The Way Out: A General Nuclear Settlement

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I. A Situation Report

We must know where we are if we are to understand where we must go.

We should all understand the extraordinarily dangerous situation we are now in — we and the Soviets. We have between us almost 50,000 nuclear weapons. The Soviet tank armies stand poised on the borders of Europe; we are, in return, deploying first-strike weapons in a game of nuclear “chicken.” Although communications have been restored at a high level, arms control negotiations are still inadequate and the nuclear arms buildup on both sides is accelerating. After thirteen years of negotiations about cuts, the number of strategic warheads on both sides has tripled.1 There is generalized distrust, hostility and invective between our two countries. The political and ideological struggle between the U.S. and the USSR has a potential outcome that, while still unlikely, is intolerable — nuclear war.

America and Russia both bear grave responsibility for this sorry and dangerous state of affairs. We are in fact like two animals

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1. As of October 1986, the United States held 11,294 warheads in its strategic nuclear arsenal, while the Soviet Union held 10,283 in its arsenal. Arms Control Association, Strategic Nuclear Forces of the United States and the Soviet Union 1 (Oct. 7, 1986). By contrast, in 1970 the United States possessed only 1,074 warheads on its intercontinental ballistic missiles (ICBMs), 800 warheads on its submarine-launched ballistic missiles (SLBMs), and 1,868 nuclear weapons on strategic aircraft (including only deliverable bombs, air-to-surface missiles, and air-launched cruise missiles (ALCMS)). J. Collins, U.S./Soviet Military Balance: Statistical Trends, 1970-1982 (As of January 1, 1983), at 27 (1983) (Report No. 83-1535 of the Congressional Research Service). The Soviet Union in 1970 possessed only 1,427 ICBMs, 289 SLBMs, and 145 nuclear weapons on strategic aircraft. Id. The totals for the U.S. and USSR were 3,742 and 1,861 respectively. Id. By 1973 these totals had moved up smartly — the U.S. total was 7,708 and the Soviet total was 2,281. Id. Arms control?
caught in a net, each struggling for a preferred place and, as we struggle, drawing the net closer about us.

The nuclear war we are both risking has consequences out of all proportion to any conceivable objective either side might have. Utter destruction and the disintegration of the polity are antithetical to every notion of war as one means of securing a nation’s political goals. George Kennan, one of this nation’s most perceptive statesmen, has written that “there is no issue at stake in our political relations with the Soviet Union — no hope, no fear, nothing to which we aspire, nothing we would like to avoid — which could conceivably be worth a nuclear war.”

No one disputes the incredible damage that would be done to cities, industry, agriculture, public works and the military by multiple nuclear blasts. All buildings, all homes, all hospitals, all facilities would be destroyed. The complex web of transportation and communications would be totally disrupted. The cultural, the scientific, the human heritage of the ages would be forever lost. The life-giving land, the air and water alike would be poisoned. Livestock would be killed and crops destroyed. Human beings in the hundreds of millions would die, some instantly, some in protracted agony. Now come new and credible studies predicting that an exchange may end all human life through the privations and traumas of a protracted nuclear winter. There will be no bystanders.

3. A “nuclear winter” would result when debris and smoke from nuclear detonations remained suspended in the high atmosphere, effectively cutting off sunlight. We would truly be faced with a “darkness at noon.” One study has concluded that:

   For many simulated [nuclear] exchanges of several thousand megatons, in which dust and smoke are generated and encircle the earth within 1 to 2 weeks, average light levels can be reduced to a few percent of ambient and land temperatures can reach $-15^\circ$ to $-25^\circ$ C[elsius] ... when combined with the prompt destruction from nuclear blast, fires, and fallout and the later enhancement of solar ultraviolet radiation due to ozone depletion, long-term exposure to cold, dark, and radioactivity could pose a serious threat to human survivors and to other species.

II. Illusions

"The truth shall make you free."4

Neither we nor the Soviets are insane. The risks we run are not the result of a death wish but the product of illusion. Too many in positions of power5 believe things about nuclear weapons that are not true.

Some believe, wrongly, that relative numbers of weapons — quantitative “balance” — are decisive. At our current force levels, or anything near them, numbers are not very important. Some other things, however, do make a difference. It turns out that it makes an immediate difference in result — people killed — if cities are struck. It makes a difference if the weapons are fused to burst on the ground, creating deadly fallout. It even makes a difference which way the wind blows on a given day, carrying that fallout. But a difference of a thousand weapons or so makes very little difference in terms of potential for destruction. Moreover, the possibility that a nuclear winter would result from the detonation of even a few weapons renders most previous damage calculations understatements.

We should draw two very important conclusions from these facts. The first is that all the haggling about “balance” in our nuclear arms control talks is beside the point. No imbalance created by any reasonable agreement is sufficient to disturb mutual deterrence. The second is that our own extraordinary concern about verification is misplaced. The amount of cheating required in order to make a real difference in outcome is so massive that our intelligence would be certain to detect it.6

There is an illusion that advances in technology make a difference — that we (or the Soviets) have to have this year’s model and not last year’s model. New York, Washington, Chicago or Los Angeles can just as well be destroyed by a tired old Bear turboprop bomber carrying a gravity bomb as by a maneuvering hypersonic missile. The results are the same. Nor can the Soviets be made secure; their extensive air defenses are readily countered by means already in our arsenal. The Soviets have as much prospect of effective defense of population as we have — essentially none.

5. Here I speak not of the military but of many in the Department of Defense, “think-tank theologians,” and certain right-wing zealots.
6. Massive cheating would result in the emanation of “observables” from industrial operations, transportation flow, and communications, for example. Moreover, there is also the ever-present potential for agent access.
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The only significant effect of improved technology is to improve accuracy. However, accuracy has, in this case, negative value. Accuracy is required to put hard fixed targets\(^7\) at risk. In achieving high accuracy one creates for the first time a premium on the adversary firing first, firing on warning, or, worse still, firing because he suspects he is about to be attacked. This is an obvious prescription for instability.

