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# Nuclear Weapons and World Politics

**Reducing Dependence  
on Nuclear Weapons:  
A Second Nuclear Regime**

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ALTERNATIVES FOR THE FUTURE

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*1980s Project/Council on Foreign Relations*

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## ONE

### Premises and Purposes

A Second Nuclear Regime for the 1980s and beyond would lie between the current, or First, Regime, in which nations continue to possess nuclear weapons with declared purposes for them beyond simply deterring or retaliating against nuclear attack, and a Third Nuclear Regime, in which national possession of nuclear weapons would be proscribed. Under a Second Nuclear Regime, nuclear weapons would continue to exist, but their capabilities, numbers, deployment, and roles would be more circumscribed than is the case today. The international environment would be less dependent on nuclear weapons—that is, they would have less influence on political and conventional military interaction, their role being limited to nuclear deterrence and retaliation.

As this essay will attempt to demonstrate, a Second Nuclear Regime would be superior to the best *achievable* First and Third Regimes. Therefore, progress toward this regime should be high among national priorities. It should not be taken for granted that the world will or should progress from the First through the Second to the Third Nuclear Regime. Not all change is good; not all equalization is beneficial, even for the downtrodden. It is my belief that the world will never again be free of nuclear weapons or the threat of nuclear weapons. Our central intellectual task, therefore, is to conceive of durable, stable arrangements for living with them.

### THE PURPOSE OF A SECOND NUCLEAR REGIME

The complex of physical nuclear weapons capabilities and the doctrinal and declaratory posture regarding their use should do more than simply provide national security for a period of time. These capabilities and plans should be aimed at constituting a viable posture from which nuclear weapons states can do the following:

1. Take effective measures against nuclear proliferation
2. Hold expenditures on strategic military capabilities to a minimum, while still providing adequate security
3. Avoid overemphasis on strategic threats—which leads to the neglect of real and important problems that threaten the existence of national and world society—thereby permitting the removal of nuclear weapons (to some extent) from the conduct of world politics, i.e., a reduction in their value as instruments of power politics
4. Give individuals a feeling that the world of nations is understandable and controllable and that their own condition is improving
5. Provide a stable foundation from which a Third Nuclear Regime might (but need not) evolve

The choice among conceivable Second Regimes must involve "sensitivity analysis,"<sup>17</sup> for a superficially attractive regime whose benefits evaporate with a slight deviation from its underlying assumptions would be unacceptable. In short, perfection of detail being unlikely, a regime not dependent on perfection is to be preferred. Fallback positions must be available in case the political, technological, behavioral, and bureaucratic roots of the regime do not hold.

For the United States, the worth of a nuclear regime must be reckoned not only in the security that it provides for the present, but also in the security for the future and even more in the degree to which the regime frees material and intellectual resources for the building of society. Obviously, other nations, especially the

Soviet Union and America's NATO allies, must see a Second Regime as helpful to them (or at least not greatly inferior to the First Regime) if they are to cooperate in its introduction. However, the transition to a Second Regime will be most feasible if its positive attributes can be achieved by actions of the United States alone; for this reason the emphasis of this essay is on American initiatives. In any case, it is hard to believe that the nations of the world will oppose a shift to a strategic posture based on confidence, competence, and sufficiency from a regime so stridently portrayed as barely adequate or worse.

### BASIC CHARACTERISTICS OF A SECOND NUCLEAR REGIME

In designing a Second Nuclear Regime for the time frame of the 1980s, it is assumed that an alliance structure similar to that of the 1970s will persist, but that neither that structure nor the relative rank of nations nor the technology of war and peace will be static over the decade. It is also assumed that public officials will generally attempt to act in the national interest as they see it—specifically, that leaders of both the United States and the Soviet Union will be wise enough and strong enough to emphasize national survival over bureaucratic advantage, to recognize the possible conflict between national security and defense industry interests, and to press for national advantage but not at great risk to national survival.

*Deterrence: Foundation of a Second Nuclear Regime*  
There is no technical solution in existence or in sight that would enable a modern society to survive a determined attack by strategic nuclear forces such as those of the United States or the Soviet Union. But fear of the destruction of American society by nuclear attack from the Soviet Union is not high among concerns of thoughtful people in the United States (and vice versa). This is not because we have an effective defense or because the Soviets wish American society well; rather, it is because the Soviet Union is *deterred* from initiating such an attack by the knowledge that it would likely be destroyed in turn. Uncomfortable as this situation

might seem in the abstract, it intrudes remarkably little on the consciousness of citizens or leaders.

But what role do nuclear weapons play, and what role *should* they play, in deterring the Soviet Union from lesser, non-nuclear aggression against the United States or its allies? Can the United States continue to threaten to respond to such lesser aggression with the use of nuclear weapons against the Soviet Union with full knowledge that such a response, however "graduated," would lead also to nuclear attack on the United States? If Washington perceives the *risk* to the United States of escalating to the nuclear level as less than that of accepting the consequences of subnuclear Soviet aggression, then it can rationally and credibly deter the Soviets from committing that aggression. But Moscow must recognize that Washington sees things this way if it is to be deterred. A similar criterion holds for the Soviet Union. The risks and consequences of escalation being less *vis-à-vis* non-nuclear states, deterrence of aggression by threats to use nuclear weapons might be considered even more effective against such nations; but this would require that a nuclear power adhere to a policy of first use of nuclear weapons against non-nuclear states, unnecessary and unseemly for a great power and therefore not an element of the recommended Second Nuclear Regime.

Even if effective methods of defending against current strategic deterrent forces—ballistic missiles, aircraft, and cruise missiles—should be developed in the 1980s, other means—ranging from quantitative expansion of current forces and penetration aids to systems, such as biological weapons, that are at present less favored—exist or could be created to destroy societies. Unleashing destructive power is becoming less and less difficult for humanity; we will have to live with and prevent the realization of this potential. In the final analysis, maintaining deterrence is feasible; not maintaining deterrence is dangerous or suicidal for both the United States and the Soviet Union. Therefore, maintaining stable mutual deterrence between the two countries at affordable cost is a reasonable objective. The Second Regime described in this essay is a prescription for life in the 1980s with strategic offensive capabilities dominant over strategic defenses, a situation that seems sure to prevail anyway. The

consequences of this situation can be managed very largely by actions of the United States alone in structuring its nuclear and conventional forces, if this physical posture is accompanied by a doctrinal and declaratory posture that provides a basis for maintaining stable relationships with both allies and opponents as well as influencing others not in either category.

*Lesser Dependence on Nuclear Weapons* A Second Regime is one with continued possession by relatively few nations of weapons of terrible destructive power, but with a reduction in the perceived advantage accruing to the few possessors. Under a Second Regime, the assigned tasks for nuclear weapons are limited strictly to those roles they are generally recognized as performing well, namely, deterring or retaliating against other nations' use of nuclear weapons. These attributes would contribute to popular acceptance of the regime and would allow a diversion of attention and resources to the important problems confronting individual societies and the world at large, such as the increasing cost of resources, environmental pollution, the population explosion, and the political and social instability of nations.

Under the Second Regime prescribed here, confining the possession of nuclear weapons to a few states and limiting their utility to possessors would be furthered by the adoption by all possessors of a policy of nonuse against non-nuclear-weapon states, a restriction of the role of nuclear weapons to deterrence of or response to nuclear attack, and the extension of nuclear deterrence to non-nuclear states confronted by an adversary with nuclear weapons. Taken together, doctrinal and declaratory measures of this sort would reduce the significance of nuclear weapons in world affairs and permit certain reductions in the physical capabilities of nuclear forces which would enhance the stability and, as a result, the legitimacy of the regime.<sup>1</sup>

While characterized by a lesser dependence on nuclear weapons than is true of the First Regime, the Second Regime prescribed here has other parameters of comparable importance,

<sup>1</sup>See pp. 113-132 for a detailed discussion of the doctrinal and declaratory elements of this Second Nuclear Regime.

among them an enhancement of the nature and level of conventional forces to bring about a reduction of the necessity of using nuclear weapons to deter or respond to low-level aggression. Also, important for Western countries are a high degree of support by the electorate for the national security policy and the prevalence of hope over despair among the citizenry. Another important parameter of this Second Regime is its effect on nuclear proliferation. Burgeoning nuclear forces among the lesser nations of the world would increase the chances of nuclear weapons being stolen or seized in coups d'état, with great potential for escalation and terrorism. As a means of severely limiting the utility of nuclear weapons and providing security guarantees to non-nuclear-weapons states, the Second Regime prescribed here would command substantial world support for effective action against nuclear proliferation and thus would promote international stability.

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## TWO

# Physical Posture for the Second Nuclear Regime

In designing a Second Nuclear Regime for the 1980s, it is impossible scientifically to determine a single optimum posture and the best means of achieving it. Unlike the First and Third Regimes, whose natures are dictated by the very circumstances and characteristics that lead us to distinguish them, there are many possible alternative Second Regimes, and each strategic analyst could design his or her own. Hence, this section will describe in some detail one particular physical combination of weapons and associated doctrinal and declaratory postures that would characterize a Second Nuclear Regime, that is, a regime in which there is less dependence upon nuclear weapons than at present.

### NUCLEAR WEAPONS CONVEY AN ABILITY TO DESTROY CITIES

Nuclear weapons have an inherent minimum efficient yield: 10 to 30 kilotons for fission weapons. No great saving in cost or size can be obtained by designing weapons with a smaller explosive yield. This is the tyranny of nuclear weapons: the use of a nuclear explosive for peaceful purposes is problematical at best; its utility in killing submarines is hardly greater than that of a modern homing torpedo; and its effectiveness in attacking heavily armored vehicles in land warfare is not much greater than that of

many conventional weapons. But there is absolutely no doubt of the ability of even a modest-size nuclear explosive to destroy the lives and habitat of hundreds of thousands of people in a city. While conventional high-explosive weapons for the 1980s, now entering the inventory or in development, provide greatly increased effectiveness against military targets, no such improvement inheres in the application of new technology to nuclear weapons. The comparative advantage of nuclear weapons lies in visiting destruction upon an enemy's society rather than in directly defending one's own population, territory, or military forces by destroying the enemy's forces. If nuclear weapons and the means for their delivery against enemy cities exist, then it is inconceivable that a nation will not threaten to use them *in extremis*, in order to prevent its effective annihilation. Therefore, a Second Regime would entail the continued existence of nuclear weapons among a relative few powerful nations to deter the annihilation of these nations or their allies. In other words, under a Second Regime the principle of "mutual assured destruction" (MAD) that has long served to prevent a Soviet-American nuclear exchange would be preserved.

The size of cities, their geographical configuration, and their high vulnerability relative to missile silos and military equipment in general make them very difficult to defend against nuclear attack. Cities are vulnerable to attack by nuclear weapons, whether or not those nuclear weapons were primarily designed for city attack. This will be true as long as there are nuclear weapons, and would remain true even if nuclear weapons did not exist but could be made, or if there were no nuclear delivery capabilities except makeshift ones. In recognition of this technical fact, under the Second Regime here prescribed there would be a prohibition of strategic defense<sup>2</sup> in order to prevent the onset of troublesome ambiguities that would compromise the assuredness of mutual destruction essential to strategic stability.

Some thinkers contend that technology might in the long run

<sup>2</sup>With the possible exception of a very specialized defense of hardened intercontinental ballistic missile (ICBM) silos. See pp. 97-98.

allow the defense to overwhelm the offense. But the resources needed for research and development and for modifications to existing weapons for the purpose of preserving a strategic deterrent against defensive developments are small, and the spectrum of possible deterrents, all of which a defensive force would have to be able to destroy, is enormous. Despite one's instinctive preference for defense over offense, despite the historical Soviet emphasis on defensive systems, and despite the large resources spent by Moscow over the years, no one suggests that even the extensive Soviet air defense network can prevent a majority of B-52s from completing their strategic missions. Nor has an antiballistic missile (ABM) system been conceived for city defense that could not be overwhelmed by lesser efforts of the offense. Furthermore, relations among the great powers would scarcely benefit from defensive dominance even if it became possible; the fear that the other side could execute a surprise attack without suffering retaliatory damage would heighten mutual suspicions and tensions. In all, the United States and the Soviet Union should not put large resources into development of defensive measures, although they should maintain adequate intelligence to guard against some unexpected development of defenses on the other side.

*The Threat of City Attack—the Essence of Deterrence* We are not concerned here with the long-standing argument between those who regard mutual assured destruction as sufficient and those who do not. We need only note that in the absence of MAD, if one of two sides possessed, either overtly or clandestinely, the ability to destroy a large number of cities of the other side when the other did not, irrespective of other relative military capabilities, it could at any time force the outcome of a dispute or a war by threatening cities or actually destroying as many as required to force surrender. A Third Regime would have to guarantee that such capabilities never fall into national hands; a Second Regime depends for its stability on the capability of states to so coerce others, but with this capability restrained by the possession of similar destructive capabilities by opposing states

and alliances.<sup>3</sup> Stability of a Second Regime also rests on confining the possession of large nuclear forces to relatively stable nations, willing and able to guard them adequately; it would not likely survive proliferation to a large number of smaller and less stable countries, and so nonproliferation is an important element of the Second Regime prescribed here.

