

CHAPTER 3
WHAT DOES THE HISTORY
OF THE NUCLEAR NONPROLIFERATION
TREATY TELL US ABOUT ITS FUTURE?¹

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When experts discuss the prospects of the Nuclear Non-proliferation Treaty (NPT), they naturally focus on impending events. Will nonaligned nations tie their continued adherence to reaching a comprehensive test ban? Will North Korea, Algeria, Iraq, and Iran live up to their NPT obligations? Will NPT's inspectorate, the International Atomic Energy Agency (IAEA), strengthen its inspection procedures?

The answers to these questions—like the future itself, however—are necessarily speculative. In contrast, the NPT's history is known. More importantly, it is arguably the most relevant factor in gauging the treaty's chances for future success. To understand the NPT's past, after all, is not only to understand what the treaty's original intentions were but to consider how practical and relevant these aims are today and how viable they are likely to be.

In general, of course, we already know what the NPT is supposed to do: limit the spread of nuclear weapons. What we are less clear on, however, is exactly how the NPT is supposed to achieve this end. Was the goal of curbing the transfer of nuclear weapons technology to be subordinated to the NPT's stated aim of ending the arms race between Washington and Moscow? Did smaller nations, in fact, have a right—as the NPT's Article 10 suggests—to withdraw from the treaty if, in their estimation, neither Washington nor Moscow had taken effective measures to end the nu-

clear arms race or if a neighboring adversary acquired nuclear weapons of its own? Did the NPT, in fact, reflect the view that nuclear proliferation was less of an evil than either of these two outcomes?

And what of nuclear safeguards? Were nuclear activities and materials that were quite close to bomb making or nuclear weapons themselves to be allowed if they were claimed to be for peaceful purposes and were acquired or transferred under international inspections? Did the drafters of the NPT's provisions for safeguards consciously limit the intrusiveness of inspections in order to protect any and all transfers of civilian nuclear energy?

Certainly, if the answer to these historical questions is yes, the NPT's future as an effective nonproliferation agreement would be in doubt. At a minimum, it would suggest that the prospects for strengthening the International Atomic Energy Agency (IAEA) and NPT and for getting near-nuclear or undeclared-nuclear nations to join were distant.

The NPT's history, though, is not that clear. It is true that the NPT's framers finally opposed intrusive IAEA inspections, encouraged the sharing of peaceful nuclear energy, described the greatest proliferation threat as being the superpowers' continued buildup of nuclear arms, and even claimed that nations had the right to acquire nuclear weapons under extraordinary events. Yet, each of these propositions was debated and arguably balanced by the NPT's first two articles prohibiting the transfer or acquisition of nuclear weapons "directly or indirectly." These articles, first suggested by the Irish in 1958 as an intermediate step toward superpower nuclear arms control, presumed that the further spread of nuclear weapons threatened accidental and catalytic nuclear war and instability,

both for states with and those without nuclear weapons.

These “Irish” articles are important, then, if only because they seem at odds with the NPT’s other provisions. These include language—backed by a substantial negotiating record—that provides for NPT members’ rights under Articles 3, 4, and 10 to (1) withdraw from the treaty (and, thus, legally acquire nuclear weapons), (2) engage in the “fullest possible exchange” of nuclear technology, and (3) keep nuclear inspections under the NPT from “hampering [NPT members’] economic or technological development.”

Critics of the NPT argue that Articles 1 and 2 should rule over the interpretation and implementation of the rest of the treaty.² However, this is neither the way the NPT is popularly understood nor the way most of the NPT’s framers saw the treaty when they finalized it in 1968. Then, as now, the predominant nuclear threat in the eyes of the treaty’s supporters was not accidental or catalytic war, but the possibility that nuclear competition between major nations might get out of hand, start a war, or—short of this—encourage nonweapons states to go nuclear. As the NPT’s framers saw it, the best way to prevent this would be to agree to total nuclear disarmament, while mutual nuclear deterrence at very low levels of nuclear armament among nations would be second best. Indeed, smaller nations might prefer to acquire their own nuclear forces rather than allow an ever-escalating and threatening nuclear arms race between the major nuclear states go unchallenged or have to depend on unreliable superpower guarantees of nuclear security.

From this perspective, asking states without nuclear weapons to forgo acquiring them is asking them to forgo exercising a right that could be in their national security interest. As such, forswearing nuclear

weapons required a *quid pro quo*—i.e., a requirement for the superpowers to take effective measures to end the nuclear arms race and facilitate the fullest possible transfer of civilian nuclear technology (which the nuclear powers gained by developing weapons) from the nuclear haves to the nuclear have-nots.

Such deal making, however, is unnecessary if one focuses on the security concerns highlighted in the Irish's original United Nations (UN) resolution of 1958. Curbing the threat of accidental and catalytic nuclear war would be a good that states with and without nuclear weapons would benefit from—a good of such high value that subordinating all other aspects of the NPT to achieve it would be worthwhile.

This, then, is the challenge facing today's supporters of the NPT. They must recognize that there are two different ways to interpret the treaty: through the lens of the Irish resolutions (i.e., Articles 1, 2, and—arguably—3) or through the subsequent articles. For the policymaker, making this choice is critical to determining just how viable the NPT is likely to be and what, if anything, remains to be done.

To choose wisely requires an understanding of what sort of proliferation threat the NPT was originally intended to address; how and why this original concern was largely displaced by the new concerns noted above; how much of a tension between these views remained at the time of the NPT's signing in 1968; and which of these views makes more sense today. In short, we must go back to NPT's origins.

1958-65: THE IRISH RESOLUTION AND PREVENTING CATALYTIC NUCLEAR WAR AND THE FURTHER SPREAD OF NUCLEAR WEAPONS

Although the proliferation of nuclear weapons is now synonymous with the spread of know-how, nuclear materials, and specialized equipment to rogue states such as Iran, this was not the central worry animating those who first suggested the need for an international nonproliferation agreement in the late 1950s. Instead, their concern was the actual and proposed American transfers of nuclear weapons to Germany and the North Atlantic Treaty Organization (NATO).

Starting with the Eisenhower administration in 1953, the United States began to deploy nuclear artillery in Europe for use by NATO forces under a dual key control arrangement. The United States had custody of the nuclear-artillery warheads, while U.S. and NATO armies had nuclear-capable artillery tubes integrated into their ground forces. If an occasion arose when the U.S. President deemed use of the nuclear artillery necessary, he could order the release of the nuclear warheads to the NATO commander, and the commander of the NATO ally would give authority to release use of the nuclear-capable artillery tubes. Following this model, the United States was able to deploy nuclear weapons not only to NATO ground forces, but to U.S. and Allied air forces in Europe without losing control of the weapons themselves.