There is a further illusion that it matters significantly where the weapons are based— in Europe or the U.S. or behind the Urals or at sea or wherever. In fact, it matters little where the weapons begin their journey, only where they explode. A nuclear weapon landing on Leningrad or Philadelphia would do the same damage whether it had been forward-based, fired from a submarine, or launched from another continent. The idea that there is any practical difference between seven and seventeen minutes warning time is illusion also. Neither time is conceivably sufficient for adequate appraisal and decision.

The notion that civil defense can be a magic shield to defend populations is an illusion. No one in the U.S. or in the Soviet Union takes that idea seriously any longer. Civil defense against nuclear weapons has always been considered a “Potemkin village” in Russia. In the U.S. it has hardly reached even that status.

The new notion that we can have magic bullets—that we can have lasers and energy beams in space, layered defenses and terminal defenses, high frontiers and nuclear x-ray lasers, allegedly to protect populations—is likewise illusory. The specifics of these schemes are difficult to evaluate; none have been furnished. But each such plan would require combinations of basically improbable technology at unprecedented scale and unfathomed cost, perhaps on the order of one year’s GNP. The technical difficulties are forbidding, and the deployment and operational difficulties even more so.\(^8\)

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7. A hard target is one highly resistant to the pressure and earth movement of a nearby explosion, thus requiring more accuracy to kill.

8. Stated simply, “most technical experts, inside the government and out, consider [the Star Wars] proposal to be a nostalgic dream without a discernible connection to the realities of nuclear physics.” McNamara & Bethe, Reducing the Risk of Nuclear War, ATLANTIC MONTHLY, July 1985, at 43, 43. “There is no evidence that any combination of the ‘defensive technologies’ now on the most visionary of horizons can undo the revolution wrought by the invention of nuclear explosives.” Id. at 45. And even if we could create the technology, would it work? Imagine “huge mirrors of exquisite precision, ultra-sensitive detectors of heat and radiation, optical systems that must find and aim at a one-foot target thousands of miles away and moving at four miles per second, and so forth. All these marvels must work near the theoretical limits of perfection; even small losses in
Even if such systems could be built, they all could be frustrated by countermeasures that are relatively easy to field and fully effective.9

precision would lead to unacceptably poor performance. Quite feeble blows against orbiting 'battle stations' bearing such crown jewels of technology could render them useless." Id. at 46. Even were an effective defense against ballistic missiles to be conceived, developed, financed, deployed, and maintained in instant readiness against attack—a wildly inconceivable string of improbabilities—it would have no effect on a dozen other potential means of nuclear delivery. To state, as some have, that a defense against ballistic missiles is also a defense against cruise missiles and bombers is merely fatuous. The problems bear no technical or military relationship. There are non-military means of delivery, from harbor entry in fishing boats, to border-crossing in vehicles, to prior emplacement in cities.

See also A. Carter, Office of Technology Assessment, Directed Energy Missile Defense in Space, at 81 (1984) ("the prospect that emerging 'Star Wars' technologies, when further developed, will provide a perfect or near-perfect defense system...is so remote that it should not serve as the basis of public expectation or national policy about ballistic missile defense"); Bethe, Garwin, Gottfried & Kendall, Space-based Ballistic Missile Defense, SCIENTIFIC AMERICAN, Oct. 1984, at 39, 39 ("President Reagan's Star Wars program seems unlikely ever to protect the entire nation against a nuclear attack. It would nonetheless trigger a major expansion of the arms race"); Bundy, Kennan, McNamara & Smith, The President's Choice: Star Wars or Arms Control, FOREIGN AFFAIRS, Winter '84/85, at 264, 268 ("The balance of technical judgment is that the advantage in any unconstrained contest in space will be with the side that aims to attack the other side's satellites. In and of itself this advantage constitutes a compelling argument against space-based defense"); S. Drell, P. Farley & D. Holloway, A Special Report of the Center for International Security and Arms Control, The Reagan Strategic Defense Initiative: A Technical, Political, and Arms Control Assessment (1984); UNION OF CONCERNED SCIENTISTS, THE FALLACY OF STAR WARS (J. Tirman ed. 1984); Drell & Panofsky, The Case Against Strategic Defense: Technical and Strategic Realities, ISSUES IN SCIENCE AND TECH., Fall 1980, at 45; OFFICE OF TECHNOLOGY ASSESSMENT, BALLISTIC MISSILE DEFENSE TECHNOLOGIES (1985); Rathjens & Ruina, BMD and Strategic Instability, DAEDALUS, Summer 1985, at 239. This entire volume of DAEDALUS (Spring and Summer 1985), entitled Weapons in Space, is of interest. Smith, Experts Cast Doubt on X-Ray Laser, SCIENCE, Nov. 8, 1985, at 646.

We must expect unacceptable difficulties from even "mundane" technologies. See, e.g., Smith, New Doubts About Star Wars Feasibility, SCIENCE, July 26, 1985, at 367, 367 ("[i]n operational software for military aircraft, even minor modifications require extensive ground testing followed by flight testing in which battle conditions can be closely approximated. Even with these tests, bugs can and do show up in battle conditions.").

For all the uncertain effectiveness, we will have the privilege of paying dearly. One group of scientists has concluded that "the outlay for the power supply alone would exceed $100 billion...This partial cost estimate is highly optimistic." Bethe, Garwin, Gottfried & Kendall, supra, at 45. We must realize that "[c]omplete defense of the ABM treaty is preventing hasty overcommitment of financial and scientific resources to totally unproven schemes overflowing with unknowns." Bundy, Kennan, McNamara & Smith, supra, at 276.

Indeed, even the President's Commission on Strategic Forces, known popularly as the Scowcroft Commission, did not wholeheartedly support SDI. The Commission told the President that "the strategic implications of ballistic missile defense and the criticality of the ABM treaty to further arms control agreements dictate extreme caution in proceeding to engineering development in this sensitive area." REPORT OF THE PRESIDENT'S COMMISSION ON STRATEGIC FORCES 8 (Mar. 1984).

9. Defensive satellites would be much easier to shoot down than the ballistic missiles they would purport to defend against. The satellites would be in fixed and predictable orbits whereas the ballistic missiles would come as a surprise and from differing trajectories. See also Carter, supra note 8, at 43; Garwin, Countermeasures: Defeating Space-based Defense, ARMS CONTROL TODAY, May 1985.