*Instability of a Third Regime* It is true that nuclear weapons must be teamed with delivery vehicles—ballistic or cruise missiles, aircraft, or even surface vehicles—to so coerce nations. Advocates of a Third Regime raise the false hope that a city-attack capability could be eliminated and proscribed, for they exaggerate the possibility of banning ICBMs, subjecting space launch facilities to inspection, etc. In reality, very small ICBMs weighing on the order of 10,000 pounds, with modern guidance technology and small warheads, would be adequate to provide a force capable of destroying tens of millions of people. In an allegedly "denuclearized" world, a force of a few hundred such missiles could be easily maintained clandestinely and would be safe from attack by an adversary, even if concealed in small buildings on military bases with only modest hardening of the launch system.

If, under a Third Regime, long-range bombers as well as missiles were banned, military aircraft of intermediate range with specially selected crews could be used on one-way intercontinental missions in this coercive role, carrying bombs that may have been justified as "peaceful nuclear explosives" or as warheads for use in air-defense missiles.<sup>4</sup> In such circumstances, the con-

<sup>3</sup>A Second Regime, however, would not be stable if nuclear weapons were designed and deployed so as to make possible the destruction of opposing strategic forces, for this would eliminate MAD. Achieving a credible first-strike counterforce capability is practically impossible, barring a major breakthrough in antisubmarine warfare that would jeopardize the near-invulnerable submarine-based missile force. But stability under the Second Regime recommended here would be enhanced by formal agreements not to build offensive systems that would imperil the deterrent forces on either side.

<sup>4</sup>Emphasis on intercontinental delivery reflects not only the author's American orientation but also the assumption that his Second Regime would prevent

trovsky that would rage in the United States over such systems as the Soviet Backfire bomber would make the controversy of the 1970s seem minuscule by comparison.

Finally, if non-nuclear armed cruise missiles of nominal 500-mile range entered the tactical inventories of the advanced nations, the typically 1,000 to 2,000 pound high-explosive payload of these tactical missiles could be replaced by a normal nuclear warhead with a yield anywhere from ten to a few hundred kilotons, weighing as little as 200 pounds, with a consequent extension of the missiles' range to 2,000 or 3,000 miles.<sup>5</sup> In a Second Regime, in which both sides already had high assurance of retaining the nuclear forces necessary for mutual destruction, the clandestine addition of a few hundred or even a few thousand such strategic cruise missiles would not imperil stability. But if one side were to abjure the *capability* of striking the other side's cities, as in a Third Regime, a few hundred advanced strategic cruise missiles in one side's possession would undoubtedly determine the outcome of any contest.

In addition to on-call delivery capabilities, there has always been the possibility that nuclear weapons could be smuggled into the target country. Doing this has become enormously easier since the 1940s, as the mass of a nuclear weapon capable of destroying a city has been reduced from thousands to tens of pounds, and as restrictions on international travel have been relaxed. But in 1977, it would make little sense for the Soviet Union to try to smuggle a nuclear weapon into New York City. The benefits would be small relative to the risks of detection, simply because Moscow has a plethora of weapons capable of striking New York. However, if the United States and Soviet Union agreed to dismantle their weapons capable of striking the other's cities, a few dozen clandestine weapons in American cities would confer decisive power on the Soviet Union. Paradoxically,

widespread proliferation of nuclear weapons to many nations that might hold them as an assured destruction force against nearby neighbors without any need for long-range delivery systems.

<sup>5</sup>The savings in warhead weight would make possible a greater fuel load, thereby providing the longer range.

American internal security measures would have to be far more severe in the event of an agreement renouncing a city-attack capability than they are at present.

Thus, so long as nuclear weapons are retained for *any* purpose, it must be anticipated that an adversary will retain, clandestinely if not overtly, a city-attack capability; and the *only* way to counter a city-attack capability is to have one's own (or to rely on that of an ally or guarantor). Symmetry is not required in other areas, however. For example, a capability on one side to knock out, or "kill," the other's ICBM silos certainly need *not* be countered by a silo-killing capability on the other. This would not lead to stability but would aggravate instability. A silo-killing or "counterforce" capability would be significant only if it could destroy such a large fraction of an adversary's total assured destruction force that this force could no longer perform its retaliatory mission. As will be discussed below, there are many counters to a silo-killing threat, ranging from a launch-on-warning policy to mobile basing, shelter basing, silo defense, reliance on submarine-launched ballistic missiles and aircraft, and the like. Together with an assured destruction force of ample size, the possibility of exercising these options would enhance the stability of the Second Regime.

Unlike a silo-killing capability, because of the dominance of offense over defense, a city-attack capability cannot be eliminated although it can be neutralized by a comparable retaliatory capability. For the 1980s and beyond, any regime encompassing the retention of nuclear weapons must ensure the maintenance of a city-threatening capability on the part of major contending nuclear weapons states or leaders of blocs. As it seems impossible to control strategic *delivery vehicles* with the certainty required to assure a disarmed state that another had no strategic capability, the Second Regime prescribed here entails the preservation of mutually acceptable strategic offensive forces. This Second Regime also provides for the protection by the nuclear powers of nations that do not themselves have nuclear forces. As will be shown below, such protection would be a strong counterincentive to nuclear proliferation.

## RECOMMENDED AMERICAN STRATEGIC FORCE

The benefits of the Second Regime prescribed here can be obtained to a large extent by the initiative of one side. Therefore, American views as to the desirability of this Second Regime need not depend on Soviet responses. The prescription for the United States to eschew a silo-killing force does not depend on a similar decision on the part of the Soviet Union. As stressed above, we would like *least* to have an effective counterforce capability on *both* sides; but stability could be maintained if the Soviets alone had such a force and the Americans did not (or vice versa), for there are many feasible countermeasures that the United States could take. For the United States to respond by building a similar force would only cause serious concern on the other side regarding the probability of a preemptive strike against its strategic forces, a situation that would be as intolerable for Moscow as for Washington.

*Responses to a Soviet Counterforce Capability* The easiest way for the United States to offset a Soviet counterforce threat is to maintain a sufficiently large force of submarine-launched ballistic missiles and airfield-based strategic bombers so that even an extraordinarily effective surprise attack on American ICBM silos would not constitute a disarming strike and hence would not be undertaken. Furnishing strategic aircraft with a rapid-start capability so that they can be airborne on short warning and fitting them with long-range air-launched cruise missiles that can be fired at strategic targets from a thousand or more miles away will ensure the survival and effectiveness of the bomber force by minimizing its dependence on an airborne tanker fleet in carrying out long-range missions. The advanced technology for strategic cruise missiles now coming into being will allow cargo-type aircraft to replace many of the more expensive bombers altogether, since there will no longer be a need for planes that can penetrate Soviet air defenses. Deploying the 4,000-mile-range Trident I missile in place of the shorter-range Poseidon missile on Poseidon submarines will similarly reduce the vulnerability of the sea-based arm of the American deterrent.

As an alternative, or in addition to greater reliance on the bomber and submarine arms of the "triad," the United States could restructure its land-based ICBM force. A new, smaller ICBM—with a 10,000-pound launch-weight, single 50-kiloton warhead, 1/3 mile accuracy, and hard silo to suit—could be developed as an alternative to the current force of Minutemen with multiple independently targetable reentry vehicles (MIRVs), with a view to deploying thousands of them and thus making a thoroughgoing Soviet silo-killing attack more difficult. The degraded accuracy and lesser total throw-weight would not even reduce the second strike (the deterrent) capability. The stability of the Second Regime described here does not depend on the absence of MIRVs, but ensuring against the achievement of a counterforce capability by one side would be easier if, over the years, the MIRVed forces on one or both sides were replaced by a large number of small ICBMs.

A less costly (and quicker) way for the United States to respond to a Soviet counterforce threat would be to modify the Minuteman to a "smart ICBM"—one that would have, in addition to the usual flexible command and control systems, the capability of being armed or disarmed in flight. Developing such a capability and deploying it if necessary would not only deter the Soviets from carrying out a silo-killing strike, but might also discourage them from ever developing or deploying the force capable of doing so, insofar as it would permit the United States to adopt the following declared limited launch-on-reliable-detection (LORD) options:

1. *Command-arm in flight:* On reliable detection of a Soviet attack on American ICBM silos, the United States would launch approximately 50 Minutemen, unarmed, against Soviet cities, the missiles to be armed by secure, redundant radio command after 15 minutes in flight if most of the unlaunched Minutemen were indeed destroyed in the interim.
2. *Command-disarm in flight:* Under the same circumstances, Minutemen would be launched armed, to be *disarmed* by secure, redundant command if the main Minuteman force were *not* destroyed in the interim.

Under both options, the radio signals could be relayed from satellites, from special communications rockets, from aircraft, and from land sites.

The purpose of planning and developing these more flexible capabilities is to demonstrate *in advance*, to the Soviet Union and to the world, the futility of the Soviets' deploying an expensive force of silo-killing ICBMs. Such capabilities should be publicized: if Washington emphasizes in official statements that it has developed such capabilities and is able and willing to deploy them, this may reduce the necessity of actually doing so by deterring the Soviets from deploying their new ICBMs. To the extent that the Soviets are stimulated by such American developments and deployments to create their own limited launch-on-reliable-detection options, strategic stability will be further enhanced without the overall capability for destruction being increased. The two LORD options could be maintained inoperative at presidential command under normal conditions, when strategic intelligence guarantees that Soviet forces cannot possibly destroy the American strategic offensive force to a degree that would vitiate the United States' capability to inflict assured destruction in retaliation. The command-arm-in-flight option would be readied if there was a legitimate concern for force survivability, with the command-disarm-in-flight option held in reserve for use only if the Soviets appeared to have the ability to destroy the redundant radio-arming link.

Giving such a capability to Minuteman would be analogous to having, as at present, the ability to quickly launch those bombers in the Strategic Air Command (SAC) on ground alert, and in certain circumstances maintaining bombers on air alert, until a crisis situation can be clarified. The size of the Minuteman force would be reduced temporarily by five percent with the launch of 50 missiles in a false alarm situation (one ultimately not warranting a nuclear attack on the Soviet Union and so resulting in the destruction in flight of the 50 missiles); these missiles could be replaced in refurbished silos in a matter of weeks.

Still another way for the United States to respond to a Soviet silo-killing capability is the development of modest ABM defenses specifically designed for the defense of the hardened, replicated ICBM silos and capable of being deployed at a lower cost

and faster pace than a Soviet silo-killing force, but *not* having a technical capability to protect industry and population. While ABM defense of cities, in view of exaggerated claims of its effectiveness, is destabilizing—in that it might be seen to threaten the other side's ability to retaliate and thus might foster suspicions of a planned first strike—ABM systems with a silo-defense-only capability, by increasing the survivability of retaliatory forces, are stabilizing. Some are even compatible with the ABM ban of SALT I. Therefore, greater research and development efforts should be devoted to them, as well as to the Minuteman in-flight command arm/disarm system.<sup>6</sup>

*Strategic Force Size in the Second Regime* The overall force levels resulting from SALT II, while unnecessarily high, would be acceptable in the Second Regime prescribed here. There is no compelling reason to face the problems of negotiating alternative American and Soviet strategic forces that might be more suitable to the regime. Strategic stability is insensitive to minor changes in such high force levels. This is because of the declining marginal utility of additional warheads arising from the finite number of important military, industrial, and civilian targets that a force must be able to destroy with confidence. Therefore, it is important first to move away from the First Regime, with its excessive dependence on nuclear weapons, while retaining these high force levels and not to worry about negotiating more desirable force levels until *after* the lessened dependence of a Second Regime has been achieved.

*THE STRATEGIC RESERVE—A BEGINNING OF REDUCTIONS* At almost all times in the past, the United States has had what has been generally recognized as a more than adequate strategic force. Yet it has almost continuously been constructing additional strategic forces with an apparent sense of urgency. This is not necessarily logically inconsistent (although it may have been in

<sup>6</sup>Three candidates for silo defense which would have no capability of defending soft, high-value targets such as cities are warhead fuse jamming, a "bed of nails" defense, and a "pebble-fan projector," all of which could disable incoming missiles before they struck their hardened targets. See my article, "Effective Military Technology for the 1980s," *International Security*, vol. 1, no. 2, Fall 1976, pp. 50-77.

certain instances): Strategic forces are built to meet the situation that may prevail when they are fully deployed—some five to ten years hence—or in response to what may be technically feasible for the other side (as was the case in American development of MIRVs designed, in part, to counter likely Soviet advances in ABM technology). In some cases, additional forces are built in recognition of the future inadequacy of current forces (as was the case when SAC bombers were supplemented by a force of Minuteman and Polaris missiles). Fragmentation of responsibility may add to the motivation to augment the forces; the development organization has little to do after one generation of forces has been deployed, since the forces are operated by another organization (the Strategic Air Command or the Navy).