Unfortunately, Warsaw Pact members and the world's neutral powers believed that U.S. authority over these weapons was less than complete. In 1956-57, the Soviet Union was so concerned about the U.S. stationing of nuclear weapons in Germany that it proposed a ban on the employment of nuclear weapons of

any sort in Central Europe.³ The United States, meanwhile, submitted a draft disarmament plan before the UN Disarmament Commission in which transfer of control of U.S. nuclear weapons to NATO allies was permitted if their use was necessary to fend off an armed attack.⁴

In 1958 concern with controls over such nuclear transfers was heightened further when the U.S. Congress passed an amendment to the U.S. Atomic Energy Act that permitted the transfer of weapons materials, design information, and parts to nations that had “made substantial progress in the development of nuclear weapons.”⁵ Also, with the continued transfer of nuclear weapons to NATO, U.S. control arrangements became less rigid: one congressional investigation discovered German aircraft that were fueled, ready to take off at a moment’s notice, and loaded with U.S. nuclear weapons.⁶

This trend toward laxer U.S. restraints on authority for the transfer of nuclear weapons came at the same time as progress toward disarmament negotiations in the UN had reached an impasse. The United States and the Soviet Union had agreed to a voluntary moratorium on nuclear testing in the fall of 1958, but the United States and its allies tied their continued adherence to this test ban to progress toward disarmament and a general easing of tensions. Last, but hardly least, the United States had threatened or considered using nuclear weapons on at least six separate occasions since Eisenhower had assumed the presidency in 1953.⁷

Against this backdrop, the Irish offered their draft resolution concerning the “Further Dissemination of Nuclear Weapons” before the First Committee of the General Assembly of the UN on October 17, 1958. This

resolution was quite modest, merely addressing the possibility that “an increase in the number of states possessing nuclear weapons may occur, aggravating international tensions” and making disarmament “more difficult.” It went on to recommend that the General Assembly establish an ad hoc committee to study the dangers inherent in the further dissemination of nuclear weapons.⁸

The Irish offered to amend the resolution so as to urge parties to the UN’s disarmament talks not to furnish nuclear weapons to any other nation while the negotiations were under way and to encourage other states to refrain from trying to manufacture nuclear weapons, but Western support for the amendment was thin. On October 31, 1958, the Irish withdrew the resolution when it became clear that no NATO nation was yet ready to endorse the initiative.⁹

The Irish, however, pursued the idea. The following year, their foreign minister resubmitted yet another version of the resolution to the General Assembly and made it clear that the proposal was a minimal proposition which all parties ought to accept. It was “hardly realistic,” he argued, to expect any “early agreement on the abolition of nuclear weapons.” But “what we can do,” he argued, “is to reduce the risks which the spread of these weapons involves for this generation, and not to hand on to our children a problem even more difficult to solve than that with which we are now confronted.” Indeed, the Irish foreign minister argued that “if no such agreement is made, they [the nuclear powers] may well be forced by mutual fear and the pressure of their allies, to distribute these weapons, and so increase geometrically the danger of nuclear war.”¹⁰

Why was such nuclear proliferation so dangerous

and likely? First, without an international nonproliferation agreement, “a sort of atomic *sauve-qui-peut*” — every man for himself — was likely in which states, “despairing of safety through collective action,” would seek safety for themselves by getting nuclear weapons of their own.¹¹ This trend was likely to get worse, the Irish argued, since there was “no conceivable addition” to the list of countries possessing nuclear weapons which would not cause a change in the pattern of regional and world politics. Such a change could be “great enough to destroy the balance of destructive weapons . . . which has given the world the uneasy peace of the last few years.”¹² As the Irish foreign minister later explained,

the sudden appearance of nuclear weapons and their almost instantaneous long-range delivery systems in a previous nonnuclear state may be tantamount, in the circumstances of the world today, to be pushing a gun through a neighbor’s window. . . . It may even be regarded as an act of war by neighboring countries who have not the second strike nuclear capacity possessed by great nuclear powers [who] may be able to eliminate the threat by taking limited measures.¹³

The second reason that nuclear proliferation posed a great danger was that nations without nuclear weapons would try to acquire them from their nuclear-armed allies, who, out of a misguided sense of political convenience, were likely to be cooperative. All this would do, however, was give these smaller nations “the power to start a nuclear war, or to engage in nuclear blackmail—conceivably against a former ally.” In short, without an international agreement against further transfers of nuclear weapons, accidental and catalytic wars would become more likely, and nations would drift into “a nightmare region in which man’s

powers of destruction are constantly increasing and his control over these powers is constantly diminishing.”¹⁴

The third and final reason was that nuclear weapons technology itself was becoming more available. As the Irish foreign minister explained, weapons-usable plutonium was a direct by-product of nuclear electrical-power reactors, and these generators were being built in states without nuclear weapons. It would become increasingly difficult, he believed, for the governments of these countries to “resist domestic pressure to take the further step of producing nuclear weapons [on the] grounds of economy and security, if not for considerations of prestige.”¹⁵

These considerations were all factored into the original bargain inherent in the Irish resolution: The states with nuclear weapons would forgo relinquishing control of their weapons to their allies, and states without nuclear weapons would refrain from manufacturing or acquiring them and accept inspection of their reactors and territories to ensure that they were living up to their undertakings. This was the full extent of the bargain. All states – with or without nuclear weapons – would be better off because the possibility of accidental or catalytic war would be reduced. Beyond this, nonweapons states would be spared the expense of having to develop strategic weapons, and the weapons states would have less reason to advance the qualitative development of their own strategic systems.

The Irish insisted on no direct linkage with progress on capping or reversing the arms rivalry between Moscow and Washington. Nor was there any notion that the nuclear nations should offer peaceful nuclear technology to the nonweapons states to get them to open their territories to inspection. In fact, as the

Irish foreign minister later made clear, nonweapons nations ought to welcome having their nuclear facilities inspected or, at least, not object since they might later serve as arms control test beds. Nor, he argued, should the inequity of nonweapons states opening their nuclear facilities to inspections (from which nuclear states would be exempt) be seen as involving any loss of prestige. After all, several nonweapons states had already endorsed the idea of regional disarmament and European nuclear-weapons-free zones that required asymmetrical inspections. Nonproliferation inspections were only an extension of the same idea.¹⁶

The United States and other states with nuclear weapons, however, initially had misgivings about the Irish resolutions. As has already been noted, most NATO nations abstained when the Irish resolution was first put to a vote in 1958. In 1959, though, the Soviet Union also opposed the resolution, complaining that it was too permissive: it would allow the United States to transfer nuclear weapons to European soil so long as the United States retained control of the weapons. Meanwhile, France abstained, arguing that the transfer of fissionable materials and nuclear weapons was difficult to control, and that the real problem was ending manufacture of these items. At the time, France was itself getting ready to test its first nuclear weapon and was assisting the Israelis in their nuclear weapons efforts.¹⁷

As for the United States, it supported the 1959 Irish resolution after abstaining in 1958, arguing that it permitted serious study of critical issues. Yet, when the resolution was modified in 1960 to call upon the weapons states to declare at once their intention to “refrain from relinquishing control of such weapons to any nation not possessing them and from transmit-

ting to it the information necessary for their manufacture," the United States again objected.¹⁸ Although the Soviets decided to reverse themselves and support the draft, the United States at the time was pushing the idea of giving NATO nuclear armed submarines for a multilateral force (MLF). Mindful of that idea, the U.S. representative to the UN complained that the Irish resolution failed to recognize the critical responsibility of the nations with nuclear weapons. The U.S. representative went on to ask how the Irish could expect other nations to forgo nuclear weapons if the weapons states refused to end their own nuclear buildup. Besides, he argued, a commitment of indefinite duration of the sort the resolution called for was unverifiable.¹⁹