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Indeed, even if a successful ballistic missile defense were capable of construction, alternate means of nuclear delivery—bombers, cruise missiles, and others—would be completely unaffected.

It is difficult to understand the willingness to believe which characterizes the advocates of this "defensive strategy." They perhaps deserve more credit for the humanity of their feelings than the reality of their solution. In their wishful thinking they subject themselves to the same harms as the cancer sufferers who travel to Mexico to be shot full of Laetrile: a "remedy" useless in fact, dangerous because it postpones treatment, and devastating in cost.

The assertion that the U.S. had a "window of vulnerability" is a lineal descendent of the equally phony "bomber gap" and "missile gap" and is an equally dangerous illusion. That "window" has been slammed shut by the Scowcroft Commission. Nevertheless, the MX lives on—for now, at least.

Another illusion is that Europe is especially threatened by SS-20s or protected by Pershing IIs and cruise missiles. The SS-20s are probably no more dangerous to populations than the SS-4s and SS-5s they replaced, since their total explosive yield is lower. In any case, Europe has always been targetable by any of the thousands of Soviet intercontinental ballistic missiles (ICBMs). The USSR has plenty of missiles for Europe, plenty for the U.S., and plenty for

10. The "bomber gap," "missile gap," and "window of vulnerability" were equally phony public postures adopted by U.S. officials as a result of the corruption of intelligence to support parochial political and service interests. This distortion of intelligence is one of the most serious of all threats to our security. In an interview in 1982, Robert McNamara asserted that "we overstate the Soviets' force and we understate ours, and we therefore greatly overstate the imbalance. This is not something that is new, it has been going on for years." R. SCHEER, WITH ENOUGH SHOVELS: REAGAN, BUSH AND NUCLEAR WAR 214 (1983). Indeed, McNamara stated that "[t]he missile gap of 1960 was a function of forces within the Defense Department that, perhaps unconsciously, were trying to support their particular program—in that case, an expansion of U.S. missile production by overstating the Soviet force." Id. at 215. The Scowcroft Commission concluded in its second report to President Reagan that "each side tends to stress certain aspects of the force posture of the other as more menacing." Further, "[i]n the United States the strategic advantages of diversity, our own military tradition as an air and naval power, plus a certain amount of interservice competition, produced strong strategic bomber and submarine forces as well as a land-based ICBM force." (emphasis added) THE PRESIDENT'S COMMISSION ON STRATEGIC FORCES, supra note 8, at 4 (Mar. 1984).

11. The Scowcroft Commission's first report to President Reagan stated that "although the survivability of our ICBMs is today a matter of concern (especially when that problem is viewed in isolation) it would be far more serious if we did not have a force of ballistic missile submarines at sea and a bomber force." THE PRESIDENT'S COMMISSION ON STRATEGIC FORCES, REPORT OF THE PRESIDENT'S COMMISSION ON STRATEGIC FORCES 7 (Apr. 1983). The report went on to claim that "whereas it is highly desirable that a component of the strategic forces be survivable when it is viewed separately, it makes a major contribution to deterrence even if its survivability depends in substantial measure on the existence of one of the other components of the force." Id. at 8.
anyone else. ICBMs can be shot at short range as well as long, simply by changing the guidance. Europe was therefore never especially threatened by SS-20s and it would not now be less threatened if all were moved away or even destroyed. Nor would Europe become more threatened if the number of intermediate-range missiles were doubled.

Soviet concerns about a decapitating first strike by Pershing II missiles are similarly invalid. There is no conceivable way in which the Soviet missile force could be attacked effectively by the relatively small number of Pershing warheads. As for the Soviet leadership, its headquarters is well beyond the range of the Pershing II missiles based in West Germany.

Perhaps the most fundamental illusion of all is that nuclear explosives are useful military weapons. In contrast to some ordinary weapons, nuclear “weapons” cannot be applied in a measured and controlled fashion, with predictable results bearing a plausible relationship to any military or political objective. Thus we can also see that, in the relations of the superpowers, nuclear weapons programs cannot be justified as expressions of “will” or “determination.” Apart from the excessive cost in security and in resources of these nuclear “signals” to an adversary, nuclear weapons make poor signals precisely because they are invariably misread.

Some of the most pernicious byproducts of these illusions are the various doctrines for nuclear war-fighting. There are believers in “limited” or “protracted” wars in which one side “dominates escalation” and “prevails”; others call for decapitating strikes against the Soviet leadership which would wipe out all hope for negotiating an end to the carnage. These doctrines would be less dangerous were they just idle speculations by strategic theorists. Unfortunately, the doctrines are in part embodied in procurement decisions, in strategic targeting plans, and in military planning and training.12 Worst of all, each side bases its plans on worst-case assessments of the provocative doctrines developed by the other side.

We must also take account of the argument that the existence of nuclear weapons has prevented war. Such argument recalls the story of the man who jumped off a fifty-floor building, and as he

12. The decision to procure high-accuracy weapons that would be effective against hard targets, thereby providing a means for counterforce or preemptive strikes, is but one example. A more destabilizing and dangerous doctrine can hardly be imagined. Atomic depth charge anti-submarine training, atomic artillery training, and atomic mine emplacement training provide further examples of the extent to which this pernicious doctrine permeates thinking and planning.
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passed the tenth floor cried out, "Everything's okay so far!" We need also to recall that hot wars are endemic around the world — twenty-five million people have been killed in war since World War II. Clearly nuclear weapons have not "prevented war."

That nuclear weapons have made the superpowers more cautious about direct military confrontation is undeniable. On the other hand, the closest approach to nuclear war we have yet experienced — the Cuban missile crisis — arose precisely because of an attempt by the Soviets to enhance their nuclear weapons position. Nuclear weapons increase the risk of war because they give rise to threat, fear, anger, and anxiety, and they nourish apocalyptic and fatalistic visions. They decrease the risk because no sane leader can be so irresponsible as to disregard the potential consequence of reckless behavior. The balance is unknowable, but it certainly offers no justification for current weapon levels.

III. Security

"If you put a scorpion and a tarantula together in a bottle..."13

National security is, of course, a vital concern for the U.S., as indeed it is for the USSR. But let us define security. Surely it requires freedom from coercion by nuclear threat, by military force or by economic pressure. There are many elements of security: nuclear, military, economic, political — even psychological. In a tough and dangerous world, strength in all these elements is necessary.