After forces are deployed, the assigned job of their operators is to maintain every possible element at maximum economic readiness to meet any possible contingency. If the strategic situation then worsens considerably, in particular if there is an increase in the threat to the survivability of an element of the strategic offensive force, there are no *reserve* forces to be physically brought into being to counter the new threats. Unfortunately, this situation leads to misleading contentions by politicians and informed citizens that the entire present force is insufficient, even though the increased threat may still be *less* than the future threat that the existing force was built to counter. Indeed, so large is the American ICBM force that only about 10 percent of the warheads in the recent past were trained on assured destruction targets; thus even the destruction before launch of 90 percent of the Minutemen would leave the assured destruction capability intact if an assured-destruction-only target were used as the second aim point for each missile. Still, even though this situation is surely clear to most American leaders, allied leaders or neutrals may see the increased threat as an indication of the growing inadequacy of the entire American strategic force; modification or construction of additional forces by Washington so as to reassure these third parties may only reinforce their mistaken view by appearing to be an admission of inadequacy.

The United States evidently regards the ability to put the SAC bomber force on various levels of alert as a significant political

tool. For this reason and those indicated above, it would be useful to put a substantial fraction of the ICBM and submarine-launched ballistic missile (SLBM) forces into a *strategic reserve* from which the missiles could not be fired but from which they could be brought into readiness in a matter of weeks or months. The purpose would be not to preserve them from actual attack (in which they could be more or less vulnerable than the active strategic forces) but to reduce clearly excessive force levels in an easily reversible way. For the ICBMs, some 300 silos could be covered with earth or rock to a depth of perhaps 30 feet, making them useless on a scale of days but available in the unlikely event that continued Soviet force expansion and improvement began to place the effectiveness of the front-line American deterrent in doubt. For the SLBMs, 50 percent of the *Polaris*, *Poseidon*, and future Trident submarines could be kept in port or on patrol in the southern oceans, well out of missile range of the Soviet Union. While primarily an arms control measure, the submarine strategic reserve would also further enhance SLBM survivability. Unusual communication practices could be employed so that it would be clear to the Soviet Union that these submarines were far out of firing range. Another form of strategic reserve would be an airfield-based strategic force element consisting of a combination advanced tanker/cargo/cruise-missile-launching aircraft that in normal circumstances would be used only in its first two capacities.

Assuming that domestic opposition and uneasiness could be overcome, such a posture would make it clear to the world that the United States had confidence in its strategic strength—that it had such strength in reserve, indeed in superabundance. Furthermore, the United States would have ready an immediate response to any new Soviet deployments or to ambiguities in Soviet activities, a response that would provide a visible increase in American strategic offensive force long before any new procurement could become effective. By voluntarily reducing its ready force—without appreciable cost savings—the United States would provide evidence that smaller numbers do not connote inferiority.

United States national security would not depend on the Soviet

Union's following suit by placing some of its own forces in strategic reserve, although such actions by Moscow would certainly improve the climate between the two nations. The long-term durability and stability of a Second Regime would benefit from visible signs that the Soviet Union saw its strategic forces in from visible signs that the United States saw its own forces. As a first step, Washington could put its MIRVs into the reserves, if indeed MIRVs are necessary only against some future ABM systems, and move a fraction of its submarines to southern ocean patrol. Unilateral measures such as these would provide a costless test of the readiness of the Soviet Union to establish its own strategic reserve.

### BEYOND STRATEGIC NUCLEAR WEAPONS?

It is certain that the capability for mutual destruction is assured if nuclear delivery vehicles are unopposed. But should the United States and the Soviet Union strive to develop and erect effective defenses against the other's strategic delivery vehicles, serious problems would emerge. Other difficulties would arise from the continuation of tactical nuclear weapons and forward-based strategic systems. How these capabilities and programs would contribute to the goals of a Second Regime—security, stability, rationality, and nonproliferation—is the question to which we now turn.

*Strategic Defenses* As an extreme case, one side might develop and deploy in deepest secrecy a system highly effective in defending against the strategic weapons and delivery vehicles of the other side. Such a system would be of tremendous coercive value; if it were revealed and the other side was given no choice other than to "disarm or disappear," the strategic relationship would change substantially. While it is possible that neither would change substantially, while it is possible in this way, superpower would seek to upset the strategic balance in this way, or at least that neither would be so confident in its ability to completely repel a retaliatory strike as to exploit a defensive advantage, either or both might still wish to develop and deploy defensive systems because of the danger of nuclear accident and

third-party attack. Therefore, it is necessary to determine whether defensive programs can limit such secondary risks without being perceived as leading to strategic invulnerability.

The effectiveness of an ABM system under consideration must be judged *not* in terms of its capability against current ICBMs—which are not designed to counter ABMs since none exist—but in terms of its ability to defend against an ICBM force as would evolve to penetrate the ABM cover. Analogous considerations must be taken into account in assessing air-defense and antisubmarine warfare systems. An effective defense against an opponent bent on maintaining its assured destruction capability requires guarding against every possible avenue of countermeasure and attack. By contrast, maintaining an assured destruction capability requires nothing more than having one offensive system capable of penetrating the other side's defenses. A proposed defensive system must not only be technically sound against the existing threat and extensions of it, it must also be capable of effectively defending against quite different threats. For example, targets that the other side considered secondary in the absence of defense might become its preferred choice if the primary targets were protected by a defensive system; therefore, a less "rational" selection of targets could preserve the other side's assured destruction capacity. Moreover, the other side could simply deploy additional forces as a means of saturating the ABM coverage and guarding against other possible attempts to reduce its ability to retaliate, such as counterforce and civil defense.

A complex of defensive systems that is effective against *all* types of an opponent's strategic weapons, either in existence or possible, is not technically feasible, nor will it be in the foreseeable future. The recommended Second Regime has been conceived on the assumption of the continued dominance of strategic offense and the consequent desirability of continued controls over the development of strategic defenses, as it would be fruitless for the United States and the Soviet Union to deploy partially protective defenses against one another—the rationale behind the 1972 treaty limiting ABMs.

However, against nations with much smaller strategic capabilities, Washington and Moscow might find it desirable and

even possible to construct an effective defense. Although the strategic forces of both superpowers are at least as effective, if not more so, in deterring third nations as in deterring each other, second nuclear powers may well be less able to maintain control over their nuclear weapons, to prevent theft or unauthorized launch, than the superpowers are. Since such nations, in general, would not even come close to having a strategic destruction capability against the United States and the Soviet Union, defenses sufficiently effective to reduce the damage by such nations' nuclear forces would be feasible.

However, two problems would arise for both superpowers: first, how to make such a defense clearly ineffective against a retaliatory attack by the principal opponent and not provocative in the sense that it would appear to constitute a base from which effective defense against the principal opponent could subsequently be achieved; and second, how to cover the entire territory (since retargeting of even a small offensive force could otherwise restore its limited destructive capability) and defend against a mildly responsive threat, that is, one modified to help penetrate the defense system—again without threatening the principal adversary. In the case of the United States ABM system, it was argued that a "thin ABM defense against the Chinese ICBM threat"—one not providing a base for a heavy defense—could have been deployed using "perimeter acquisition radar" and Spartan missiles to shoot down a small number of incoming Chinese ICBMs as they approached United States air space. Such a thin ABM system would not require the expensive missile-site radar and short-range Sprint missiles essential to an effective anti-Soviet system and would ostensibly be ineffective against a massive Soviet attack because the radars, the "eyes of the system," could be easily exhausted or destroyed by large numbers of light, inaccurate ICBMs. However, the effectiveness of such a thin ABM system against China or other nuclear powers is dubious, as these states could saturate the perimeter acquisition radar (by the use of lightweight decoys or balloons) almost as easily as the Soviets could.

In any case, the SALT I Treaty includes an agreement by the United States and the Soviet Union not to defend their territories

against the ICBM forces of other nations. In view of the overriding importance of each maintaining an assured destruction capability against its major opponent, population defense against ICBM attack by lesser powers and revision of the 1972 treaty should be sought only if the treaty is clearly ineffective against the major opponent, a condition thus far not adequately satisfied by proposed systems, including the thin anti-China ABM. However, if future analysis and experiments provide a means for defending hardened missile silos (in their assigned roles) against ICBM attack, a means not effective in defending industry and population, deployment of such defensive systems—and revisions in the ABM treaty, if necessary—would be desirable. This would enhance stability by ensuring the survivability of retaliatory forces without compromising their offensive potential.<sup>7</sup>

*Forward-Based Systems and Tactical Nuclear Weapons*

Since the 1950s and up to the present day, the United States has had strategic nuclear weapons forward-deployed on aircraft carriers, on intermediate-range ballistic missiles (IRBMs) around the perimeter of the Soviet Union, and even on nominally tactical land-based fighters in Europe and East Asia. These forward-based systems were originally intended to supplement the far more expensive United States-based strategic bomber force; their cost (for an aircraft itself or other delivery vehicle) is lower because their required range is less. Forward-deployed strategic weapons also had the virtue of shorter response time; in contrast with the 12 hours or so of travel time for bombers traveling from the United States, a forward-based aircraft takes only one hour or less to reach targets in the Soviet Union. However, with the advent of highly secure intercontinental and submarine-launched ballistic missiles, and especially with the formal prohibition of ballistic missile defense, these reasons for forward-basing of nuclear weapons no longer exist. And when the cost of bases is included, forward-based systems become expensive. In the 1970s, ICBMs have become the dominant choice over forward-based fighters, being cheaper per weapon delivered, more surviv-

able, more reliable and having a response time of only 30 minutes.

A separate reason for deploying nuclear weapons in Europe is that of alliance strategy. Forward-based nuclear weapons deployed on allied aircraft, piloted and commanded by allied forces (subject always to release by the Commander-in-Chief of the United States), not only contribute to allied military capabilities in the field, it is argued, but also give NATO forces a ministrategic force capable of reaching Warsaw Pact capitals on two-way missions and Soviet cities on one-way missions. Furthermore, and perhaps most importantly, the use of such weapons in a truly tactical, countermilitary role can serve as a bridge to, and a guaranteed lever of, escalation to the strategic level, and hence as a deterrent to conventional Soviet aggression. America's European allies want to be very sure that if this deterrent fails the United States will come to their aid against invading Soviet or Warsaw Pact forces. The Europeans see the vulnerability of American forward-based tactical nuclear weapons as an asset, for any Warsaw Pact attack on these forces in the event of theater hostilities would force the United States itself to respond. Therefore, since an attack on Western Europe will turn into a direct Soviet-American nuclear confrontation, the Soviet bloc is deterred from making such an attack.

While this argument reveals some of the benefits of tactical nuclear weapons, it ignores their many liabilities, including the possibility of accidental or unauthorized use by local commanders, of capture by the enemy or by the host country, and of theft or terrorism. A further liability of United States tactical nuclear weapons in Europe is their significant cost in labor and materiel (on the order of 50,000 people simply to guard and maintain 7,000 weapons). Finally, having tactical nuclear weapons in Europe means the removal from conventional forces of the aircraft and other systems carrying them, for these systems' ostensibly "dual-capable" role does in fact reflect a nuclear priority. Has there been (and is there now) some way to reduce these liabilities while retaining the benefits of deterrence which these weapons confer on American allies?

In the early 1960s, the United States fitted permissive action

<sup>7</sup>See pp. 97-98.

inks (PAL) to all nuclear weapons on foreign soil, thereby taking a first step in extending the degree of physical control maintained by the President and reducing the hazards of misuse or theft of a nuclear weapon by elements of the host country's armed forces, either in peace or in war.<sup>8</sup> But additional ways must still be found to maintain the nuclear umbrella while further reducing the costs and hazards of theater nuclear weapons.

Since the travel times to strategic targets for ICBMs fired from the United States are now less than those for tactical aircraft launched from forward bases in Europe, and since ICBMs are far less vulnerable than tactical aircraft, the desired European missile force could be better implemented by sharing targeting and release authority over some of the United States-based ICBMs or SLBMs. Doing this would guarantee that the allies' strategic force had the same invulnerability and response time as that of the United States itself. Moreover, the NATO countries would appreciate the reduced cost of supporting United States forces and the quicker response and greater assurance of penetration for their ministrategic force. As far as the Soviets are concerned, the elimination of the American forward-based nuclear capability, with the exception of the SLBMs, would be seen as an improvement of their security position. But could this scheme replace the inhibitory effect of having American nuclear weapons present and vulnerable in Europe, that is, their "trip-wire" role in deterring Soviet conventional aggression?

Before the Soviet Union possessed large numbers of nuclear weapons, American tactical nuclear weapons certainly had a deterrent effect on conventional Soviet attack in Europe; given the rather hazy distinction between tactical and strategic nuclear weapons, an American "tactical" nuclear response to a Warsaw Pact offensive would have meant massive destruction for the Soviet Union or its allies. But with the advent of Soviet IRBMs targeted on Western Europe, there was no reason to believe that a

<sup>8</sup> *Permissive action links* are essentially mechanical or electronic combination locks on the nuclear weapons or warheads themselves. A separate combination for each weapon must be set in order to permit the warhead to explode upon delivery, although "master-key" combinations are feasible in principle. Some PAL devices can also provide penalties in the case of tampering, unauthorized transport, and the like.