The United States objected again in 1961 when the Swedes resubmitted a similar resolution recommending that an inquiry be made into the conditions under which countries not possessing nuclear weapons might be willing to enter into specific undertakings to refrain from manufacturing or otherwise acquiring such weapons and to refuse to receive, in the future, nuclear weapons on their territories on behalf of any other country.²⁰

The resolution's new language worried the United States. The resolution was no longer focused on restraining weapons nations from relinquishing control of nuclear weapons but on getting nonweapons nations to refuse receiving nuclear weapons on their territories. In short, it appealed to all of NATO to stop hosting U.S. nuclear weapons. This point was hardly lost on the Soviets, who immediately incorporated the Swedish language (i.e., "refrain from transferring control [and] refuse to admit the nuclear weapons of any other states into their territories") into their own draft treaty for general and complete disarmament in

1962.²¹

The United States objected to the Swedish resolution, complaining that it effectively called “into question the right of free nations to join together in collective self-defense, including the right of self-defense with nuclear weapons if need be.”²² Yet, the U.S. representative was equally insistent that the United States supported the goal of nonproliferation. His proof was that the U.S. draft program for general and complete disarmament—like the Irish resolution—required states with nuclear weapons to “refrain from relinquishing control” of nuclear weapons to nonweapons states.²³

1965–68: BARGAINING TO KEEP STATES FROM EXERCISING THEIR RIGHT TO ACQUIRE NUCLEAR WEAPONS

For the next 4 years, the United States continued to insist that it was interested in promoting nuclear nonproliferation.²⁴ However, it opposed a variety of nonproliferation resolutions backed by the Soviets, Swedes, and others, which, if accepted, would have jeopardized existing nuclear-sharing arrangements with NATO or the possibility of creating a multilateral nuclear force for a “United States of Europe.” Ultimately, the United States focused on reaching an international nuclear nonproliferation agreement only when it became clear that Germany and other NATO nations were not keen on reaching an MLF agreement. With the MLF disposed of and the Soviets willing to accept language that would allow the United States to deploy nuclear weapons in NATO—assuming they were kept under U.S. control—the United States was ready to negotiate a nonproliferation agreement.²⁵

By early 1966, however, the terms of UN debate over proliferation had changed. Whereas in 1958, nonproliferation was seen as a good in itself—equally beneficial to states with and without weapons—by the early 1960s, smaller nations perceived nuclear nonproliferation as a potential obstacle to assuring their national security, while the United States and Soviet Union continued to refine and expand their own nuclear arsenals.

Another key difference in the debate was how nations viewed superpower nuclear deterrence. In 1959 the Irish downplayed the threat presented by nuclear superpower rivalry: “That situation, fraught with danger as it is, is nonetheless one with which we have managed to live for a number of years. Techniques have been evolved to deal with it.” The key concern was not with this set of dangers but with those “likely to flow with the wider dissemination of nuclear weapons.”²⁶

By the mid-1960s, however, faith in the stability of the superpower nuclear balance and concerns about the threat of accidental and catalytic war had begun to wane. In their place, worries about the superpower arms races and the threat of the superpowers’ nuclear imperialism over nonnuclear nations gained traction. As India’s UN representative explained in 1966,

[the] dangers of dissemination and independent manufacture [of nuclear weapons] pale into the background when one views the calamitous dangers of the arms race which is developing today as a result of the proliferation of nuclear weapons by the nuclear weapon powers themselves, large and small. For many years now, the super powers have possessed an over-kill or multiple-destruction capacity and even their second-strike capabilities are sufficient to destroy the entire world. They have hundreds of missiles of varying ranges which are capable of devastating the

surface of the earth. They are continuing to test underground, miniaturizing warheads, improving penetration capabilities and sophisticating their weapons and missiles. The other nuclear weapons powers are also following the same menacing path, conducting atmospheric weapons tests, proceeding from manned-bomber delivery systems to missile systems and submarines. Only 4 days ago, the People's Republic of China conducted yet another weapons test, firing an intermediate-range guided missile with a nuclear warhead. When we talk of the dangers of the arms race, therefore, we face the dangers of the most titanic proportions. It is here that the proliferation of nuclear weapons has its most catastrophic consequences.²⁷

Egypt's representative to the UN disarmament talks made the same point somewhat differently:

The nonnuclear countries will in law renounce their right to nuclear weapons, but nuclear stockpiles and the threat of a nuclear confrontation will in fact continue to exist indefinitely. . . . This de facto situation could always constitute an incitement to manufacture or acquire nuclear weapons. To diminish this risk still further it will be necessary, pending the complete elimination by radical measures of nuclear stockpiles and the nuclear threat, to include in the treaty a formal and definite indication of what the nuclear Powers propose to do with the existing nuclear armament.²⁸

Why did this shift occur? First, nonnuclear nations who were eager for a nonproliferation treaty in the very early 1960s but frustrated by the impasse created by the Soviet Union, the United States, and NATO nations over the issue decided to work without the superpowers' cooperation. As has already been noted, in 1961 the Swedes submitted a resolution before the UN General Assembly calling for an inquiry as to the conditions under which nonweapons states might be

willing to refrain from acquiring nuclear weapons. The idea here was to force the nuclear states' hand by demonstrating the popularity of nuclear nonproliferation and threatening to promote it without the superpowers. However, the very premise of the inquiry – that nonweapons nations would naturally acquire nuclear weapons unless certain conditions were met – was at odds with the idea that nonproliferation was equally a security imperative for both weapons and nonweapons states.

Second, beginning in the late 1950s, an intellectual shift occurred in the way nuclear arms and deterrence were viewed. During this period, a new nuclear theory – finite deterrence – emerged. According to this view, smaller nations could keep larger nuclear powers from threatening them militarily by acquiring a small number of nuclear weapons of their own. With their limited nuclear arsenal, the smaller nations might not be able to prevail in war against a larger power but could effectively “tear an arm off” by targeting the larger nation’s key cities, and thus deter such nations from ever attacking.²⁹ Closely related to this point was a critique of the superpowers’ constant quantitative and qualitative improvement of their strategic forces. This buildup was considered unnecessary and provocative because a nation needed only a small nuclear arsenal to threaten to knock out an opponent’s major cities.³⁰

In 1962, this view was reflected in replies to the UN secretary-general’s inquiry about the conditions under which nonweapons states “might be willing to enter into specific undertakings to refrain” from acquiring weapons.³¹ Sixty-two nations replied, most of them wanting specific neighbors or all the states within their region to foreswear acquiring nuclear weapons

as a condition for their doing likewise. Other nations, such as Italy, wanted the nuclear powers to halt their nuclear buildup.³² Meanwhile, the three nuclear powers that answered the inquiry indicated that general and complete disarmament was the best solution.³³