It is reasonable to believe, hope, expect and want America to be strong as well as civilized. We are the only country in the world that has both freedom and enormous strength. There are strong countries, there are free countries; none but us is both. We therefore have a special responsibility for freedom in the world.

The nuclear requirement is simple and imperative, but limited: it is to prevent nuclear war. No other course can avoid our ruin. The ruin of others, friend, foe, or neutral, will be no compensation. The way to prevent nuclear war between the great powers is simple and straightforward; it is the subject of the last part of this article.

Coercion of either side by nuclear threat we can dismiss. So long as each side holds the other at unacceptable risk, no coercion is possible; there is no realistic leverage. But there are clear military re-

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13. "If you put a scorpion and a tarantula together in a bottle the objective of their own self-preservation will impel them to fight each other to the death... From the point of view of each, the basic situation is that the other is trying to kill him..." L. Halle, THE COLD WAR AS HISTORY xiii (1967).
quirements to assure our security. We must be able to keep open the sea and air lanes that link the oceanic alliance of the "West." We must be able to hold ground in certain places, such as Europe and Korea, without resort to nuclear war. We must be able to project and sustain power in remote parts of the world, in the interest of security and the rule of law. And we must be able, in concert with civil measures, to constrain the indiscriminate terrorism that tears at the fabric of our civilization.

A careful analysis, theater by theater (whether Europe, the Middle East, parts of Africa, the Pacific, the Americas, the seas or outer space), suggests that in none of these theaters is there a sensible military use for nuclear weapons. They are in fact not military weapons at all, but instruments of genocide which will recoil terribly upon the user.

We need especially to take a penetrating look at the European theater, where it has long been presumed that a conventional Soviet attack can be stopped only by our first use of nuclear weapons. This idea is in fact existing NATO doctrine, and for this reason furnishes the most likely prospect of nuclear war by intention, rather than accident.

The doctrine of first use seems to be based on three assumptions, each patently false:

- The USSR will attack NATO at the first opportunity. There is no evidence for this and much to the contrary. Nothing could be more dangerous and unrewarding from the Soviet point of view. The Soviets are inferior in manpower, industry, and technology to the potential of the Western allies alone. Added against them would be the force of the United States. Moreover, the Soviets face intractable problems at home. To attack with their forward mobile armies might yield temporary success, like the Japanese enjoyed at Pearl Harbor, but the long-term result, even if nuclear war were not to ensue, would be even more disastrous.

- Europe cannot be defended except by nuclear weapons. Military reform well within the capability of the NATO nations can make NATO defensible. Feasible changes in tactics, basing, supply, fortification, hitting weapons and information control will adequately ensure European security without intolerably stretching budgetary constraints.

14. While I know of no formal unclassified declaration of this doctrine, it does in fact exist and, as I have stated, the existence of the doctrine may be easily inferred from a host of other decisions.
A nuclear exchange could confer advantage on NATO. Military analysis simply does not support this idea.

There would be three consequences of an attempt to use tactical nuclear weapons to stop a general conventional assault in Europe. We would at once kill an estimated million people. Our German allies, nearly all noncombatants, would make up most of the dead. The "tactical" explosions would occur on German soil, on a countryside as densely populated as that between New York and Philadelphia. This action would probably disrupt the Nato Alliance: the Germans would find it intolerable. The second consequence would be an almost certain escalation to general nuclear war. No commander can divine "limited" intent behind enormous nuclear explosions and absorb them without replying in kind. The Soviets do not acknowledge "limited" nuclear war. Their doctrine is to come back harder than they were hit, and the only question would be whether we went up in one blaze, or were destroyed in two or three successive steps. Even if by some miracle the cohesion of the Alliance were maintained and the Soviets cooperated in limiting escalation with nuclear weapons, NATO would still be worse off. NATO has a smaller number of far more vital and far more vulnerable military assets — harbors, airfields, depots — than the Soviets. The threat to use nuclear weapons is therefore an empty bluff. No commander could fail to see the gross military disadvantage and no statesman fail to see the enormous disparity between risk and return. No American President in his right mind could authorize the use of nuclear weapons, nor could a Soviet General Secretary.

What seems to preoccupy many Europeans is the suggestion that if the U.S. does not commit itself to start this nuclear war, it is not really committed to NATO. The reverse is true. No one can believe in the reality of this nuclear bluff, but everyone can believe that the American conventional forces on the scene will fight — in the event of an attack. This is the only believable guarantee.

Responsible senior commanders will acknowledge all this. But they say "it's important to keep 'them' guessing." No doubt their Soviet counterparts have the same idea. It is hard to imagine a more dangerous doctrine. The two societies understand each other very little. Almost any military move by one will be given the darkest possible interpretation by the other. For example, were we to put MX missiles on railroad cars, the Soviets would immediately detect any movement out of the barn in which the cars are kept, and could

15. Again, our construction of Soviet doctrine is highly classified.
well construe such movement as preparation for nuclear war. In
time of crisis, with short-flight-time and first-strike weapons plenti-
ful in both arsenals, the risk of nuclear strike impelled by fear of
being hit first would be too high to be tolerable.

Now let us consider the history of nuclear weapons versus the se-
curity of United States territory. Before we demonstrated the atom
bomb, at the close of World War II, the United States was absolutely
impregnable. We had oceans on either side, the world’s biggest
navy and air force and a powerful army, friendly and relatively weak
neighbors to the north and south. Who could have come against
us? Then we invented the atomic weapon, and now, forty years
later, we are potentially at terrible risk not only from another great
power but from any regime or terrorist group that can lay hands on
a few such weapons.

When the Soviets exploded their device a short four years after we
did (to our surprise), we upped the ante a thousand-fold by each
inventing the hydrogen device. Not incidentally, in the U.S., we
took this step against the careful, agonized and far-seeing advice of a
great many of the nuclear scientists who had worked on the original
atom bomb, including J. Robert Oppenheimer, Hans Bethe, and
Richard L. Garwin. The hydrogen weapons made defense of popu-
lations, which had been merely extremely difficult, utterly impos-
ible. So it remains today.