Western nuclear response against Warsaw Pact territory would not be answered by a Soviet IRBM counterattack on NATO territory. Nor was there reason to be confident that the use of even very small, clean, and well-controlled tactical nuclear weapons by NATO only against Warsaw Pact troops in combat would not be answered by larger, dirtier, and more randomly targeted Warsaw Pact nuclear weapons. Therefore, a strictly tactical role for United States nuclear weapons in Europe might fail to credibly deter Warsaw Pact aggression. The truly effective deterrent is the threat to the Soviet and East European homelands, which can be achieved through a shared targeting and release scheme for United States ICBMs. Thus, we must examine the only other possible justification for keeping the tactical nuclear weapons in place, their military utility.

Deployed American tactical nuclear weapons include explosives delivered from aircraft, short-range missiles or hand-fired rockets, artillery shells, and preemplaced mines. It is simpler to characterize tactical nuclear weapons according to their missions: close support, interdiction, and counter-air. In evaluating their contribution to American and NATO capabilities, there is, of course, no experience in actual combat, and so analysis and war games must substitute. Although NATO commanders may not be sure of obtaining a desirable outcome without the use of tactical nuclear weapons, the introduction of such weapons on both sides, as simulated in war games, leads to widespread destruction but *not* to military victory.

In regard to the strictly military effectiveness of NATO tactical nuclear weapons, the vulnerability of the present system of basing and delivery, the poor accuracy of the longer-range weapons, and the inability to concentrate the fire of the shorter-range weapons within the small target radius associated with "tactical" missions are among the major disadvantages. The 50,000 American military personnel required to protect and care for the weapons is a serious burden. The catastrophic risks of erroneous field intelligence, incorrect targeting, and errors in aircraft navigation are nightmares for any national leader evaluating the feasibility and impact of using highly destructive theater nuclear weapons. Improved tactical nuclear weapons of the future could use the same technologies now demonstrated in conventional precision-guided

munitions to increase their accuracy, thereby allowing weapon yield to be reduced to cover only the desired radius of effectiveness. But one would still be left with the problem that the area of destruction of a nuclear weapon is circular, while many targets (e.g., a tank column) are linear. If tactical nuclear weapons were costless and without alternatives, improved versions would have a place among our future armaments; however, neither of these two conditions obtains.

Developments of the last decade in precision-guided munitions and microelectronics, together with the deployment over the next few years of the Navstar navigation and guidance system<sup>9</sup> (which will provide American and NATO cruise missiles, cannon shells, and bombs with accuracy as great as 20 feet almost all the time, anywhere in the world), have greatly reduced the comparative utility of nuclear weapons in performing tactical missions—that is, in attacking troop concentrations, armored columns, and the like. The tactical nuclear weapon has always been a major threat to an army on its own territory, but since civilians far outnumber potential combatants in any region, the use of tactical nuclear weapons on American or allied territory has not been looked upon with favor. Recent technological advances have somewhat improved the capability of tactical nuclear weapons, but they have also enhanced the capability of non-nuclear weapons to the point that tactical nuclear weapons no longer have an overall advantage. Improved accuracy and flexibility of delivery vehicles, advanced homing and fusing technology, new dispenser warheads and minelets, and more capable command and control systems all improve the capability of conventional weapons far more than they improve that of nuclear weapons. Because of the greater variety of conventional weapons and the lesser inhibitions to their use compared with nuclear weapons, a well-conceived non-nuclear force is *more capable* than a tactical nuclear force. Higher-yield weapons are not tactical at all; their use will be countered or deterred by determined use of strategic

<sup>9</sup>Navstar is a set of approximately 20 satellites that will provide radio signals to delivery vehicles in flight, permitting them to determine their position with great accuracy every one-tenth second.

nuclear weapons. Therefore, to the extent that strictly local capabilities are desired, the non-nuclear precision-guided munitions, mines, and the like which have entered the United States inventory in recent years, and which are susceptible to further improvement, are far preferable to the maintenance of nuclear weapons by the thousands in Europe. In fact, not replacing the tactical nuclear weapons with conventional systems of this sort, while it might not be tragic in the European context, could have the unintended side effect of encouraging nuclear proliferation, for it would convey to would-be proliferants the erroneous notion that nuclear weapons are of great utility in theater warfare.

#### Conventional Forces

In the building, deployment, and use of conventional forces, a principal objective is that this activity not lead to nuclear war. But this objective relates only to the actual *use* of conventional forces; some consider it also desirable to maintain the appearance that the use of conventional weapons will indeed lead to nuclear war, in order to *deter* conventional warfare as well. Yet the elimination of tactical nuclear weapons, and the resultant reduction of the threat of escalation to nuclear war in local contexts, means that an element of deterrence of conventional attack will be lost. As with nuclear weapons, while a nation would prefer to prevail ideologically and politically through the deterrent effect of its existing conventional forces, both experience and analysis show that conventional forces are far more likely than nuclear forces to be used. This condition results, in part, from there being a much more gradual ladder of escalation in the case of conventional weapons (all the way from police weapons to aerial bombardment) than in the case of nuclear devices, but it also derives from the lesser utility of conventional weapons in destroying population and industry relative to their usefulness against military targets. If tactical nuclear weapons are to be eliminated—a goal of the Second Regime prescribed here—and conventional conflict still prevented, there must be compensation for the lost deterrent effect of the tactical nuclear weapons.

Offensive and defensive technology are much more evenly

atched in the case of non-nuclear forces. A single aircraft that penetrates air defenses can do many billions of dollars of damage with nuclear weapons, whereas many thousands of conventionally armed aircraft would be needed to produce the same level of destruction. But defense against aircraft delivering nuclear bombs is usually performed by *conventional* weapons. In fact, like the case of defensive nuclear weapons versus offensive nuclear weapons, defensive conventional weapons may even enjoy superiority over offensive systems under some circumstances, and this might become truer with the technology of the 1980s. Consequently, strengthened defensive capabilities for NATO's non-nuclear forces would provide a sufficient deterrent to conventional attack by Warsaw Pact forces and an adequate emplacement for tactical nuclear weapons.

The United States should therefore carefully review its activities oriented toward the development of technologies with offensive superiority. Since the United States and its allies do not anticipate making use of such offensive capabilities and since they would be vulnerable if their opponents acquired such capabilities, it would be wiser to concentrate on developing systems with defensive superiority. The task is, of course, complicated by the fact that offensive-superior technology is useful even in defensive situations, as in recovering land that has been lost in a fallback after an unexpected conventional attack. Furthermore, the United States might need offensive capabilities in support of national or alliance goals outside Europe. Nonetheless, effective and invulnerable defensive forces should be the priority. In general, emphasis should be on low-cost, high-attrition systems, for these would make force effectiveness less sensitive to the opponent's defenses and countermeasures.

With respect to land forces, a major goal should be improving capabilities for emplacing mines by aircraft and cannon, as well as by armored minelayers. Guided antitank missiles that can be fired from a position displaced from that of the person guiding the missile (in order that the person's vulnerability be reduced and willingness to fire be increased) can also contribute to future ground capabilities. The ability to attack fixed and moving ground targets can be further improved by deploying surface-launched

tactical cruise missiles with a range of 500 miles, so as to both reduce vulnerability of cruise missile stores and allow massing of fire across the front. Such cruise missiles with 1,000-pound warheads could be based in small numbers in each of hundreds of dispersed underground storage sites hundreds of miles within NATO countries. These cruise missiles could be designed for launching without any additional mechanisms in response to secure signals from a theater command-and-control system. They would be capable of flying to their targets with 100-foot accuracy, thanks to midcourse guidance adjustments by Navstar signals, and could be transferred into a safe, low-altitude holding pattern a few minutes from the target area for last-minute target reassignment in case targets moved or targeting priorities changed.

In the field of command, control, and communications, stress should be placed on improving helicopter-lifted theater radar systems with data links to the ground which would be capable of monitoring movement of ground columns and other moving targets and providing redundant coverage of air operations. Regarding tactical air capabilities, since most American or NATO tactical aircraft are not necessary when air-to-ground attack is carried out by cruise missiles, it is preferable to perform counterair operations over NATO territory using surface-to-air missiles (SAMs) with a range of about 100 miles, remotely directed in order to reduce launch site vulnerability and provide concentration of fire.

In sum, new technologies and the concomitant force reorganization necessary to apply them efficiently can and should provide conventional forces with much greater capabilities than they now enjoy, and with less vulnerability as well. Such refinements, rather than an erosion of United States will, should be the basis for removal of theater nuclear weapons. The deemphasis of tactical nuclear weapons, tactical aircraft, and long-range artillery in general should be no more regarded as a diminution of effectiveness or of American support than would the replacement of a 20-year-old computer system by a smaller, cheaper one capable of 10 times the performance.

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**THREE****Declaratory Posture for  
the Second Nuclear Regime**

An important part of any nuclear defense posture is that which is announced about it—within a nation, to other nuclear powers, and to non-nuclear powers. Like the physical force posture, the declaratory posture influences the actions of adversaries, allies, and neutrals in building their own nuclear and non-nuclear forces as well as their willingness to use those forces. Both postures should be chosen with this in mind.

**UNILATERAL POSITION**

As stressed above, the physical posture for nuclear forces in this Second Regime can be largely achieved through the unilateral actions of the United States. This is equally true for the declaratory posture regarding the use of those forces.

*Assured Destruction Capability* With respect to the central confrontation between the United States and the Soviet Union, Washington should be consistent in publicly declaring its readiness to respond to the use of strategic nuclear weapons by the other side with its own nuclear arsenal, either to inflict assured, massive destruction or to use its own strategic weapons more flexibly (that is, in smaller numbers). In other words, it should be made clear that any nuclear provocation will be answered by a nuclear response, that there is an inevitable, near-physical linkage between destruction of the United States and destruction of

the Soviet Union. Consistent with this posture, no silo-killing capability should be sought or tested, even if the Soviets deployed some elements of such a force, since the American nuclear force would be intended solely for second-strike retaliatory missions. While under the Second Regime prescribed here, a nuclear response to a non-nuclear Soviet provocation would not be explicitly ruled out, it would be reduced to an extreme option.

*The Role of Uncertainty* Relying on an assured destruction capability in the 1980s raises once again the question of the proper threshold for response. While it might seem proper for Washington to destroy the Soviet Union if Moscow destroyed the 20 largest American cities, would Washington do so if Moscow leveled only the twenty-third largest? If there were a threshold below which it could be assumed that the United States would not act, would the Soviet Union not be free to threaten or exact damage below that threshold? And if once, why not again and again? There is in reality no such definite threshold; American response depends on mood, chance, and circumstances. But under the Second Regime, with tactical and forward-based nuclear weapons eliminated, the United States would have only its central, massively destructive strategic systems with which to respond. Therefore, the Soviets might become more inclined to believe that Washington—deprived of its ladder of "flexible options"—had established a higher, more precise threshold below which Soviet provocations would be tolerated. If Soviet uncertainty regarding likely American responses were reduced in this way, such provocations could become more frequent, and the increased chance that Moscow might overplay its hand—that it might underestimate Washington's willingness to use its strategic nuclear forces—could increase the likelihood of a nuclear exchange. Therefore, a means to preserve the role of uncertainty in deterring low-level nuclear provocations is an essential element of this Second Regime.

An intellectually respectable and technically feasible solution to the problem would be for Washington to announce that it had not a threshold, but a predetermined range of responses with varying probabilities, ranging from near zero for small provoca-

tions, to 50 percent at the point where most individuals would have placed an absolute threshold, and to near 100 percent in the case of total destruction of the United States. By declaring that such a range of responses exists, any American force could, in principle, serve credibly to deter a wide range of Soviet actions; American inaction after a modest provocation would convey no signal to Moscow that it would be safe to provoke again at the same, a higher, or even a lower level.

To enhance further the credibility of the American deterrent, Washington could also emphasize that it had fractional response options—that it could launch a small fraction of its forces (say, one to ten Minutemen) in response to low-level nuclear provocations—and that these options had a higher probability of being exercised than did massive response options in the event of small-scale Soviet nuclear attack. There would be greater willingness to establish and adhere to a predetermined response procedure if the maximum damage to be visited upon the enemy could be kept proportional to the provocation in this way. A declared readiness to launch less than the total strategic force, something we have been able to do in any case for as long as we have had strategic forces, would in essence provide the United States with a new variety of "flexible options" permitting a more certain (higher-probability) and proportionate response to any given provocation and consequently a more credible deterrent.<sup>10</sup> Problems would arise if the Soviet provocation were non-nuclear. The Second Regime prescribed here does incorporate the principle of no-use of nuclear weapons against non-nuclear weapons states.<sup>11</sup> While this principle would not in itself preclude

<sup>10</sup>In addition, a proportionate response capability would be more effective than a counterforce (silo-killing) capability in keeping nuclear wars limited. The former would rely on deterrence to prevent escalation even after an initial nuclear exchange, whereas the latter, while ostensibly aimed at damage limitation, would rest on a provocative threat to the invulnerability of retaliatory forces upon which stable deterrence rests. Announcing damage limitation as a goal would also imply a reluctance to use one's retaliatory forces against the other side's cities, thereby eroding the credibility of deterrence.