For the next 2 years, the debate over the merits of establishing a European MLF made it impossible for the Soviet Union, the United States, and most NATO nations to reach any agreement over nuclear nonproliferation.³⁴ At the very least, no progress in nonproliferation seemed likely until moves toward disarmament made progress. The world's nonaligned nonweapons states, on the other hand, were eager to secure a separate nonproliferation treaty and called on the UN to convene an international conference to negotiate such an agreement.³⁵ In June 1965, India and Sweden suggested a new approach to the UN Disarmament Commission: a nonproliferation agreement combined with measures that would begin to cap the arms race between the superpowers. Italy also suggested imposing a time limit on the nonnuclear nations' agreement to refrain from acquiring nuclear weapons. Advocates of this limit—a threat of coercive leverage—argued that it would serve as an inducement to the superpowers to disarm. With support from the world's nonaligned nations, the resolution passed overwhelmingly.³⁶

From this point on, the debate over reaching a nuclear nonproliferation agreement presumed that nonweapons nations had a right to acquire nuclear weapons, and that the only question was what they should get in exchange for not exercising it. Each nation expressed this right in a different fashion. For China, it was essential that nonnuclear nations not be “deprived of their freedom to develop nuclear weapons to resist US-Soviet nuclear threats.”³⁷

For Brazil, the prerogative of nonnuclear nations to go nuclear was nothing less than their right to self-defense. As Brazil's representative explained,

if a country renounces the procurement or production by its own national means of effective deterrents against nuclear attack or the threat thereof, it must be assured that renunciation—a step taken because of higher considerations of the interests of mankind—will not entail irreparable danger to its own people. The public could never be made to understand why a government, in forswearing its defense capability, had not at the same time provided reasonable and lasting assurances that the nation would not be, directly or indirectly, the object of total destruction or of nuclear blackmail.³⁸

For Brazilians, this meant that any nuclear nonproliferation agreement had to include guarantees that states with nuclear weapons would not use or threaten to use them against states without such weapons.

Other states, however, thought that nothing less than nuclear disarmament was necessary. Tunisia, like Brazil, was “not happy about renouncing [its] right to acquire nuclear weapons” but thought that it was too poor ever to try to acquire them and thus could be truly secure only in a disarmed world.³⁹ Sweden, which was still developing a nuclear weapons option of its own,⁴⁰ shared Tunisia's views but saw giving up “the most powerful weaponry that has ever been produced by man” as something it—as one of the “smaller and more defenseless nations”—could do only if the superpowers disarmed.⁴¹

India, which was also developing a nuclear weapons option,⁴² was the most outspoken in defending its right to unrestricted development of nuclear energy. This stance, in part, was simply a reflection of India's

established opposition to international safeguards, which—it had argued since the early 1950s—would interfere with its economy’s development and its “inalienable right [to] produce and hold the fissionable material required for [its] peaceful power programs.”⁴³ After China exploded its first nuclear device in May 1964, though, protecting this right became even more imperative. As the Indian minister of external affairs explained in 1967,

most of the countries represented at the disarmament committee appreciated India’s peculiar position with regard to the nonproliferation treaty. . . . China would be a nuclear state which would not be called upon to undertake any obligations. India could have become a nuclear country if it had exploded the bomb as China did. But because India had shown restraint, a desire for peace, and opposition to the spread of nuclear armaments, under this treaty it would find itself in a much worse position than China. . . . The result of our restraint is that we are a nonnuclear power which will have to suffer all the disadvantages. On the other hand, China, which has shown no restraint, will not suffer from any disadvantage even if it signs the treaty, as it is already a nuclear power.⁴⁴

What were the Indians talking about? The minister of external affairs left little doubt that they were referring to every nuclear advantage the weapons nations enjoyed—including nuclear testing. After all, he noted, the draft nonproliferation treaty would “seriously hamper and impede” peaceful nuclear research since it would prevent nonnuclear countries from undertaking underground explosions for the purpose of carrying out nuclear research while imposing no such obligation on states with nuclear weapons.⁴⁵ The ability to produce weapons-usable materials free from intrusive and discriminatory international safeguards

and the freedom to develop all aspects of nuclear energy – including nuclear explosives, the minister continued – was critical to secure India’s “sovereign right of unrestricted development” of nuclear energy.⁴⁶

If it were just India making these arguments, they might be dismissed as being peculiar to a nation “exposed to nuclear blackmail.”⁴⁷ Yet, Brazil’s representative shared India’s views, arguing that:

nuclear energy plays a decisive role in [the] mobilization of resources. We must develop and utilize it in every form, including the explosives that make possible not only great civil engineering projects but also an ever-increasing variety of applications that may prove essential to speed up the progress of our peoples. To accept the self-limitation requested from us in order to secure the monopoly of the present nuclear-weapon powers would amount to renouncing in advance boundless prospects in the field of peaceful activities.⁴⁸

At the time, Brazil was developing a nuclear weapons option of its own.⁴⁹

It would be wrong, however, to dismiss Brazil’s and India’s interest in peaceful nuclear explosives (PNE) and sensitive nuclear activities as a cynical move. The United States, after all, had been touting the possible advantages of PNEs since the early 1960s as the reason for its opposition to reaching a comprehensive nuclear test ban with the Soviets. The United States also was enthusiastic about the need to develop fast-breeder reactors that would use reprocessed plutonium fuels.⁵⁰ Thus, Nigeria, Mexico, and Ethiopia, which had no nuclear programs, were every bit as insistent as India and Brazil that any treaty on nonproliferation not place them “in a position of perpetual inferiority in any field of knowledge.”⁵¹ Nigeria’s recommendation to solve this problem was

that non-nuclear weapons powers would not only have nuclear explosives, through an international organization, for their peaceful projects but also have opportunities for their scientists to develop to the full their intellectual capabilities in all fields, including that of nuclear-explosive technology.⁵²

These nations were just as adamant that whatever international safeguards the NPT required not interfere with their development of new power reactors and fuels. In this, they were joined by Japan and Germany, who feared that the United States and Soviet Union would use the NPT's safeguard provisions to steal industrial nuclear secrets from their civil nuclear programs. As Germany's foreign minister explained in 1967,

The unhindered civilian utilization of the atom is a vital interest of the Federal Republic. . . . It is known that German scientists are working with the prospect of success on the development of the second generation of reactors, the so-called fast breeders. . . . We go on the assumption that the placing into effect of controls does not interfere with the economic operations of factories, does not lead to the loss of production secrets, but counters the dangers of misuse. For this purpose it is adequate to control the end-product points, and to have a control which possibly could be exercised by automated instruments.⁵³

Germany's foreign minister argued that nations like his own were already apprehensive of states with nuclear weapons trying to monopolize the civilian nuclear field by dint of their commanding lead in military nuclear technology.⁵⁴ At least as great a worry, he argued, was the extent to which inspections under the proposed NPT might compromise the pace and com-

mercial confidentiality of civil nuclear developments by nonweapons states.