The U.S. then perfected the intercontinental bomber to put the
Soviet homeland directly at risk. What we got back, after a short
span of time, was the intercontinental ballistic missile. In a close
race, the Russians got there first. Warning time, which had been
hours, became minutes, creating the apparent possibility of a dis-
arming first strike.

For reasons both valid and parochial, the U.S. then invented the
ballistic missile submarine. Because submarines are nearly invul-

16. Winston Churchill, with his usual perspicacity, said that "[t]here is an immense
gulf between the atomic and the hydrogen bomb. The atomic bomb, with all its terror,
did not carry us outside the scope of human control or manageable events in thought or
action, in peace or war." With the invention of the hydrogen bomb, however, "the en-
tire foundation of human affairs was revolutionized." Quoted in N. Moss, MEN WHO
PLAY GOD 6 (1968). As Michael Mandelbaum has written, "[t]he hydrogen weapon was so
powerful as to be readily usable for nothing except making threats, and so it pushed the
UNITED STATES & NUCLEAR WEAPONS, 1946-1976, at 64 (1982).

17. I say "valid" because submarines are the most secure basing mode for nuclear
weapons that we have; I say "parochial" because the invention of the ballistic missile
submarine gave the Navy a chance to take part of the play away from the Air Force.
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nerable, this was in fact a partial step toward stability, eventually matched in part by the USSR.

We were not slow to reverse this gain. In a fit of technology-push, an invalid conception of our "requirements" and near absentmindedness (we had little rationale, a "develop first, think of consequences later" and "we can do it, therefore we should do it" mentality), we developed the MIRV, the multiple, independently targetable, re-entry vehicle — lots of warheads on one rocket. For the first time there was some conceivable payoff for a first strike, since one rocket could possibly destroy many. When the Soviets predictably matched this development, we made much of the alleged "window of vulnerability" opened by the purported threat to our own land-based missile forces. That for a variety of cogent reasons the "window" did not exist has now been generally recognized, notably by the Scowcroft Commission.

Now the U.S. is busily developing at the same time no fewer than nine new kinds of delivery systems capable of reaching the USSR: three kinds of cruise missiles (ground-launched, air-launched, and submarine-launched), two kinds of intercontinental ballistic missiles (MX, Midgetman), a new submarine-launched missile (Trident II), and two kinds of intercontinental bombers (B-1 and Stealth), in addition to Pershing II, an intermediate-range ballistic missile. Many billions of dollars and billions of rubles later (for the Russians will match us, as they always have), we will both be even less secure than we are now.

IV. Negotiations

Negotiations on nuclear arms have not stopped completely, but they have become worn out by misuse. Negotiations had failed to proceed under the principle that the enemy is not the Soviet Union or the United States, but the nuclear weapons themselves. Both sides therefore failed to recognize the common and compelling need to get rid of nuclear weapons.

18. See, e.g., Perry, Technological Prospects, in RETHINKING THE U.S. STRATEGIC POSTURE 129, 136-39 (B. Blechman ed. 1982) ("The goal in submarine survivability is to prevent the Soviets from locating to accuracies of 20 or 30 miles our submarines on patrol in broad ocean areas. The Soviets cannot do this at present nor will they be able to, I believe, for a good many years in the future."); D. Schroer, Science, Technology and the Nuclear Arms Race 185 (1984) ("There is . . . no evidence that the Soviets have the air surveillance capability or the needed forward naval basing to detect and destroy a significant number of SLBMs.").
Instead of devoting themselves to this shared objective, negotiators on both sides have been inflexible and have usually sought unilateral advantage. On occasion the negotiations have given birth to such good ideas as the ABM Treaty, which recognizes the fundamental fact that it is fruitless and dangerously counterproductive to attempt to mount defenses against nuclear missiles. On the whole, however, negotiations have been characterized by public posturing, haggling over numbers and technology, and arbitrary and meaningless classification, such as the separation between “theater” and “strategic” weapons.

Dark shadows have hung over the negotiations: an obsessive American concern with verification and an equally overwrought Soviet fixation on secrecy and sovereign pride. These concerns are unfounded. Modern strategic weapons take so long to research, develop, and deploy, and involve such massive facilities, that they cannot be hidden from modern surveillance systems. For several decades U.S. intelligence has been able to predict all the essential characteristics of Soviet strategic weapons well before the weapons were ready for deployment. Since the advent of satellites we have had precise knowledge of the location of Soviet land-based strategic forces and of the comings and goings from port of Soviet missile submarines. Naturally intelligence assessments always have some uncertainty, but in comparison to the enormous arsenals held by the superpowers, these uncertainties are of no military significance.

The major defect of the classic U.S.-USSR approach to negotiations, however, is the devotion to gradualism — to small steps, to little increments, each interminably haggled over. We are trying to go down an up escalator, and the escalator is going up faster than we can go down. As George Kennan has stated, “even the best results that could be expected from these talks are unlikely to be enough. The main reason for this is that the pace of advancement in military technology is faster than the predictable pace of any negotiations of this nature.” Therefore, we and the Soviets must now do something big and something new.

This something can only be a general nuclear settlement — first with the USSR, then joined by other nuclear powers, and finally with all states to prevent the spread of nuclear weapons around the world. This settlement would explicitly declare that nuclear explo-
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sives have no political or military purpose other than as a deterrent. It would rest on the general and imperative need to escape from the unacceptable threat created by these devices.

V. The Way Out: A General Nuclear Settlement

The first element of a general nuclear settlement may be the most important of all — to end the intemperate, childish and threatening rhetoric between us. What would be the frame of mind of a president or a premier (or a commander) who could actually start a nuclear war, giving the signal to kill other human beings in the tens and hundreds of millions and inviting a like fate for his own people? He would have to regard the people he was about to incinerate as somehow less than human. In his eyes, they would have to be demonized, stripped of their human attributes. He would also have to be mortally afraid. He would have to see no alternative to the terrible deed he was about to do.

To get into this frame of mind requires long-term attitude building. The United States and Soviet Union are engaged in building such attitudes right now. We do so at our peril. We must both reverse this process.