<sup>11</sup>This doctrine will be discussed below, along with the question of the desirability of a general no-first-use policy. See pp. 128-130.

the use of a nuclear weapon against the territory of the Soviet Union in response to a Soviet non-nuclear attack on Western Europe, the basic premise of a Second Regime, that the principal role of nuclear weapons is to deter the use of nuclear weapons by others, means that launching even a fraction of American nuclear forces would be an inappropriate response to Soviet conventional aggression.<sup>12</sup> Therefore, under this Second Regime strong non-nuclear forces to resist non-nuclear attack are prescribed. Still, to nuclear forces to resist non-nuclear attack are prescribed, a deterrent further the possibility of Soviet conventional attack would remain a strategic nuclear response to conventional attack would remain a declared option, albeit one with an extremely low assigned probability.

This approach to determining whether and how to respond to Soviet non-nuclear provocations is not vital to a Second Nuclear Regime. However, if it could be put into practice, it would help preserve the deterrent value of nuclear weapons below the level of massive strategic attack without requiring the retention of tactical nuclear weapons, the advancement of counterforce weaponry, or the abandonment of the principle of mutual assured destruction.

*High-Quality Deterrence?* In recent years many voices have argued that deterrence by means of the capability for assured destruction of Soviet population and industry is somehow inadequate and that something called "high-quality deterrence" is needed. These critics are not satisfied that the United States has the capability not only to destroy the Soviet Union entirely but also to exact a destructive toll on the U.S.S.R. that would more than offset the gains from any Soviet initiative, as well as having comparable or greater net military capabilities. They stress that

<sup>12</sup>Some observers might argue that with the removal of American nuclear weapons from the European theater, the use of United States-based nuclear weapons in response to Soviet conventional aggression there would be an incredible threat as well as an inappropriate one, since it would be unlikely that an American President would put his own population at risk in the absence of a direct Soviet nuclear provocation. But the American population is *always* at risk of Soviet nuclear attack; what determines whether or not the Soviet Union will attack with nuclear weapons is not what the United States *has* done but what the Soviets perceive it *will do* in response.

for allies and neutrals—especially those who have no understanding of the relative importance of such force parameters as throw-weight, accuracy, number of MIRVs, and the like—the appearance of the American nuclear force is as important as its actual capabilities. As in the case of America's naval and tactical air forces, Washington has built a force of highly capable, sophisticated strategic delivery vehicles on the basis of the advice and decisions of leaders in the defense establishment, only to find many of those same individuals arguing that raw numbers in fact make the difference in perceptions, that perceptions are as important as real capabilities, and that we should therefore build these very expensive systems in numbers comparable to the numbers of less capable vehicles deployed by the Soviet Union.

Such arguments about the current or creeping inferiority of the United States vis-à-vis the Soviet Union are most frequently heard in connection with Pentagon efforts to obtain congressional approval and funding of American military forces, but the United States' declaratory posture before the world cannot be kept independent of such Congress-oriented statements. Examples abound in which American representatives have emphasized supposed inadequacies of the United States' strategic forces, an emphasis that may have the primary objective of persuading the administration, Congress, and public to increase or upgrade nuclear forces but that casts unnecessary and undesirable doubts on the ability of existing forces to deter strategic attack. For instance, behind the ABM debate of 1969, in which Pentagon officials argued that the Soviet Union's deployment of a MIRVed version of its heavy SS-9 ICBM would imperil the United States' assured destruction capability, lay the completely arbitrary and wrong-headed assumption that the small fraction (perhaps 10 percent) of American strategic warheads then targeted on Soviet population and industrial centers would not be increased if the threat to the survivability of the Minuteman force indeed developed. Instead of considering the changing of numbers on a sheet of paper to restore an adequate number of warheads to the assured destruction role in case the MIRVed SS-9 materialized, the Defense Department's response was to demand a large ABM system that in fact would have been inadequate against the threat

had the Soviet Union actually moved in the claimed direction. (Indeed, the Soviets have never tested MIRVs on an SS-9 missile; they have deployed only a few MIRVed SS-18 heavy missiles.)

Actually, the denigration of "deterrence" and the call for high-quality deterrence is very much an attack on a straw man. It is neither logical nor useful to suggest that existing Minuteman and Poseidon forces do not effectively deter the Soviet Union because "these forces are capable of nothing more selective than the death of 100 million Russians." President Nixon's plea that he and later Presidents should not be left with the sole option of massive retaliation against Soviet people and industry ignored the long-existing flexibility in the capabilities of American forces. And Secretary of Defense Schlesinger's argument that ICBMs are capable of knocking out hardened silos were essential to the United States' deterrent capability was an irrelevant and unresponsive answer to that ill-informed or misleading plea. While a silo-killing retaliatory strike might reduce Soviet ICBM capabilities that could otherwise be used to destroy American population and industry ("to save American lives rather than kill Soviet citizens"), having such a counterforce capability would pose a threat of preemptive strike to Soviet retaliatory forces and, therefore, undermine deterrence. Just as important, an emphasis on counterforce capabilities reduces the credibility of the American deterrent by showing a reluctance to do what is necessary to dissuade the Soviets from attacking. Whether an all-out Soviet nuclear attack on American cities comes out of the blue or is the result of Soviet escalation from lower-level American nuclear strikes, a nuclear response by the United States must be regarded as inevitable if deterrence is to work. It is harmful to suggest that a retaliatory response by the United States at that point would result only in dead Russians and not in more live Americans; such suggestions serve only to reduce unnecessarily the deterrent effect of America's nuclear weapons, as does the view that no American President could ever make the decision to use our strategic force in such a way.

By contrast, flexible targeting options are much more effective and less provocative than a silo-killing capability as a deterrent to limited nuclear attacks, and forces capable of carrying out such

options have been in existence for a long time. In the absence of ABM systems (as codified by the 1972 SALT Treaty), a single Minuteman warhead (or each of every three Minuteman MIRVs, or ten Poseidon MIRVs) has guaranteed access to its targets, whether they be cities or military supply compounds, barracks, defense industries in isolated communities, and the like. To insist on the difficult—that the first targets struck be defense plants or facilities in urban areas but that damage to civilians still be kept to a minimum—would suggest to Moscow that Washington is more inhibited in the use of its strategic capabilities than is really the case. If the United States' goal is credible deterrence of Soviet attack, then it makes no economic or strategic sense to announce that American targeting plans dictate using the first missiles against the most difficult targets. Within the context of flexible response, it is just as effective for the United States to attack those defense elements that can be more easily destroyed or, if low collateral damage is an American aim, those located in nonurban areas. But a goal of low collateral damage should not limit American retaliatory options to the extent that the credibility of deterrence is eroded.

As long as strategic nuclear weapons exist in the world in the hands of nations with aggressive intent or an evangelical ideology, the survival of an independent United States will depend on those nations' knowledge that a nuclear response by the United States, if not inevitable, is at least not precluded. It would be desirable if the doctrine and force structure recommended here for the United States were also adopted by the Soviet Union, but it would not be essential. The adoption of a Second Regime posture by the United States alone would modify the expectations and therefore the probable crisis behavior of the Soviet Union even in the absence of formal Soviet acceptance of the same force structure and declaratory posture.

### THE ROLE OF INTERNATIONAL AGREEMENTS

Although many of the benefits of a Second Regime to both sides can be obtained by either country's unilateral actions, the two nations are party to important bilateral and multilateral agree-

nents whose broadening would further contribute to the nations' future security and arms control interests. While unilateral initiatives would be sufficient for creating a stable physical and doctrinal posture for the recommended Second Regime, arms control agreements and the process of their negotiation are still important in that they can give the regime legitimacy. By providing symmetry of constraints, arms control agreements can reduce uncertainty about the other side's strategy. Formally codified restrictions may also be more effective than informal unilateral restraints in constraining political and bureaucratic pressures for more or more advanced weapons. In addition, in negotiating arms control agreements that increase the stability of the international environment, the nuclear powers set an example that can persuade other nations that their own courses of actions should be weighed (and would be weighed by others) in terms of their effect on the international system and not just on their neighbors or trading partners. There can be hazards as well as benefits to arms control agreements: some states (or bureaucratic forces within states) might seek to legitimate by agreement dangerous, costly, or irrational strategic postures; numerically symmetric constraints on forces may produce greater asymmetricities in force effectiveness or vulnerability than would asymmetric limits; the process of negotiation may be exploited for domestic political gain or, alternatively, be impeded by domestic politics to a greater extent than efforts to achieve unilateral action, thereby producing either unstable agreements or no agreements at all. But if these hazards can be avoided, bilateral arms control agreements will contribute to the stability of the Second Regime here prescribed.

Current and previous Soviet-American arms control agreements include the SALT I accords of 1972—the treaty banning antiballistic missile defenses and the Interim Agreement on Strategic Offensive Arms—and their still uncompleted successor, the SALT II agreement, which is to be based on the preliminary Vladivostok agreement of 1974, setting a limit of 2,400 on the strategic weapon launchers of each side, with a sublimit of 1,320 MIRVed launchers. In 1976, the two countries signed the Threshold Test Ban Treaty, fixing a limit of 150 kilotons on the

yield of underground nuclear weapons tests in designated test areas as well as on the yield of peaceful nuclear explosions (PNEs), requiring the exchange of very detailed information to permit the calibration of telescismic equipment to verify compliance with the yield limit, and providing for on-site inspection of PNE blasts. The Threshold Test Ban is actually a bilateral extension of the multilateral Limited Test Ban Treaty of 1963, banning atmospheric tests and permitting only those underground nuclear explosions that do not release into the atmosphere radioactivity detectable beyond national frontiers.

The most important multilateral treaty other than the Limited Test Ban is the Non-Proliferation Treaty (NPT) concluded in 1968 and in force since 1971. The NPT binds signatory nuclear powers not to transfer nuclear weapons and weapons technology to other powers and binds non-nuclear signatories not to acquire nuclear weapons. The NPT also commits nuclear states to help non-nuclear adherents with the peaceful application of nuclear energy, while establishing international safeguards to detect the clandestine transfer of peaceful nuclear materials to weapons programs.<sup>18</sup>

The breadth and detail of these bilateral and multilateral agreements set a precedent for negotiating more substantial arms reductions. The following types of agreements would be most useful in this Second Regime.

*A Ban on Silo-Killing Forces* A SALT II agreement between the United States and the Soviet Union may soon set a numerical ceiling on strategic nuclear weapons, providing a framework for subsequent reductions; it ought also to control nuclear-armed cruise missiles by restricting their deployment to aircraft, which

<sup>18</sup>Other, less significant nuclear arms control agreements include: the Antarctic Treaty of 1959, the Soviet-American "Hot Line" Agreement of 1963, the Outer Space Treaty of 1967, and the Seabed Arms Control Treaty of 1971. For a general analysis of the many different arms control accords, see *Arms Control and Disarmament Agreements*, U.S. Arms Control and Disarmament Agency, Washington, 1975.

would be counted among the 1,320 permissible MIRVed launchers.<sup>14</sup> Because of its high accuracy and ability to penetrate air defenses but its low speed, the long-range cruise missile is generally considered a second-strike system that would be part of the strategic retaliatory force. Although cruise missiles in themselves would not be effective silo killers if silos were well defended with short-range SAMs or other point-defense systems, it would make a mockery of the Vladivostok strategic force limits if there were no limits on the numbers of this new kind of strategic nuclear weapon. Therefore, limiting cruise missile deployments to aircraft—as a means of ensuring the offensive capability of the strategic bomber force—would be a positive first step toward a Second Regime.

It would also be desirable to seek in the SALT negotiations a political agreement expanding on the ABM treaty, by which the United States and the Soviet Union would agree neither to build nor to lay the base for any form of ballistic missile defense of their national territory. A similar treaty codifying a commitment not to build forces that threaten the survival of the other side's strategic offensive forces would provide a basis for considerable reductions in numbers of weapons on both sides and a slowing or reversal of their qualitative improvement. Appropriately structured, such a treaty could make management of the Soviet-American strategic balance more independent of vagaries in day-to-day relations between the two rivals. The following three agreements could be elements of this treaty banning counterforce systems.

<sup>14</sup>Deploying nuclear-armed sea-launched cruise missiles (SLCMs) on submarines and surface ships would provide nothing more than a marginal improvement in the strategic capabilities of the sea-based arm of the deterrent triad. Nuclear air-launched cruise missiles (ALCMs), however, would eliminate the need for costly penetrating bombers such as the B-1, since simpler standoff aircraft, including the older B-52, could launch the low-flying, hard-to-shoot down missiles against strategic targets without entering Soviet air space. Since ALCMs could be deployed in groups of 20 on B-52s and in larger numbers on converted transport planes, it is logical to include under the MIRV ceiling all cruise-missile-bearing aircraft.