In the end, the NPT's preamble and Article 3 stipulated that nations like Germany could meet their safeguards obligations through somewhat less threatening but equivalent procedures under Western Europe's nuclear safeguarding organization, EURATOM, that inspections would be restricted to monitoring the flows of source and fissionable materials at "certain strategic points," and that they would be designed "to avoid hampering the economic or technological development of the Parties."

The NPT also emphasized in Articles 4 and 5 that nothing in the treaty should be "interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination." Indeed, the treaty called on all parties to "undertake to facilitate [the] fullest possible exchange of equipment, materials and technological information for the peaceful uses of nuclear energy." The treaty established procedures for sharing the benefits of peaceful nuclear explosives, although it prohibited the direct transfer of explosive devices to or development by nonweapons states.

Finally, in Article 6 the treaty called on the weapons states to "pursue negotiations in good faith on effective measures relating to the cessation of the nuclear arms race at an early date and to nuclear disarmament." Even the Italians' suggestion to leverage the superpower nuclear reductions (i.e., 6 months before the end of a fixed period, nations could give notice of their intent to withdraw from the treaty) was retained after a fashion in Article 10. The 6-month option was rejected along with Nigerian demands that the NPT

explicitly empower members to withdraw if the treaty's disarmament aims were "being frustrated."⁵⁵ But it was agreed that the treaty would not be of indefinite duration. Instead, it would last 25 years and be reviewed as to whether or not it should be extended and, if so, how. As the Swiss noted, it was "preferable" that the treaty be "concluded for a definite period" so as to avoid "tying" the hands of non-weapons states who could not be expected to wait indefinitely on the weapons states to disarm.⁵⁶ Thus, any party to the treaty, under Article 10, retained the right to withdraw if it "decides that extraordinary events, related to the subject matter of this treaty, have jeopardized the supreme interests of its country."⁵⁷

WHICH PAST AS PROLOGUE?

Reading the NPT today, one can easily forget that the original bargain of the Irish resolutions of the late 1950s and early 1960s is present in the final version of NPT. Indeed, Articles 1 and 2, which prohibit the direct or indirect transfer and receipt of nuclear weapons, nuclear explosives, or control over such devices, read very much like the original Irish resolutions themselves. In Article 3, the treaty also calls on parties to accept and negotiate a system of safeguards that would prevent "diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices." Finally, the treaty makes it clear in Article 4 that parties to the NPT could exercise their right to develop peaceful nuclear energy only "in conformity with Articles I and II."

Nor did the NPT's framers abandon their original concerns about the threat of catalytic or accidental nuclear war. The Germans in 1967, for example, defend-

ed the NPT aims “because it is frightening to think what would happen if possession of nuclear weapons were spread chaotically through the world, if some adventurous state were one day irresponsibly to use such a weapon.” Echoing this view, Germany’s foreign minister argued that “even only one additional nuclear power would start a chain reaction that would be hard to control.”⁵⁸ The Canadians made essentially the same point, arguing that some discrimination against nonweapons states was “the only alternative to allowing the continued spread of nuclear weapons . . . and such a process in the end would have no other result than nuclear war . . . on the greatest scale.”⁵⁹ The British representative to the General Assembly was just as emphatic:

We are concerned not only that new possessors of nuclear weapons may employ them against each other, or against a non-nuclear state; we see an even greater danger in the possibility that the use of nuclear weapons by a third country could precipitate a war which would end in a nuclear exchange between the two so-called Superpowers. In our view, and I would think in that of the Soviet Union as well, each additional nuclear power increases the possibility of nuclear war, by design, by miscalculation, or even by accident.⁶⁰

Arrayed against these concerns, however, was the view expressed by the Indian delegation that:

further proliferation is only the consequence of past and present proliferation and that unless we halt the actual and current proliferation of nuclear weapons, it will not be possible to deal effectively with the problematic danger of further proliferation among additional countries.⁶¹

This alternative view, along with the idea that non-

nuclear nations had inalienable rights to develop civilian nuclear energy and to withdraw from the NPT (and thus acquire nuclear weapons legally) if the superpowers did not disarm (or their security interests were at serious risk), became the NPT consensus view and was captured in Articles 4, 5, 6, and 10 as well as most of the NPT's preamble.

Articles 1 and 2, in contrast, reflected the original bargain of the Irish resolutions, which were concerned about the threat of accidental and catalytic nuclear war, whereas the NPT's other articles (with the possible exception of Article 3) generally reflected the finite deterrence theorizing of the time.

The problem is that these two views, both propounded in the NPT, are at odds. Certainly, it is difficult to argue that the further spread of even small numbers of nuclear weapons to other nations will significantly increase the risk of accidental or catalytic nuclear war, while at the same time recommending that nonweapons states limit the nuclear arsenals of weapons states by threatening to acquire such weapons themselves. Yet, this is precisely the tension present in the negotiations leading up to the NPT and reflected in the treaty's text (i.e., Articles 1, 2, 6, and 10).

More important, this tension continues to be reflected in the debate over what constitutes "peaceful" nuclear development under Article 4 in conformity with Articles 1 and 2. Nations that subscribed to the notion that the superpower arms race was a key cause of horizontal proliferation believed that nonweapons states deserved access to any and all civilian nuclear energy transfers to compensate them for their restraint and to assure them equal access to technology that the states with nuclear weapons already had.

For most of these nations, any civilian nuclear

transfer made under safeguards was automatically “in conformity with Articles I and II.” Indeed, for the Dutch, Belgians, and Luxembourgiens—and, at times, even the Americans—the line between safeguarded and unsafeguarded activities under the NPT was, as one nonproliferation expert recently noted, “quite bright.”⁶² In May 1968, the representative of the Netherlands government, for example, urged the superpowers to live up to their disarmament obligations under Article 6, explaining that the obligation of nonweapons states to forgo the acquisition of nuclear weapons should “in no way” restrict their access to civil nuclear technology:

My delegation interprets Article I of the draft treaty to mean that assistance by supplying knowledge, materials and equipment cannot be denied to a non-nuclear-weapon State until it is clearly established that such assistance will be used for the manufacture of nuclear weapons or other nuclear devices. In other words, in all cases where the recipient parties to the treaty have conformed with the provisions of Article III, there should be a clear presumption that the assistance rendered will not be used for the manufacture of nuclear weapons and other explosive devices.⁶³

The Americans were just as insistent that “peaceful applications of energy derived from controlled and sustained nuclear reactions—that is, reactions stopping far short of explosion, [had] nothing to do with nuclear weapons” and, thus, development of such applications would not be affected by the NPT’s prohibitions.⁶⁴

Yet, other evidence indicates that the NPT’s framers felt uncomfortable about obligating the nuclear powers to provide any and all forms of nuclear-energy technology or materials, save nuclear explosives

themselves. In the final debates over the NPT, Spanish and Mexican attempts to create a duty on the part of the nuclear haves to provide nuclear-energy aid to the nuclear have-nots and to reference “the entire technology of reactors and fuels” in the NPT’s text, were rejected.⁶⁵ This rejection, it has been argued, suggests that the NPT’s framers understood that some forms of civil nuclear energy (e.g., weapons-usable nuclear fuels and their related production facilities) were so close to bomb making that sharing them might not be in “conformity” with Articles 1 and 2.