Second, we must both give up nuclear war-fighting doctrines. The three most dangerous are:

1. The doctrine of first use against conventional force, whether called “limited” or “tactical” or anything else. No sane President would start a nuclear war in defense of Europe against conventional attack. In the language of W.W.II, the result would be that “we sure liberated the hell out of this place.” Even if nuclear war could be contained (which it could not), Europe would be ashes — not only from Soviet weapons, but from our own.
2. Counterforce, sometimes called “prompt hard target kill.” This doctrine puts a dangerously destabilizing premium on shooting first.
3. Protracted or “winnable” nuclear war. There can be no winners and no bystanders.

A mutual renunciation of these doctrines would be far more than a paper declaration. Development, procurement, deployment, tactics and training — all easily observable — would necessarily change.

21. Counterforce aims at knocking out the adversary’s weapons (for example, missile silos) before he can fire.
The third mutual effort we must make is to improve communications of every kind. Good communication is needed far more in time of trouble than in time of relative stability. We need secure video conferencing with real-time interpreting available to senior policy officials, and especially heads of state, at all times. Military control centers should be in continuous communication and staffed by professionals accustomed to dealing with each other. Unusual events which might otherwise be interpreted as threatening could then be quickly and effectively explained. We might thus have prevented the Korean airliner tragedy. Other military measures to increase confidence include continuing advance notice and explanation of military maneuvers and avoiding the deployment of threatening forces, both conventional and nuclear, from forward positions.

Trade is itself a powerful form of communication, establishing confidence as well as mutual economic advantage. Scientific, cultural and visitor exchanges are also effective in countering mutual distrust.

A fourth necessary element of a global nuclear settlement is a mutual moratorium on the further development, testing and deployment of new nuclear weapons. The common sense idea that the United States and the Soviets should not continue to build while they try to negotiate reductions has obvious validity. The difficulties in achieving a moratorium have lain in major problems of verification, definition and negotiation which have led many to call only for a moratorium for short periods, renewable and contingent on mutual observance.

22. The Scowcroft Commission recognized this simple requirement. The Commission called for stability-enhancing measures such as "bilateral exchange of information about steps which could be misconstrued as indications of an attack (e.g., maneuvers), dialogue between U.S. and Soviet defense officials, and agreements to improve the reliability and survivability of missile warning systems. A variety of such measures, designed to improve communication and predictability, would contribute to stability by improving mutual understanding and reducing surprise and misinterpretation." THE PRESIDENT'S COMMISSION ON STRATEGIC FORCES, supra note 8, at 6 (Mar. 1984).

23. Verification "problems" are political, not real. Our verification ability is in fact adequate, given, for example, our satellite and seismic detection capabilities. Disagreements about definitions concern inconsequential matters. Moreover, as has been true of our negotiations in general, negotiations about verification have been conducted on the wrong basis — both sides have once again failed to recognize the common interest involved.

24. The Soviet moratorium on nuclear testing was, of course, in the Soviet interest. They, like we, are threatened to a certain extent by further technological development of nuclear weapons, though not nearly so much as generally thought. After all, if you can
Fifth, we must together avoid the extension of nuclear war capability into new areas, whether technical or spatial. At first glance, it may seem attractive to export war to space, rather than to conduct it on earth. But if space has military consequence, and it does in full measure, the linkage to earth becomes inescapable. Attack on communications, navigation, reconnaissance and intelligence satellites would be dangerously threatening and destabilizing. Our eyes and ears would no longer be available.

Sixth, we and the Soviets need to make deep, fast and continuing cuts in the number of nuclear warheads of all kinds. Stockpiles at the present level are far in excess of any reasonable need for deterrence; even more excessive are the plans of each country to build many thousands of new weapons in the next few years. The sheer numbers confer obvious danger — risk of accident is at least proportional to numbers of weapons, as is the risk of unauthorized firing and the vulnerability to hijacking. More important, the enormous numbers give some apparent credibility to first-strike, counterforce and nuclear war-fighting scenarios. Both directly and indirectly the vast stockpiles increase the probability as well as the consequence of nuclear war. Of even greater importance, the number of nuclear weapons lies an order of magnitude above the threshold of total yield that would, if delivered, create the “nuclear winter,” resulting in the probable destruction of all human life in the Northern Hemisphere and perhaps the earth.

The pattern of the unsuccessful negotiations to date has been to attempt agreement on a mix of weapons and weapons systems to be cut back to agreed levels. These negotiations have suffered three continuing obstacles:

- Verification — neither the misplaced concerns of the Americans with verification nor those of the Soviets with intrusion have validity.
- Equity — both sides have found it difficult to agree on methods for equating dissimilar weapons systems in differing strategic circumstances.\(^{25}\) The situation is further complicated by the other avowed nuclear-weapons states — Britain, France, and China.

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put a megaton yield into a four-foot package, it matters little that you may be able to do it in three or two.

A moratorium was also in the American interest. The avowed reasons for continued nuclear testing — maintenance of the stockpile, weapons development, development of X-ray lasers — are all invalid. We missed a major opportunity to put a partial cap on nuclear weapon competition. We also lost, and are still losing, the regard of the world on this issue.

25. Note the Scowcroft Commission’s statement that a “principal substantive barrier to surmount [in achieving arms control] is the very different composition of the strategic
Arbitrary division of negotiations into strategic, theater and tactical classifications has little operational reality, but has created major obstacles both to mutually acceptable definition and to bargaining. The Americans and the Soviets start with different weapons developed at different times for different purposes and then, for negotiations, attempt operational classification.

These and similar problems can be comprehensively handled by negotiating an agreement on the process of reduction, rather than on particular weapons systems trade-offs to be settled in advance. One such process is "build-down." In its original form, it provided that for every new warhead built, two would be destroyed. Even though new weapons would be built, there would be an automatic net reduction. Unfortunately, this simple and promising idea has been corrupted, first, by the deal for MX and second, by modification of the two-for-one ratio, so that it is now suggested that some variable ratio be employed.