LIMITATIONS ON MISSILE TEST RATES Long-standing concerns regarding vulnerability of Minuteman to Soviet ICBM attack, the existence of the bomber and submarine elements of the strategic triad notwithstanding, have increased recently with the MIRVing of some Soviet ICBMs. A MIRVed force with sufficient accuracy and reliability could be used by either side to destroy the opponent's ICBM silos (although the missiles themselves need not wait in their silos to be destroyed), thereby raising fears of preemptive attack and forcing the adoption of potentially dangerous launch-on-warning strategies to protect vulnerable retaliatory forces.<sup>15</sup>

Without explicitly eliminating MIRVs, one could reduce the fear of a countersilo capability by reducing the rate of missile testing. An agreement to limit the United States and the Soviet Union to, say, ten missile tests per year would slow the development of more accurate and more reliable systems. Less able to test its new systems, each nation would have less confidence in the reliability of its individual missiles, especially since very high reliability is required for silo attack, without reducing the perceived reliability of the force for conducting a more general attack on conventional military and assured destruction targets. Such a test limitation would also retard weapons development in that it would pit demands for test firings of new weapons against the desire to use the few permitted tests to increase confidence in already deployed systems. A total prohibition of MIRV testing could retain its existing MIRVed force, but would not be permitted to test its reliability or that of improved versions and would be discouraged from making such improvements. A ban on MIRV testing could reinforce the effectiveness of a possible eventual agreement to de-MIRV existing missile forces: a MIRVed force untested for many years would hardly be as attractive as a thoroughly tested single-warhead force.

<sup>15</sup>Launch-on-warning options that would be less dangerous have been proposed on pp. 96-97. Nothing should be done to preclude the adoption of launch-on-warning strategies (when believed necessary) if these can be made as safe as possible—e.g., "launch-on-reliable detection" (LORD).

General test limitations such as these, by allaying fears of ICBM vulnerability, would lay the basis for reductions in the size of both sides' strategic forces or at least for the transfer of a portion of those forces to a strategic reserve.<sup>16</sup> More specific test restrictions would serve further to prevent the achievement of a silo-killing capability on either side.

A BAN ON TESTING OF LOW-DRAG OR MANEUVERING REENTRY VEHICLES Land-based ICBMs in fixed silos are vulnerable to a comparable number of ICBMs on the other side only if the latter are MIRVed (so that one ICBM can potentially destroy several ICBM silos). But MIRVs cannot do the job unless they are accurate, and sufficient accuracy in the face of variable winds and atmospheric density can be achieved only with low-drag and atmospheric conditions.<sup>17</sup> or ones that can maneuver to compensate for atmospheric conditions. Therefore, prohibiting all tests of such vehicles would be useful in preventing the achievement of a silo-killing capability.

If all ICBM testing were restricted to designated reentry areas by Soviet-American agreement, it would be relatively easy to verify that no low-drag reentry vehicles were ever tested and that there was no maneuvering on the part of tested high-drag vehicles. Additional agreements could be reached, verifiable by "national technical means," to guarantee that no low-drag or maneuvering high-drag reentry vehicles were tested in other locations or without being launched out of the atmosphere, for example, by airdrop.

MIRVed forces with high-drag reentry vehicles would still retain great military utility. Their ability to penetrate possible future (clandestine) ABM systems could be assured by the use of saturation tactics and high-drag decoys. The temptation to deploy ABMs which would be created by the elimination of low-drag and maneuverable reentry vehicles could be reduced by creating provisions in the test ban treaty for storing the present low-drag

<sup>16</sup>See pp. 98-101.

<sup>17</sup>A low-drag reentry vehicle is one that is aerodynamically designed to penetrate the atmosphere without losing much speed and thus is not greatly influenced by winds or unexpected levels and variations of atmospheric density.

reentry vehicles rather than destroying them; these could be tested and redeployed within a year or two if the ABM treaty were abrogated.

An ancillary part of an agreement prohibiting low-drag and maneuverable reentry vehicle testing could be an extension of the SALT I ban on the upgrading of SAM systems which might give them some capability of defending against the lower, high-drag reentry vehicles. Another possible agreement might even require that the drag of reentry vehicles increase in proportion to their weight, so as to make the most powerful reentry vehicles, that is, those with the highest explosive yield, the least accurate and thus prevent their use in killing silos.

A BAN ON SLBM TESTS IN DEPRESSED TRAJECTORY By moving a ballistic missile submarine closer to its target than the maximum range of its missiles, but by firing the missiles to full velocity at a lower angle of elevation, higher average speed and shorter travel time can be obtained, although at some cost in accuracy and increased heating of the reentry vehicle. Having such a capability would enable one side to hit a large fraction of the other's strategic bombers on the ground before they could take off in response to radar warning. Therefore, such a capability would be destabilizing and should be avoided. Neither the United States nor the Soviet Union has ever tested an SLBM in a depressed trajectory mode; a ban on such testing should be formalized in an agreement to ensure the invulnerability of land-based bombers.

*A Limitation on Strategic Antisubmarine Warfare* Consonant with the goal of eliminating threats to the prelaunch survivability of offensive forces would be a limitation on strategic antisubmarine warfare (ASW) capabilities, deployments, and activities. Unfortunately, there is no clear distinction in means employed between antisubmarine warfare against strategic submarines and that against tactical (antiship or ASW) submarines. Consequently, some limitations on strategic antisubmarine warfare may lead to an undesirable constriction of traditional naval capabilities. Nevertheless, since ensuring the invulnerability of strategic forces is essential to the security of both the United States and the

viet Union, implementing one of the following two proposals would be desirable. The first of the two is the more feasible and could be pursued in forthcoming rounds of SALT.

The two superpowers could agree to ban active trailing of each other's strategic submarines (that is, the use of active sonar, lasers, and the like which would enable submarines or other vessels to tag along at close range with missile-launching submarines). Ballistic-missile-launching submarines have special hatches and other distinguishing features that can be detected by appropriate close-in sensors. Passive sonars (that is, those that do not transmit sound energy) would not be restricted, since their use in trailing can be more readily countered. The effect of such a ban would be to eliminate fear that a specially built fleet of active trailers could make a preemptive attack on the SLBM fleet—the one anti-SLBM measure that is technically feasible now.<sup>18</sup>

A second way to protect the sea-based deterrent would be formally to establish sanctuaries of substantial size (several hundred miles square) in which all forms of antisubmarine warfare would be banned and the SLBM submarines left undisturbed. Limiting such regions to the Arctic Ocean, geographically close to both superpowers' homelands, could eliminate the necessity of providing guarantees of innocent passage to and from the sanctuary areas. Alternatively, agreement could be reached to ensure, in times of tension or even non-nuclear war, safe transit or unopposed escort for SLBM submarines passing through ASW barriers to the sanctuaries.

*A Comprehensive Nuclear Weapons Test Ban* The dozens of underground nuclear tests conducted annually by the United

States are, of course, numerous nontechnical counters to such ASW capabilities; for example, the missile-bearing submarine could run for miles within its own territorial waters, into which the enemy trailer would not dare penetrate. Or measures could be taken to make it very difficult for waiting trailers to acquire active sonar contact, as by having several submarines emerge from port simultaneously.

States and the Soviet Union serve, if not as the cause, at least as an excuse for complaints by non-nuclear-weapons states and for their refusal to support the nonproliferation policies of the superpowers. Soviet tests also raise concerns on the part of some observers in the United States that Moscow may be making progress in nuclear weapons that could in some way destabilize the strategic balance, and the tests thus fuel Washington's competitive response. A comprehensive test ban could in small measure reduce the impetus of the Soviet-American arms competition and could play an even more important role in enabling these two nations and their allies to take a firmer stand against the acquisition of nuclear weapons by other states.

One of the chief obstacles in recent years to a comprehensive test ban has been the enthusiasm of some Soviet technologists for peaceful nuclear explosions. They hope to use PNEs in performing the massive excavation required to reverse the flow of the Pechora River in order to provide needed irrigation water and to revitalize the Caspian Sea. Soviet enthusiasm was maintained at a time when enthusiasm and support for peaceful nuclear explosions were declining in the United States, and even as it became clear that it would be impossible to carry out extensive excavation without violating the requirements of the Limited Test Ban Treaty barring explosions that vent radioactivity into the atmosphere. But the recent signing by Moscow of the Threshold Test Ban Treaty, with its provisions limiting peaceful nuclear explosions, suggests that the Soviets are at least taking a more reasoned view of the worth of PNEs, and this development opens the way to consideration of a comprehensive test ban. No substantial delay is required or justified; accession to a comprehensive test ban by 1978 would not significantly affect the military capabilities of the United States or the Soviet Union, but it would provide a basis for both to adopt a strong nonproliferation posture, perhaps extending to the imposition of joint or parallel sanctions against states that initiate testing of nuclear explosives. The treaty could be made subject to reevaluation and possible modification 15 or 20 years after going into force, to take into account the possibility that peaceful nuclear explosions may become more feasible and beneficial in the future. Because of its utility in retarding the

Soviet-American arms race and in discouraging nuclear proliferation, a comprehensive test ban signed only by the United States, the Soviet Union, and perhaps one or two other nuclear powers would be useful even if the last nuclear weapons state refused to sign or put off its signing for, say, 10 years, during which it continued testing to "catch up" with the superpowers. Substantial efforts, however, would have to be made toward achieving universal adherence by that time if the treaty were not to break down.

*No-Use against Non-Nuclear Weapons States* A commitment by nuclear weapons states not to use nuclear weapons against non-nuclear-weapons states, insofar as it was regarded as binding, would discourage the acquisition of nuclear weapons by the non-nuclear states, since to acquire nuclear weapons would be to forfeit the protection of the treaty. The strength of this disincentive, of course, would be limited, depending on the degree to which non-nuclear states believed the treaty to be regarded by nuclear states simply as a convenience, to be abrogated or ignored at some future time. A formal international agreement might engender greater confidence on the part of non-nuclear states than would a unilateral declaration, but it would not remove all doubts. In addition, the strength of the disincentive would also be reduced if nations perceived the United States and other nuclear states as highly unlikely to use nuclear weapons first even against nuclear powers. While logically it might seem that a treaty on nonuse of nuclear weapons against non-nuclear-weapons states would be the most effective in countering proliferation if it were accompanied by a declared policy of first use against nuclear states, such an extreme corollary would hardly entail "lesser dependence on nuclear weapons" and is therefore not part of the recommended Second Regime.

In addition to discouraging proliferation, a treaty on nonuse against non-nuclear states would also serve to reduce somewhat the likelihood of nuclear weapons being used in a regional context. Moreover, the intimidating effect of nuclear weapons vis-à-vis non-nuclear neighboring states would be reduced if the nuclear state subscribed to a strong no-use agreement.

But there are problems in defining a "non-nuclear state." One possibility is to restrict the category of non-nuclear states to those that have ratified the NPT and are not nuclear weapons states. But if the Soviet Union and its Warsaw Pact allies invaded West Germany, could NATO use nuclear weapons against these invading forces within West Germany? Could such weapons be used against the forces in East Germany or in Poland or only against forces in the Soviet Union, thereby making a Soviet-American strategic exchange more likely? Alternatively, could American nuclear weapons be used against Chinese armies in North Korea, in the context of a massive Chinese-North Korean invasion of South Korea? So that such ambiguous situations would be avoided, I advocate that the policy be one of no-use of nuclear weapons against states that do not have their own nuclear weapons and do not have others' nuclear weapons on their territory. This policy would encourage the removal of Soviet and American nuclear weapons from the territory of other states; in this regard, it is consistent with the recommended reduction of American and Allied dependence on tactical nuclear weapons.