More important, safeguarding such dangerous activities and materials was probably impossible. Certainly, if inspections lived up to Article 3’s requirement to “avoid hampering” nations’ “technological development” and remained heedful of the NPT’s concern—registered in its preamble—for focusing on the “flow” of source and special fissionable materials at “certain strategic points,” they would have difficulty accounting for significant quantities of weapons-usable materials at enrichment and reprocessing facilities, at reactors that used weapons-usable fuels, and at their respective fuel-fabrication plants. Nor would timely warning of diversions be likely. Such “safeguarding,” as we see above would only mask the probable transfer or acquisition of nuclear weapons and thus violate the NPT’s prohibitions in Articles 1 and 2 and Article 3’s stricture that safeguards serve the purpose of verifying member nations’ fulfillment of their NPT obligations.⁶⁶

It would be reassuring if the NPT’s negotiating record could settle such disputes. Unfortunately, it only raises them. Indeed, tension between the first three articles and those that follow in the NPT still exists today. Unaligned nations such as Indonesia and Mexico

still argue that weapons states must go much further in reducing their nuclear arsenals and in sharing the benefits of peaceful nuclear energy to keep nonweapons states from abandoning the NPT. And the issue of just what constitutes effective safeguards under the treaty for problematic nations such as North Korea, Libya, Iran, Algeria, and Iraq, and for dangerous nuclear activities such as reprocessing in Japan, is as much a concern as ever.

A number of things, however, have changed since 1968. With the demise of the Soviet Union, the former rivalry is now largely muted. Rather than an ever-escalating nuclear arms race, the United States and former Soviet republics are cooperating in reducing the number of nuclear weapons.

As for the promised benefits of peaceful nuclear power, these too seem less compelling. Certainly, few—if any—nations now believe that PNEs promise any economic benefits. The United States, India, and Russia—the only nations to experiment with such devices—no longer use them, and even Brazil and Argentina, who initially rejected the NPT because it would not allow them to acquire such devices, have renounced their development. Economically viable nuclear electricity, meanwhile, has been limited to uranium-fueled thermal reactors operating only in the most advanced economies of North America, Europe, and East Asia. The economical use of weapons-usable plutonium or mixed-oxide fuels in thermal or fast reactors is, at best, still many decades away.⁶⁷

Meanwhile, the security dangers of certain types of civilian nuclear power and of reactor development in some regions have become all too apparent. Iraq, Iran, North Korea, and Algeria all have nuclear energy programs that are monitored by the IAEA. Yet, all

harbor a desire to develop nuclear weapons and have attempted to evade IAEA inspections and proper import procedures. It is unclear whether even special IAEA inspections could provide sufficient warning of dangerous activities in these politically turbulent nations.⁶⁸ IAEA monitoring of plutonium fabrication and reprocessing activities in such stable nations as Japan has also been criticized as dangerously deficient. In fact, the quantity of weapons-usable materials produced by such plants threatens to exceed the amount of fissile material present in the arsenals of weapon states.⁶⁹

Finally, there is a newfound awareness that finite deterrence—based on a circumscribed though nonetheless painful response as opposed to all-out nuclear retaliation—and the supposed stability that might come from threatening to attack a few of an opponent's cities, are nowhere near as sound as once supposed—either in theory or practice. The release of new information on the Cold War suggests that nuclear deterrence even between the superpowers was anything but automatic or guaranteed. Indeed, a nuclear incident in Cuba and/or possible war over intermediate-range nuclear force (INF) deployments in Europe was far more likely than many people imagined.⁷⁰

Nor has finite deterrence proved to be as cheap or easy as originally promised. In the case of the French—the original innovators of finite deterrence—developing and maintaining a *force de frappe* have required spending billions of dollars annually to field several generations of strategic forces that have never seemed quite credible (or survivable enough) to other members of NATO—even against a limited Soviet attack. Smaller nations aiming to deter their weapons-state neighbors or nuclear-imminent neighbors are likely to

face similar challenges that proportionally will be at least as stressful.

These developments, of course, do not change the NPT's negotiating history. But they do suggest the relative risks of emphasizing the NPT framers' concerns of the late 1960s over those they originally had in 1958. More important, by focusing on the NPT's original concerns, we are more likely to correct for its current deficiencies, which are themselves rooted in views that were all too popular at the time of its signing. Indeed, how well we focus on these concerns today will determine what worth the NPT will have in the decade ahead.

ENDNOTES - CHAPTER 3

1. Previously published in Henry Sokolski, ed., *Fighting Proliferation: New Concerns for the Nineties*, Maxwell Air Force Base, AL: Air University Press, 1996, pp. 3-29.

2. See, for example, Frank Barnaby and Shaun Burnie, *The Nonproliferation Treaty: A Critical Assessment*, Amsterdam, the Netherlands: Greenpeace International, January 17, 1994.

3. See "Soviet Proposal Introduced in the Disarmament Subcommittee: Reduction of Armaments and Armed Forces and the Prohibition of Atomic and Hydrogen Weapons, May 18, 1957," U.S. Department of State, *Documents on Disarmament, 1945-1959*, Washington, DC: U.S. Government Printing Office, 1960, pp. 756-57.

4. *Ibid.* See "Western Working Paper Submitted to the Disarmament Subcommittee: Proposals for Partial Measures of Disarmament, August 29, 1957," *Documents on Disarmament, 1945-1959*, p. 870.

5. The Atomic Energy Act of 1954, U.S. Code secs. 54, 64, 82, 91(c), 92, as amended, 1954.

6. See George Bunn, *Arms Control by Committee: Managing Negotiations with the Russians*, Stanford, CA.: Stanford University Press, 1992, p. 62.

7. The Eisenhower administration had threatened to use or considered using nuclear weapons to end the Korean War in 1953, to save the French in Vietnam in 1954, to save the Republic of China in 1954, 1955, and 1958, and to prevent any invasion of Kuwait in 1958. Atomic howitzers also were deployed by U.S. forces landing in Lebanon in 1958. The Russians, meanwhile, threatened the use of nuclear weapons to end the Suez crisis in 1956. See Peter Lyon, *Eisenhower: Portrait of the Hero*, Boston: Little, Brown and Company, 1969, pp. 534, 541, 583, 606, 610, 624, 639-40, 719, 775-76, 784.

8. The resolution initially passed with 37 affirmative votes, but 44 nations—including the United States, UK, Italy, Japan, France, Greece, Belgium, Turkey, and the Netherlands—abstained. See “Irish Draft Resolution Introduced in the First Committee of the General Assembly: Further Dissemination of Nuclear Weapons, October 17, 1958,” in *Documents on Disarmament, 1945-1959*, pp. 1185-1186.

9. *Ibid.*

10. *Ibid.*, pp. 1474-1478. See “Address by the Irish Foreign Minister [Aiken] to the General Assembly, September 23, 1959 [extract],”

11. *Ibid.*

12. *Ibid.*, pp. 1520-1526. See “Statement by the Irish Foreign Minister [Aiken] to the First Committee of the General Assembly, November 13, 1959.”