A better proposal has its basis in the straightforward notion that the way to get rid of nuclear weapons is to get rid of nuclear weapons. The plan would work as follows: first, build a nuclear processing plant somewhere outside the United States and the Soviet Union. Next, deliver to it large and continuing numbers of nuclear weapons, selected independently by each country. Under the joint supervision of a Soviet-American commission, inspect the weapons nonintrusively, from outside, by reaction to radiation, without dismantling, and determine the exact amounts and composition of the fissile isotopes present. Deliver those materials to the Joint Commission and dilute them with natural uranium from weapons-grade concentration to power plant material. Each country could then put this power-plant fuel on its own market or use it as an inducement to Third World countries not to develop nuclear material capabilities of their own. An alternative is to bury the weapons-grade material beyond retrieval — for example down a 30,000 foot drill hole. The weapons themselves would be chewed up beyond recognition, unable to fulfill their original destructive mission.

There would also be an overwhelming political effect from seeing the first warheads with hammer and sickle or stars and stripes painted on them, turned in for destruction before the television cameras of the world. Seeing this would result in a process, difficult to reverse politically, that could well continue toward a minimum
invulnerable deterrent for each side against nuclear war. It is clearly in the interest of each country to move to that end.

The process is practically risk-free because each country would make its own selection of what to turn in, and that selection could be made, if necessary, on a day-to-day basis. No long-term commitment conceivably threatening the security of either country need be made. Equity is automatic — measured by the weight of fissile materials turned in — and verification of destruction is assured, without intrusive measures.

The conversion process would be accompanied by a complete ban on the further production of weapons-grade nuclear material. Fortunately, in both countries this production takes place in special well-known plants. A total stop to production is, of course, easier to verify than partial or limited production.

Finally, electric power plants in both countries are subjected to standard international safeguards to inhibit diversion of plutonium from spent fuel. These safeguards might be fortified by joint U.S.-Soviet inspection teams.

Given this achievement by the superpowers, there would remain two further requirements: adherence by the other nuclear-weapons states and prevention of nuclear weapons development or possession by other states or by political or terrorist groups. Cooperation in policy and proportionate reduction by other nuclear-weapons states would be likely once a dramatic reduction by the United States and the Soviet Union is well underway.

Prevention of proliferation is a far more intractable problem. What can be said about it is that visible and continuing action by the superpowers is a prerequisite to restraint by other nuclear-capable countries. The superpowers must lead the way if there is to be any chance of limiting the spread of weapons worldwide. U.S.-Soviet cooperation is a necessary, if not sufficient requirement.

To summarize, a general nuclear settlement should contain eight elements:

- The countries cease vilifying each other and negotiate on the basis of the common interest.
- Abandon nuclear war-fighting doctrines.
- Cooperate to inhibit nuclear weapons proliferation. At a minimum, this means intelligence exchange. Much better, and certainly realizable, would be far-reaching coordinate action toward our common goal. Of course, neither great power will have much political
standing in this area until it observes its solemn obligations under the Nuclear Non-Proliferation Treaty.²⁶

- Broaden exchanges of every kind, including the improvement of civil and military communications.
- Declare a mutual, renewable moratorium at the head-of-government level, on the development, testing, and deployment of nuclear weapons systems.
- Remove shorter-range nuclear weapons from the effective range of targets by establishing nuclear weapons-free zones.
- Place space off limits, including, specifically, anti-satellite weapons and attempted space-based ballistic missile defense.
- Make mutual, deep, rapid and continuing cuts in nuclear stockpiles until minimum invulnerable deterrents against nuclear war are reached.

These ideas are mutually reinforcing. Any one is good by itself. Taken together, they can drastically reduce both the risk and in some small measure the consequences of nuclear war.

VI. What About the Russians?

"Oh wad some power the giftie gie us
to seeoursels as others see us."²⁷

We must see clearly that the risk of nuclear extinction can be averted only by the U.S. and the USSR working together. Prevention must be at least a two-handed game to be effective. The adversaries must understand each other better, must each adopt a coherent and workable strategy, and must each perceive safeguards insuring against undue risk. These requirements are readily realizable.

Understanding is not necessarily a matter of either trust or liking. To paraphrase W. Averell Harriman, you can trust the Russians — you can trust them to act in the Russian interest. When we see that the Russian interest parallels our own, as it does in the prevention of nuclear war, we see that, though there is certainly a presumption

²⁶. Treaty on the Non-Proliferation of Nuclear Weapons, opened for signature, July 1, 1968, 21 U.S.T. 483, T.I.A.S. No. 6839, 729 U.N.T.S. 161. Article I states that "[e]ach nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices." 21 U.S.T. at 487.

that some trust between us is possible, it is not necessary. Nor is it necessary that we like the Soviets, only that we credit them with wanting to stay alive.

Many actions of the Soviet government toward its own citizens and the unfortunates along its borders are repugnant to us. These actions can obscure our common interest in survival. There are cultural barriers on both sides, a very different history, and almost theological preconceptions that make mutual understanding difficult. Understanding is nonetheless imperative.

There can be no question that Soviets at every level are aware of the nature and dangers of nuclear war. They see accurately, as most Americans do, that there can be no winners. They are engaged in ensuring the security of Mother Russia and have no interest in its destruction. Since Khrushchev, the Soviets have not threatened the use of nuclear weapons. This is not to say that they are benign or that they renounce the use of military power to advance their interests. It is only to say that they now recognize the actual nature of nuclear weapons.

There is little understanding by either country of the political nature of the other. Even professional Soviet students of the U.S. sometimes seem to believe it is run by an inner cabal of capitalists bent on the destruction of the USSR. Some American circles similarly evoke the vision of a blueprint in the basement of the Kremlin for the conquest of the world by military force. These caricatures cannot be resolved by attempting, in public argument, to place the black hat on the adversary while claiming the white hat for oneself. Nothing could be more futile. What is needed rather is understanding of the legitimate security interests of each power.

Both Soviet and American officials at the highest level have at other times made conciliatory statements. Yuri Andropov talked before his death of restoring confidence and renouncing hatred and Mikhail Gorbachev has often echoed these sentiments. Senior Soviet leaders have suggested that there are hardly any problems in arms control that cannot be solved if the political will for solution exists. In the U.S., Presidents, Secretaries of State, and congressional leaders have from time to time given the prevention of nuclear war pride of place.