*A General No-First-Use Policy?* An international arms control agreement that would formally codify a general policy not to use nuclear weapons against any state, except in response to nuclear attack, would be less desirable under the Second Regime than the limited no-use posture just discussed. Less general forms of no-first-use agreements<sup>19</sup>—such as ones limited to a geographical region or to opponents also subscribing to a no-first-use policy—would also be counterproductive. The problem is not of verification; if another nation uses nuclear weapons, this will be known. But unlike many arms control agreements, abrogation or violation of a no-first-use pledge can have very serious and immediate consequences. While it may be potentially useful for a nation to subscribe to a no-first-use policy under some circumstances (specifically, for the United States to announce such

<sup>19</sup>For an analysis of several possible types of no-first-use arrangements, see Richard H. Ullman, "No First Use of Nuclear Weapons," *Foreign Affairs*, vol. 50, no. 4, July 1972, pp. 669-683.

a policy vis-à-vis China),<sup>20</sup> a broader, more inclusive no-first-use agreement would not have the same effect in stopping nuclear proliferation as would an accord on no-first-use with respect only to non-nuclear states, since going nuclear would no longer expose a nation to new risks. Indeed, since tactical and forward-based nuclear weapons would not be present in the prescribed Second Regime, a no-first-use policy would prevail de facto. The United States can make known its intention to use nuclear weapons only in response to others' nuclear weapons without signing a formal agreement that would eliminate first use as even an extreme option, and therefore without reducing the uncertainty regarding American strategy that deters Soviet conventional aggression in Europe.<sup>21</sup>

*Nuclear Weapons for Use by Non-Nuclear States* In 1975, Alton Frye suggested a novel approach to curbing nuclear proliferation.<sup>22</sup> He proposed that nuclear powers individually or jointly guarantee that in the case of nuclear attack on a non-nuclear state, this state would be given immediate access to nuclear weapons for retaliation in numbers and megatonnage comparable to those used against it. Therefore, the non-nuclear state would have no need to acquire its own nuclear weapons, for it would have the superpowers' arsenals both as a deterrent to nuclear attack by an adversary and as a retaliatory force if the surrogate deterrent failed. In requiring that non-nuclear weapons states depend on surrogate nuclear weapons, this proposal might seem to run counter to the lesser role for nuclear weapons integral to a Second Regime. But the guarantee proposed here would be one of such a form that the state guaranteed would have little or no detailed contact with, or planning for, nuclear weapons or their delivery. The Frye proposal—by extending the superpowers' nuclear de-

<sup>20</sup>In this case, a bilateral no-first-use agreement could be tied to a Chinese undertaking not to deploy ICBMs or to other, more political considerations.

<sup>21</sup>See pp. 114-116.

<sup>22</sup>For a more complete exposition of his scheme, see his article, "How to Ban the Bomb: Sell It," *New York Times Magazine*, January 11, 1976, pp. 11, 76-79. (As is customary, the article's title was supplied by the magazine, not by the author.)

terrence to non-nuclear states and thereby reducing the military and power-political utility of nuclear weapons in regional contexts—would inhibit both the use and the spread of these weapons and would therefore be consistent with the principles of a Second Regime.

Most comments on the Frye proposal have ignored its dual utility, concentrating on its effectiveness in deterring the use of nuclear weapons rather than on its influence in preventing the acquisition of these weapons. The deterrent to the use of nuclear weapons is of course significant, in that a nuclear weapons state could no longer attack a non-nuclear state with impunity. But more important is the fact that a non-nuclear state, by acquiring nuclear weapons, would immediately lose that access to advanced retaliatory nuclear weapons which it was guaranteed before abandoning its non-nuclear status. This loss would be a very major penalty for a first peaceful nuclear explosion; the fear of losing the surrogate nuclear umbrella would undoubtedly be a stronger disincentive to the development of a nuclear explosive capability than would the high cost of a weapons program.

The Frye proposal has aroused criticism and disdain in about equal measure, and there would be obvious political and technical difficulties in implementing it, beyond the problems of defining a non-nuclear state and distinguishing among those who may have been responsible for the nuclear attack. For instance, it must be decided whether or not the non-nuclear states should provide their own delivery systems for the surrogate nuclear weapons. To have many non-nuclear states of the world testing nuclear weapons delivery systems would be only marginally compatible with the aim of lesser dependence on nuclear weapons. Possession of effective nuclear weapons delivery systems might create new incentives to acquire the weapons themselves—an outcome opposite to that sought by the Frye proposal—and should therefore be avoided.

A more attractive alternative would be for the two major nuclear weapons states to maintain some of their ICBMs in support of their guarantee to non-nuclear states and to target them accordingly to the request of non-nuclear victims of nuclear attack. Unfortunately, highly MIRVed ICBMs would be of little utility in this

role, and 10-megaton warheads seem excessive as well. Ten or twenty Minuteman I missiles (or SS-11 or SS-13 missiles on the Soviet side) could be fitted with a stock explosive of lower yield—say 10 kilotons—as such a guarantor force. In the longer term, considering the modest number of nuclear weapons likely to be needed for retaliation on behalf of non-nuclear states, it would be useful for each of the two major nuclear powers to build a force of, say, 100 small ICBMs, each weighing 10,000 pounds and carrying a single nuclear warhead with selectable yield of 10, 30, and 100 kilotons. Such forces, although on national territory, could conceivably be supervised by a transnational group; such supervision (e.g., processing of pleas for weapons to be delivered according to the pledge) would help guarantee that retaliatory nuclear weapons were released to all non-nuclear victims of nuclear attack, be they friend or foe of the provider of the nuclear weapons. These extra weapons could even replace an equal number of larger ICBMs under the SALT II ceiling, thereby achieving some modest reduction in overall nuclear force levels while providing a more practical tool for carrying out the guarantee of nuclear weapons in support of non-nuclear states attacked with nuclear weapons.

#### FOUR

### Political and Military Utility to the United States of the Second Regime

The Second Regime just described would be a posture of restraint—one in which the United States in particular would continue to possess nuclear weapons in a dangerous world but would seek above all to nullify the importance not of its own weapons alone, but of nuclear weapons everywhere. Thus its nuclear weapons would not only protect the United States against destruction by the Soviet Union, they would also help protect other, even nonaligned, if non-nuclear, nations against nuclear attack. Continued United States retention of strategic nuclear weapons would become much more acceptable to many nations. The recommended posture could be achieved by the United States acting alone. By limiting expenditures on its strategic force and limiting the scope of what that force need and can do, the United States would be able to avoid buying excess insurance for a very narrow aspect of its national security. Such excessive emphasis would lead to reduced security and also give the false impression to the world's less favored nations that the United States felt it had an exclusive right to protect itself against the threat of nuclear destruction. Reduced expenditures of human and material resources on strategic systems might facilitate the achievement of other American goals in both domestic and foreign policy. Even more important to the attainment of this end would be the introduction of a philosophy of purpose and a sense of proportion in the strategic sphere.

Having indicated above what nuclear and non-nuclear forces

would be required of the United States in this Second Regime and what posture should be taken regarding their use, we may ask how well it all works.

### PERFORMANCE OF THE REGIME IN WESTERN CONFRONTATION AND ALLIANCE RELATIONSHIPS

In 1977, NATO military leaders seem generally persuaded that the enormous waste of resources associated with the lack of standardization in weapons production should be curtailed, that national logistic support forces should be replaced by theater forces, and that a great increase in theater force effectiveness could be achieved through new organization and a proper introduction of new technology: precision-guided munitions and perhaps cruise missiles. But little has actually been done in these crucial areas because of a lack of agreement on how to go about achieving these goals. Therefore, it is necessary to summarize here how the recommended Second Regime might work in various circumstances, in order to foster the consensus required for its implementation.

NATO remains a military alliance whose forces are intended to prevent a successful Soviet or Warsaw Pact invasion of Western Europe. During periods in which NATO's non-nuclear capabilities and readiness were not clearly adequate to repel, and therefore, deter, a Warsaw Pact invasion, NATO has relied on American-supplied tactical nuclear weapons. (Although in wartime some British and more recently some French nuclear weapons would also be employed.) While no consistent doctrine for the use of these weapons has been formulated, NATO has been reasonably confident that the losses to the Warsaw Pact resulting from the use by NATO of its theater nuclear weapons, or from the use of American forward-based and strategic nuclear forces, would far outweigh the gains to the Warsaw Pact from an invasion of NATO territory.

Although the wealth, workforce, and technology of NATO countries are adequate to support a conventional force capable of defeating Warsaw Pact forces in conventional military combat,

Western economic competition and other aspects of intra-alliance relations have led the NATO countries to prefer dependence on nuclear weapons to deter conventional aggression. But an equally effective and perhaps more credible way to deter a conventional invasion would be to show its military infeasibility; the conventional forces prescribed above would give NATO an additional layer of deterrence. A nuclear deterrent would still remain to NATO if the conventional deterrent failed, but improving NATO's ability to stop the invasion by actual use of its non-nuclear forces would make a nuclear response—the use of United States-based strategic nuclear weapons under the proposed share-release arrangements—an option of last resort rather than the only real option.

Some critics object that giving NATO a highly effective anti-tank force, one capable of stopping a Soviet invasion without the use of nuclear weapons, would lead to Soviet nuclear attack on NATO rear areas and cities. But this objection ignores the capability of the Soviet Union to take that step in any case and the fact that it is deterred from doing so (now) by the NATO ministerial force of forward-based systems and (in the proposed Second Regime) by the United States-based strategic arsenal. To opt for a weak conventional defense so that the Soviet Union may win on the battlefield without having to resort to nuclear weapons is no solution to the problem.

The replacement of NATO's theater nuclear weapons by advanced non-nuclear forces would not be a concession to the Soviet Union or to budget cutters but a means of improving NATO's deterrent and war-fighting posture. NATO's present flexible response strategy carries with it the danger of unwanted escalation to strategic exchange—a deterrent to Soviet aggression, perhaps, but a serious problem to NATO once conventional forces were actually engaged in combat. Moreover, nuclear weapons in the European theater are vulnerable to capture or preemptive destruction and so should not be relied upon exclusively. One may well believe that the United States involvement is guaranteed more by the presence of American troops in Western Europe (which would be retained under the Second Regime) than by the possibility of Soviet capture of American tactical

nuclear weapons. Finally, aircraft capable of delivering both conventional and nuclear weapons ought not be risked in their conventional role if their nuclear capability is not to be lost; the precision-guided cruise missile of 600-mile range would be a highly capable replacement for more expensive and vulnerable fighter-bombers in performing some conventional missions.

### PERFORMANCE OF THE REGIME WITH RESPECT TO NON-NUCLEAR STATES

A central element of the proposed Second Regime would be the principle of no use of nuclear weapons against non-nuclear states that have no nuclear weapons on their territory. Since a nation's acquisition of nuclear weapons would entail the forfeiture of the guarantee under this principle, the regime should help prevent both the use and the acquisition of nuclear weapons in currently non-nuclear regions. And it would also prevent the nuclear involvement of the superpowers in conventional wars between their respective allies. For example, if North Korea attacked South Korea without the participation of nuclear-armed Chinese or Soviet troops, American help to South Korea would have to be limited to conventional weapons, with or without American troops. In such circumstances, it is hardly conceivable that nuclear weapons would be either necessary or useful anyway, so the recommended regime cannot be said to undermine security guarantees between nuclear and non-nuclear powers. Should the Chinese or Soviets aid the North Koreans by deploying troops with nuclear weapons on North Korean territory, the policy of no-use against non-nuclear states would no longer constrain the United States, just as the dispatching of American troops with nuclear weapons to South Korea would vitiate any Soviet no-use pledge. Even in these circumstances, the actual use of nuclear weapons by either side would probably still be deterred by a reluctance to be the first country since 1945 to use nuclear weapons and by the fear of nuclear response by nuclear powers allied with the other side. But a formal policy of no-use of nuclear weapons against states with no nuclear weapons on their territory

would be a more reliable guarantee than no nuclear weapons were even introduced, much less used, in Korea.

Perhaps more interesting is the prescribed Second Regime's effectiveness in stopping the spread of nuclear weapons. Prior to testing its first nuclear weapon, a non-nuclear nation would be secure against nuclear attack by the major nuclear powers in view of their policy of no-use against non-nuclear states. It would also have available to it advanced American and Soviet nuclear weapons for retaliation to a nuclear attack on its territory by any other nuclear power if the Frye proposal were implemented and institutionalized. But if unrelieved security concerns or a desire for nuclear-weapons status impelled it to construct and test a nuclear weapon, the nation would no longer benefit from the superpowers' no-use pledge, and it would no longer have available to it on demand modern nuclear weapons for retaliation to a nuclear attack either by a neighbor or by one of the superpowers.

In other words, the country's national security would be reduced if it were to obtain nuclear weapons. Whether or not the protection should be restored if the country subsequently renounced its nuclear weapons would be a matter of policy choice, as would the question of whether the United States and the Soviet Union should take additional measures—such as economic or political sanctions—to ensure that proliferants suffer in peacetime as well as in wartime. In any case, the proposed Second Regime would have a strong antiproliferative impact.

## FIVE

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**Paths to the Second Regime**

Although its benefits would be enhanced by international arms limitation agreements, the prescribed Second Regime, as has been stressed above, could be achieved largely by actions of the United States (or the Soviet Union) alone. What would happen if Administration and Congress became simultaneously convinced of the desirability of such a Regime?