13. See “Statement of Irish Foreign Minister [Aiken] to the First Committee of the General Assembly, November 6, 1962,” U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1962*, Washington, DC: U.S. Government Printing Office, 1963, pp. 1025-1028.

14. See “Statement by the Irish Foreign Minister, November

13, 1959," *Documents on Disarmament, 1945-1959*, pp. 1520-1526. In this speech, Foreign Minister Aiken attributes these views to Howard Simons, "World-Wide Capabilities for Production and Control of Nuclear Weapons," *Daedalus*, Vol. 88, No. 3, Summer 1959, pp. 385-409, which was a summary of "The Nth Country Problem: A World-Wide Survey of Nuclear Weapons Capabilities," a study by the American Academy of Arts and Sciences, which would be published by the National Planning Association in 1959.

15. "Statement by the Irish Foreign Minister, November 13, 1959," in *Documents on Disarmament, 1945-1959*, pp. 1520-1526.

16. See "Statement of Irish Foreign Minister . . . November 6, 1962," in *Documents on Disarmament, 1962*, pp. 1025-1028.

17. See Lawrence Scheinman, *Atomic Energy Policy in France under the Fourth Republic*, Princeton, NJ: Princeton University Press, 1965, pp. 183ff.; and Avner Cohen, "Stumbling into Opacity: The United States, Israel, and the Atom, 1960-63," *Security Studies*, Vol. 4, No. 2, Winter 1994, pp. 199-200.

18. See United Nations Department of Political and Security Council Affairs, *The United Nations and Disarmament, 1945-1970*, New York: United Nations Publications, 1971, pp. 260-261.

19. *Ibid.*

20. *Ibid.*, pp. 265. The Swedes submitted this resolution, 1664 (16), December 4, 1961.

21. *Ibid.*

22. See "Statement by the United States Representative [Yost] to the First Committee of the General Assembly: Spread of Nuclear Weapons, November 30, 1961," in US Arms Control and Disarmament Agency, *Documents on Disarmament, 1961*, Washington, DC: U.S. Government Printing Office, 1962, pp. 691-692.

23. *Ibid.*

24. See, for example, "Statement by ACDA Director Foster

to the Eighteen Nation Disarmament Committee: Non-dissemination of Nuclear Weapons, February 6, 1964," in U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1964*, Washington, DC: U.S. Government Printing Office, 1965, pp. 32-33, in which restraint in international nuclear nonproliferation was urged since without it there "would be no rest for anyone . . . no stability, no real security and no chance of effective disarmament." It was also argued that because the acquisition of nuclear weapons by smaller countries would "increase the likelihood of the great Powers becoming involved in what would otherwise remain local conflicts," both the security of weapons and nonweapons states in U.S. eyes was at stake.

25. See Bunn, pp. 66-75.

26. See "Statement by the Irish Foreign Minister, November 13, 1959," *Documents on Disarmament, 1945-1959*, pp. 1520-1526.

27. See "Statement by the Indian Representative [Trivedi] to the First Committee of the General Assembly: Nonproliferation of Nuclear Weapons, October 31, 1966," U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1966*, Washington, DC: U.S. Government Printing Office, 1967, p. 679.

28. *Ibid.*, pp. 156-157. See "Statement of the Egyptian Representative [Khallaf] to the Eighteen Nation Committee on Disarmament, March 3, 1966."

29. One of the earliest expressions of this idea can be found in Jacob Viner, "The Implications of the Atomic Bomb for International Relations," *International Economics: Studies by Jacob Viner*, Glenco, IL: Free Press, 1951, pp. 300-309. For the earliest popular presentation of finite deterrence theory, see Pierre M. Gallios, "Nuclear Aggression and National Suicide," *The Reporter*, Vol. 18 November 1958, pp. 22-26.

30. See, for example, P. H. Backus, "Finite Deterrence, Controlled Retaliation," *U.S. Naval Institute Proceedings*, March 1959, pp. 23-29; and George W. Rathjens, Jr., "Deterrence and Defense," *Bulletin of the Atomic Scientists*, September 1958, pp. 225-228.

31. United Nations Department of Political and Security

Council Affairs, *The United Nations and Disarmament*, pp: 260-261.

32. In fact, it was in a NATO gathering held in February 1962 that Italy first voiced reservations about agreeing not to acquire nuclear weapons unless the nuclear weapons nations promised to disarm. Later that year, however, it acquiesced and supported a U.S. draft resolution that would allow the use of U.S. weapons by a multilateral NATO naval force. For details, see George Bunn, Roland M. Timerbaev, and James F. Leonard, "Nuclear Disarmament: How Much Have the Five Nuclear Powers Promised in the Non-Proliferation Treaty?" John B. Rhineland and Adam M. Scheinman, eds., *At the Nuclear Crossroads: Choices about Nuclear Weapons and Extension of the Non-Proliferation Treaty*, Lanham, MD: University Press of America, Inc., 1995, p. 15.

33. See *The United Nations and Disarmament, 1945-1970*, p. 266.

34. See, for example, the exchange between the Soviet and U.S. representatives to the Eighteen Nation Disarmament Committee, July 2, 1964, in *Documents on Disarmament, 1964*, pp. 241-56.

35. *Ibid.*, pp. 485-490. For a review of the nonaligned nations' actions along these lines, see "Statement by the U.A.R. Representative [Fahmy] to the First Committee of the General Assembly: Nonproliferation of Nuclear Weapons, October 22, 1965."

36. See *The United Nations and Disarmament, 1945-1970*, p. 269. Italy and others continued to promote this idea through 1967. See, for example, "Statement by the Burmese Representative [Maung Maung] to the Eighteen Nation Disarmament Committee: Nonproliferation of Nuclear Weapons, October 10, 1967"; and "Statement by the Italian Representative [Caracciolo] to the Eighteen Nation Disarmament Committee: Draft Nonproliferation Treaty, October 24, 1967," in U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1967*, Washington, DC: U.S. Government Printing Office, 1968, pp. 463, 529.

37. See, for example, "Chinese Communist Comment on Draft Nonproliferation Treaty, September 3, 1967," in *Documents on Disarmament, 1967*, pp. 381.

38. *Ibid.*, p. 370. See "Statement by the Brazilian Representative [Azeredo da Silveira] to the Eighteen Nation Disarmament Committee: Draft Nonproliferation Treaty, August 31, 1967."

39. *Ibid.*, p. 429. See "Address by President Bourguiba of Tunisia to the General Assembly, September 27, 1967 [extract]."

40. See Steve Coll, "Neutral Sweden Quietly Keeps Nuclear Option Open," *The Washington Post*, November 25, 1994, p. A1.

41. See "Statement by the Swedish Representative [Alva Myrdal] to the Eighteen Nation Disarmament Committee: Non-proliferation of Nuclear Weapons, October 3, 1967," in *Documents on Disarmament, 1967*, p. 444.

42. For a brief history of India's nuclear weapons program, see Leonard S. Spector, *Nuclear Proliferation Today*, New York: Vintage Books, 1984, pp. 23ff.