The strategies the two governments have pursued to this end have not been useful. These strategies involve such things as nuclear weapons-building, including alleged defensive systems, economic pressures, threats, political and propaganda moves, and
attempts to keep the other side divided, uncertain and off balance. These are all attempts to coerce rather than to appeal to mutual interest. All are self-defeating. Neither of the great powers is or will be in a position to coerce the other. The way out lies in a strategy of mutual interest. The relationship of the U.S. and the USSR is not a zero-sum game, where anything that injures one helps the other.

President Reagan has called for a renewed dialogue on arms control and the reduction of the risk of nuclear war. He has given mixed signals, however, since he has again taken occasion to accuse the Soviets of treaty violations and other misdeeds. What are these "violations" and what is their significance? Some are not violations at all, but simply things we wish the Soviets would not do. Some are old questions, long since satisfactorily settled, dug up to pad out an indictment, and some are matters of genuine, but technical concern, which should be resolved privately in the only proper forum, the Soviet-American Standing Consultative Commission, established to deal with just such problems.

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28. See The President's Unclassified Report on Soviet Noncompliance with Arms Control Agreements, in Review of Arms Control and Disarmament Activities, 99th Congress, 1st Session: Hearings Before the Special Panel on Arms Control and Disarmament of the Procurement and Military Systems Subcomm. of the House Comm. on Armed Services, 99th Cong., 1st Sess. (1985). The Reagan Administration has argued with varying vehemence that some six Soviet actions have been in treaty violation. The "evidence," when adduced, has been technical and inferential, and subject to varying legal interpretation. The Standing Consultative Commission has been deliberately excluded, although determination of these issues is its primary purpose. See infra note 29. In my opinion, only our sighting of a major radar at Krasnoyarsk may be a violation, although the legal violation, if any, will occur only when the radar is turned on. In any case, it makes no military difference — no amount of early warning could save the Soviet Union from destruction were we to attack it. Interestingly, the Soviets have charged us with a reciprocal violation, the outward siting of a radar called PAVE PAWS in Florida.

Having said this, what should we do about suspected violations? First, draft treaties better. Take account of the limitations of avowable intelligence and especially of interpretation. Second, make better provision for inspection. The Soviets have come a long way lately, in consenting, for example, to the emplacement of remote seismic devices. Third, we should confine ourselves to observables that make a difference.

Once we have done these things, we ought to promptly and rigorously but privately challenge apparent violations, using first the Commission set up for that purpose, and only as necessary the high levels of government. We should forego public accusations until every other avenue is exhausted, and sometimes not even then; political accusations are too readily dismissed as part of the political-propaganda game (as in fact they usually are).

29. The Standing Consultative Commission (SCC) was formally established by the "Memorandum of Understanding Between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics Regarding the Establishment of a Standing Consultative Commission," signed December 21, 1972. 24 U.S.T. 238, T.I.A.S. No. 7545. The SCC was charged to "promote the objectives and implementation of the provisions of the Treaty between the USA and the USSR on the Limitation of Anti-Ballistic Missile Systems of May 26, 1972, the Interim Agreement between the USA and the USSR on Certain Measures with Respect to the Limitation of Strategic Offensive Arms of May 26, 1972, and the Agreement on Measures to Reduce
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None of the claimed Soviet actions and none of the alleged American violations have any real military significance. No place in the Soviet Union can be defended against ballistic missile attack, no matter where the Soviets may place high-powered radars. Whether ICBMs are new or old, fixed or mobile, in compliance or out, they can still destroy cities. The point is, the nuclear compliance issues may or may not have political and legal significance, but they do not and cannot change the security of either side.

Other issues — chemical and biological warfare — do have potential military importance, but they do not enter into the nuclear standoff. If we attempt to handle all issues between us and the Soviets before we achieve nuclear arms control, we will have a long wait indeed. And nuclear war — the one thing which could destroy us all — cannot be allowed to threaten us forever. We can hope and expect that the imperative need for a nuclear settlement will take first place in our policies.

Earlier, Chairman Andropov expressed a strong desire to reduce tensions and to better relations with the United States. Mikhail Gorbachev has been even more forthright in his suggestion that the two superpowers work to build confidence and improve their troubled relationship. Other senior Soviet leaders have said that we cannot discuss single elements of nuclear solutions. All of this argues that the time has come for a major and comprehensive settlement of the nuclear weapons issues between us. Accordingly, the President has a major opportunity, which the events at Reykjavik have not destroyed, to sustain and even revive nuclear arms control. Nothing
could better serve the security of the United States and better allay the well-founded concerns of the entire world about nuclear war. Mr. Reagan seems to have resisted the space hawks and the nuclear mafia, within and outside his Administration, who urged him to portray alleged Soviet treaty violations in a light that would discredit all arms control agreements, on grounds that the Soviets cannot be trusted. As I have said, those agreements can and should be designed so that trust, while always desirable, is not essential to our security.

VII. Vision

"When there is no vision, the people perish."

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We have seen that every attempt by the U.S. and the USSR to gain advantage by numerical or technical "improvements" in their nuclear arms posture has ended in failure. We have seen also that unilateral nuclear arms programs, whether or not accompanied by other measures, cannot serve to coerce either superpower. On the contrary, nuclear arms programs will exacerbate differences and impair the security of both.

We can foretell, with certainty, that the nuclear arms race will continue in the absence of an effective nuclear settlement. Both the probability and consequence of nuclear war will grow accordingly. We must not, however, continue to assume implicitly that nothing can be done about this greatest danger that has ever faced humanity. We and the Soviets need the vision to see that continuing to struggle for advantage in nuclear arms is futile and increasingly dangerous. We need also the vision to see that the way out of our common peril is straightforward and practical. We need only develop the political will to make a general nuclear settlement a reality. We need only recognize our overriding common interest — that we survive. Negotiations based on this common interest can hardly fail, and the resulting agreements should ensure our survival.

issues. Complaints that the President ad-libbed without adequate preparation by his staff, and without consultation with the Allies, are wide of the mark. So far as the Allies are concerned, the sooner they are disabused of the notion that they can rely on the "nuclear umbrella," the better. As for staff preparation (not at this writing as highly regarded as it was a few weeks ago) the President's instinct was right. Cuts in nuclear weapons were and are far more important than any other issue before him.