First, the United States would take the recommended unilateral actions, which would serve equally well in the First Regime as in the Second. Doing this would entail more rational and less wasteful attitudes toward national defense. Of immediate utility would be the introduction of elementary point defenses for the short-term protection of potentially vulnerable Minuteman ICBMs, replacement of the B-1 bomber program with deployments of cruise missiles on cargo-type aircraft giving a less vulnerable and more capable force, and cancellation of the Trident submarine program while the long-range Trident I missiles were being retrofitted onto Poseidon submarines to enlarge the older ships' operating range and, hence, reduce their vulnerability to Soviet ant submarine warfare efforts.<sup>28</sup> Together, these three actions would guarantee the survivability of all three arms of the American deterrent triad even if the present escalatory trends in Soviet strategic programs accelerate. If the Soviets do, in fact,

<sup>28</sup>The Trident submarines (not the Trident missiles)—aside from their excessive cost—would not necessarily increase the invulnerability of the sea-based deterrent. Because Tridents carry 24 rather than 16 SLBMs, fewer Tridents

develop a silo-killing capability, the further unilateral American responses recommended above could be undertaken.<sup>24</sup>

While unilateral actions would suffice in protecting the American deterrent, the Strategic Arms Limitations Talks with the Soviet Union should still be continued, since international arms control agreements would enhance both the stability and legitimacy of the Second Regime. Republican and Democratic leaders should not allow SALT to be used as domestic political capital, but rather they should give SALT the high priority that national security concerns and limited budgetary resources warrant. Early objectives of the talks should include obtaining a formal agreement codifying the principle of not threatening the strategic offensive force of the other side and negotiating a limitation on missile test rates, with a complete ban on MIRV tests. A comprehensive nuclear test ban could also be negotiated in SALT and then made available for accession by other nations.

In Europe, American tactical nuclear weapons would be withdrawn, to be compensated for by an aggressive program of modernizing NATO's non-nuclear capabilities, with greater reliance on tactical cruise missiles, land and sea mines, theater surveillance, and advanced command and control capabilities. Strategic nuclear weapons based in the United States, with flexible targeting options and shared-release authority, would stand as last resort support for the conventional forces in place of American tactical and forward-based nuclear weapons. Major changes in organization and staffing would be required for efficient use of the new capabilities.

than Poseidons could be deployed, assuming SALT ceilings on strategic weapons launchers remained in force, and the detection and destruction of a single larger Trident by the Soviet ASW fleet would mean a 50 percent greater reduction in United States strategic forces than would the destruction of one Poseidon or Polaris.

\*Greater reliance on the bomber and submarine-based deterrents; deployment of rapid-start capabilities for strategic bombers; deployment of in-flight command arm/disarm capabilities on Minuteman to permit a launch-on-warning strategy; replacement of the MIRVed ICBM force with a large force of smaller, single-warhead ICBMs; etc. See pp. 95-98.

Having itself decided that such a course would be preferable to a continuation of NATO's present posture, the United States would have to persuade the other members of the alliance. A concrete display of the American determination to do more than compensate with advanced conventional forces the withdrawal of its tactical nuclear weapons would be key to convincing the Western Europeans that the United States was no less committed to European security than in the past. With only promises, the Europeans might decide to depend more heavily on their own nuclear weapons to bolster deterrence against Soviet provocation. With positive evidence of continued United States commitment, the Europeans would be inclined to follow the lead of their ally in developing adequate conventional defense for NATO.

Offsetting the costs of preparing for conventional defense and another possible incentive to acceptance of the American view would be the opportunity for increased weapons development and manufacture in the individual NATO countries which a major reorganization and reequipment program would provide. Such a program could promote the long overdue standardization of weapons production within the alliance through competition for NATO-wide supply; standardization would have a purpose, rather than being a make-work scheme. A coherent American plan for a Second Regime posture may be just what is required to restore direction and military capability to NATO. Building a modern force with a new, more rational purpose would provide an opportunity to revitalize an alliance that has been suffering from political disunity, military inefficiency, and a sense of irrelevance. Would the Soviet Union exercise similar restraint in response to American initiatives? Would it join in the proposed agreements? I believe it would, because it is in the Soviets' national security interest to do so. The Second Regime prescribed here would put an end to the situation in which the United States has of American technical virtuosity—whereby the United States repeatedly gained putative "advantages" in strategic capabilities (silo launch, undersea launch, multiple reentry vehicles, MIRVs; strategic cruise missiles; flexible, miniaturized digital computers for missile guidance, etc.)—has compelled the Soviets to follow suit, at a tremendous cost to the strained Soviet economy, with

this imitation by the Soviets, in turn, spurring some in the United States to urge further improvements because the Soviet Union is "catching up." A consistent American policy of restraint would strengthen the hands of those in the Soviet bureaucracy arguing for a similar rationalization of Soviet strategic programs and, perhaps, of those advocating reductions in Warsaw Pact forces.<sup>25</sup> But it is important that the Soviet Union join in the proposed agreements for reasons of national security and not because it is offered incentives—economic, political, or otherwise—outside SALT. No such incentives can be as persuasive as true national security interests; they only complicate the negotiating process and induce delay while one side tries to obtain more and the other to give less on these non-security-related incentives.<sup>26</sup>

How ought the United States respond should the Soviet Union, for reasons of its own, choose to build what are, in Washington's opinion, excessive forces? The United States government should patiently explain to its citizens, its allies, and the rest of the world that there is no way it can keep a sovereign nation from wasting its resources, that the sensible American response is simply to maintain its own ability to fulfill the imperatives of its chosen doctrine of deterrence (which does not depend on the size of the Soviet strategic force), and that instead of a wasteful counter build-up, the United States is employing its limited resources to maintain its usable military strength, to build its society, to help and protect its allies, and to assist friendly, less-developed nations in solving their internal problems.

The only circumstances under which the United States should

<sup>25</sup>Admittedly, it is probably quixotic to expect Warsaw Pact reductions at a time of a conventional build-up in NATO. In any case, the Warsaw Pact forces' internal security function in Eastern Europe would likely prevent substantial reductions there.

<sup>26</sup>In particular, the question of trade advantages and credits for the Soviet Union should not be made contingent on progress in the SALT negotiations. The Soviet Union should be treated like any other wealthy advanced nation, with commerce left to suitably regulated private business firms on the American side. United States government supervision would be required to ensure that the overt monopoly power of the unified Soviet governmental and commercial sectors was appropriately limited and that strategically sensitive goods were not exported.

abandon a Second Regime posture would be the deployment by the Soviets of ABM systems of such advanced design and in such numbers that the Soviets could repel any attack by the American strategic offensive force. But no ABM system with this capability is known or anticipated, and the 1972 ABM treaty commits the United States and the Soviet Union not to deploy such a system in any case. Moreover, even if an effective ABM technology should emerge, it would be naïve to believe that one side could maintain a monopoly on such technology. Ultimately, there is nothing in the dynamics of Soviet American relations to compel the two nations to perfect and deploy such systems, since they would destroy the stability of whatever nuclear regime prevailed without offering offsetting benefits.

#### BUILDING SUPPORT FOR A SECOND REGIME

*Domestic Sources of Legitimacy.* It is almost a truism that foreign policy, diplomacy, and military activity are supported by the citizenry if they are recognized as being in the national interest. Particular policies or activities could be so recognized either directly (when they are simple and their contribution to the national defense is obvious and strong) or indirectly (through citizen support for public officials rather than for their policies *per se*). In setting a criterion for legitimacy in a democracy, one could require support for policies by:

1. Average citizens who are not well informed and who have not given much thought to the subject
2. Average citizens, if they would take the time to study the publicly available information on the subject
3. Average citizens if they were given the opportunity to study not only the publicly available information but also secret information pertinent to the decision
4. Only by those professionally trained to deal with the subject

The breadth of popular acceptance required to sustain policy

varies from one political system to the next. In a democracy such as the United States, planning for and authorization of most governmental activities must have fairly broad support; a policy can be considered legitimate if it is accepted by citizens in category 2 or at least category 3. A policy approved only by those professionals in category 4 would not generally enjoy legitimacy. In more centralized, elite-dominated political systems such as those of France or the Soviet Union, support from category 4 has been regarded as a sufficient source of legitimacy.

Over the years there have been demands in the United States that the criterion for legitimacy be raised to category 1, i.e., that a policy must be supported by a majority of citizens, including the uninformed. But it is clear that a complex modern society must rely on a specialization of function, if not of training. It is not possible for every citizen, even the most dedicated and intelligent, to vote on every decision important to the nation; he or she would have no time to understand all the issues. In our representative government, citizens elect to Congress individuals who do not necessarily have the relevant background to address every issue, but who can, through an apportionment of responsibilities, concentrate on an acceptable number of issues; if these elected individuals are truly representative (even randomly chosen, acting with responsibility delegated by their constituents), then complex policies can be regarded as legitimate under category 2 or 3, depending on the degree of access to secret information given responsible Congressional committees. Thus, a representative democracy provides a mechanism to ensure that only those policies will be adopted that would enjoy the support of the majority of ordinary citizens, if they were provided with the relevant information.<sup>27</sup>

*Global Sources of Legitimacy* Although most of the actions

<sup>27</sup>Lacking specialized training, as do the highest officials in the Executive branch, representatives benefit from access to specialists of varying views on a given policy—i.e., consultants with immediate access to classified information. The support by representatives for that policy must, of course, be based on their evaluation of the validity of statements by these specialists and technicians.

advocated here for maximizing American security can be taken by the United States unilaterally, the endurance of the proposed Second Regime depends on the actions of others, particularly with regard to nuclear proliferation. Many people and nations in the world wish the United States ill; they cannot all be won to America's ideology, let alone to America's support. But others can and will support American actions that advance the goals of order, justice, and equity of opportunity in an imperfect (but improving) world. Halting nuclear proliferation would further these goals, and it is for this reason—in addition to improving American security directly—that the prescribed regime would downgrade the importance of nuclear weapons in international life. A Second Regime would make it clearly to the advantage of non-nuclear states not to acquire nuclear weapons. Most nations would come to see the United States and the Soviet Union as antagonists whose declining stocks of nuclear weapons were a burden they bore, somewhat unwillingly, for the benefit of the rest of the world, putting their nuclear weapons at the disposal of others to deter nuclear attack, but not using them to defend against non-nuclear attack or to coerce non-nuclear nations.

It is reasonable to expect that a rational, measured American effort to delimit the role of nuclear weapons within the existing system would earn support from the majority of the nations of the world. Since it would be possible and desirable for the United States to move toward the prescribed Second Regime largely through its own actions, it would be inappropriate to make the achievement of successive SALT agreements with the Soviet Union a prerequisite to American actions to rationalize its defense programs and policies. The development and deployment of "bargaining chips" for the SALT negotiations is therefore undesirable because they can weaken American security, will increase defense costs, and may make the United States more vulnerable to manipulation by Soviet bargaining tactics in SALT. Attending to American defense needs and using the recommended Second Regime posture as a framework for modernizing and rationalizing NATO would seem to constitute a good foundation for progress in SALT, and better insurance against the failure of SALT than

the threat of massive expenditures. The Soviet Union has no reason to fear such massive expenditures, because it can certainly match them, given the nature of the Soviet political system.

### BASES FOR COMPARISON OF THIS SECOND REGIME WITH THE FIRST AND THIRD REGIMES

American evaluation of the desirability of alternative nuclear regimes for the 1980s should be done on the basis of the following criteria:

- The security a given regime provides to the United States (the principal agent in shaping the nuclear future)
- The stability of the regime, that is, its ability to prevent nuclear war and subnuclear conflicts that could lead to nuclear war
- The degree to which the regime slows or prevents nuclear proliferation
- The degree to which the regime advances the goals of equity of opportunity and of reward in the world
- The degree to which it preserves the benefits to all nations of certain unequal aspects of the international order
- The regime's cost to the United States
- The probability that the regime could actually be achieved, given the realities of the international system

Considerable discussion has been devoted in the text to how the prescribed Second Regime would satisfy these individual criteria, aside from those concerning the advance of equity of opportunity and of reward, and the benefits of inequality. Of course, the recommended Second Nuclear Regime would not in itself solve the problems of the presently poor nations, but it would redirect the nuclear strength of the United States and the Soviet Union toward an explicit role in protecting non-nuclear nations and away from threatening such nations. The beneficial elements of inequality of which I write are those which allow a

rich nation a surplus of talent and energy, enabling it to develop technologies and products which, when sold or copied, can benefit the rest of the world, together with a surplus of wealth which can benefit other nations not by transfer for consumption but by enabling them to contribute to global well-being in a like manner. The lesser role that would be given to nuclear weapons in superpower relations would not necessarily have a direct and positive effect on superpower friendship or cooperation, but it would permit mankind to exist more confident of survival, its spirit freed for more constructive activity. A lesser role for nuclear weapons would not, however, insure that this spirit is not directed toward destructive non-nuclear military adventure and ideological crusade.

The Third Regime as presented in this volume—a regime in which nuclear weapons would be totally proscribed and demilitarization enforced by an international government—might be superior to a Second Regime in satisfying most, if not all of the above criteria, if it were achievable. But its low probability of ever being achieved—the last criterion—rule it out as a realistic goal toward which to strive in the 1980s.

The only achievable alternative to a Second Regime, aside from the undesirable strategic deterioration discussed under the title of the Fourth Regime, is the current, First Nuclear Regime. I believe this essay has shown that in terms of security, stability, cost, contribution to nonproliferation, and advancement of global equity, the proposed Second Regime would be superior to the First Regime, and the obstacles to its achievement could be surmounted.