43. See Roberta Wohlstetter, "The Buddha Smiles: Absent-minded Peaceful Aid and the Indian Bomb," *Energy Research and Development Administration*, Monograph 3, contract no. (49-1)-3747, Marina del Rey, CA: Pan Heuristics, April 30, 1977, pp. 30-75.

44. See "Extract from News Conference Remarks by the Indian External Affairs Minister [Chagla], April 27, 1967," in *Documents on Disarmament, 1967*, pp. 204-205.

45. *Ibid.*

46. *Ibid.*, p. 235. See "Statement by the Indian Representative [Trivedi] to the Eighteen Nation Disarmament Committee: Non-proliferation of Nuclear Weapons, May 23, 1967."

47. *Ibid.*

48. *Ibid.*; and "Statement by the Brazilian Representative [Correa da Costa] to the Eighteen Nation Disarmament Committee: Peaceful Uses of Nuclear Energy, May 18, 1967," p. 226.

49. For a description of Brazil's attempt to secure a safeguard-

ed military production reactor during this period, see Spector, pp. 236–238.

50. See Albert Wohlstetter *et al.*, *Swords from Plowshares: The Military Potential of Civilian Nuclear Energy*, Chicago, IL: University of Chicago Press, 1979, pp. 85–86; and Albert Wohlstetter *et al.*, *Can We Make Nuclear Power Compatible with Limiting the Spread of Nuclear Weapons?* Vol. 1-1, “The Spread of Nuclear Bombs: Predictions, Premises, Policies,” ERDA contract no. E(49-1)-3747, Los Angeles, CA: Pan Heuristics, November 15, 1976, pp. 9–32, 89–108.

51. See, for example, “Statement by the Ethiopian Representative [Zelleke] to the Eighteen Nation Disarmament Committee: Nonproliferation of Nuclear Weapons, October 5, 1967”; and “Statement by the Mexican Representative [Castaneda] to the Eighteen Nation Disarmament Committee: Latin American Nuclear-Free Zone, May 18, 1967,” *Documents on Disarmament, 1967*, pp. 228, 449–450.

52. *Ibid.*, p. 377. See “Statement by the Nigerian Representative [Sule Kolo] to the Eighteen Nation Disarmament Committee: Draft Nonproliferation Treaty, August 31, 1967.” The Germans also shared this view; “Statement by Foreign Minister Brandt to the Bundestag: Nonproliferation of Nuclear Weapons, February 1, 1967 [extracts].”

53. *Ibid.*, pp. 211–212. See “Statement by Foreign Minister Brandt to the Bundestag on Proposed Nonproliferation Treaty, April 27, 1967.”

54. *Ibid.*, p. 53. See, for example, “Statement by Foreign Minister Brandt to the Bundestag: Nonproliferation of Nuclear Weapons, February 1, 1967 [extracts].”

55. *Ibid.*, pp. 557–558. See “Statement by the Nigerian Representative [Sule Kolo] to the Eighteen Nation Disarmament Committee: Draft Nonproliferation Treaty, November 2, 1967 [extract].”

56. *Ibid.*, p. 573. See “Swiss Aide Memoire to the Co-Chairmen of the Eighteen Nation Disarmament Committee: Draft Nonpro-

liferation Treaty, November 17, 1967.”

57. On the point that this language meant that nonweapons nations might be compelled to withdraw if the weapons states did not live up to their pledge to disarm, see, for example, “Statement by the Swedish Representative [Alva Myrdal] to the Eighteen Nation Disarmament Committee: Nonproliferation of Nuclear Weapons, February 8, 1968”; “Statement by the Ethiopian Representative [Makonnen] to the First Committee of the General Assembly: Nonproliferation of Nuclear Weapons, May 6, 1968”; and “Statement by the Indian Representative [Husain] to the Eighteen Nation Disarmament Committee: Nonproliferation of Nuclear Weapons, February 27, 1968,” U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1968*, Washington, DC: U.S. Government Printing Office, 1969, pp. 45, 293–294, and 116.

58. See “Television Interview with Chancellor Kiesinger: Nonproliferation Negotiations, February 17, 1967 [extract]”; and “Statement by Foreign Minister Brandt to the Bundestag on Proposed Nonproliferation Treaty, April 27, 1967,” *Documents on Disarmament, 1967*, pp. 91, 215.

59. *Ibid.*, p. 315. See “Statement by the Canadian Representative [Burns] to the Eighteen Nation Disarmament Committee: Nonproliferation of Nuclear Weapons, August 3, 1967.”

60. *Ibid.*, p. 458. “Statement by the British Representative [Hope] to the First Committee of the General Assembly, December 14, 1967.”

61. *Ibid.*, p. 432. See “Statement by the Indian Representative [Trivedi] to the Eighteen Nation Disarmament Committee: Nonproliferation of Nuclear Weapons, September 28, 1967.”

62. See, for example, Eldon V. C. Greenberg, *The NPT and Plutonium: Application of NPT Prohibitions to “Civilian” Nuclear Equipment, Technology and Materials Associated with Reprocessing and Plutonium Use*, Washington, DC: Nuclear Control Institute, 1993, pp. 18–19.

63. See “Statement by the Dutch Representative [Eschauzier]

to the First Committee of the General Assembly: Nonproliferation of Nuclear Weapons, May 6, 1968 [extract],” *Documents on Disarmament, 1968*, pp. 295–296.

64. *Ibid.*, p. 721. See “Statement by ACDA Director Foster to the First Committee of the General Assembly: Nonproliferation of Nuclear Weapons, November 9, 1966.”

65. *Ibid.*, p. 40. See “Spanish Memorandum to the Co-Chairmen of the Eighteen Nation Disarmament Committee, February 8, 1968”; and “Mexican Working Paper Submitted to the Eighteen Nation Disarmament Committee: Suggested Additions to Draft Nonproliferation Treaty, September 19, 1967,” *Documents on Disarmament, 1967*, pp. 394–395.

66. For this interpretation, see Greenberg; and Arthur Steiner, “Article IV and the ‘Straightforward Bargain,’” PAN Paper 78-832-08, Wohlstetter *et al.*, *Towards a New Consensus on Nuclear Technology*, Vol. 2, Supporting Papers, ACDA Report no. PH-78-04-832-33, Marina del Rey, CA: Pan Heuristics, 1977.

67. For the latest economic forecast as to when such fuels might make economic sense, see, for example, Brian G. Chow and Kenneth A. Solomon, *Limiting the Spread of Weapon-Usable Fissile Materials*, Santa Monica, CA: RAND, October 1993, pp. 25–54.

68. See David Kay, “Detection and Denial: Iraq and Beyond,” Washington, DC: Consortia for the Study of Intelligence, June 1994.

69. See, for example, Chow and Solomon, pp. xiv–xv; and Paul Leventhal, *IAEA’s Safeguards Shortcomings – A Critique*, Washington, DC: Nuclear Control Institute, September 12, 1994.

70. See, for example, William T. Lee, “The Nuclear Brink That Wasn’t – and the One That Was,” *The Washington Times*, February 7, 1995, p. A19.