Soviet strategic preferences vary both by contingency and by context within a contingency. It would be foolish, therefore, to try to determine a priori and out of context which might be the Soviets' preferred nuclear strategy." Stephen M. Meyer, "Soviet Nuclear Operations," in *Managing Nuclear Operations*, ed. Ashton B. Carter, John D. Steinbruner, and Charles A. Zrakat (Washington, D.C.: Brookings Institution, 1987), 529.

20. *Ibid.*, 479–80.

21. Department of Defense, *Soviet Military Power, 1985* (Washington, D.C.: Government Printing Office, 1985), 15–18.

22. Frank Oliveri, "Air Force Concept: Launching Non-Nuke Minuteman Missiles from Cape," *Florida Today*, 4 September 1998.

23. See the general survey provided by Amy F. Woolf and Kara Wilson, "Russia's Nuclear Forces: Doctrine and Force Structure Issues," Congressional Research Service (CRS) Report for Congress (Washington, D.C.: Library of Congress, 23 May 1997);

and Amy F. Woolf, "Nuclear Weapons in Russia: Safety, Security, and Control Issues," CRS Issue Brief for Congress (Washington, D.C.: Library of Congress, 1 March 1999).

24. Department of Defense, *Soviet Military Power, 1991* (Washington, D.C.: Government Printing Office, 1991), 13.

25. Bruce G. Blair, "Loose Cannon," *The National Interest*, Summer 1998, 87.

26. "Nuclear Weapons First in Russia's Defence Policy," *Strategic Comments* 4, no. 1 (January 1998): 2.

27. Bruce G. Blair, *Global Zero Alert for Nuclear Forces*, Occasional Papers (Washington, D.C.: Brookings Institution, 1995), 14ff.

28. Daniel Goure, quoted in Paul Mann, "Nuclear Risks Mount in Besieged Russia," *Aviation Week and Space Technology*, 7 September 1998, 60.

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