

Chapter XI

Another New Western Position

I

A Reformulation in Washington

Even though it was not immediately visible in Geneva, the West was again in the process of reformulating its position. This began formally in late April when an *ad hoc* committee was formed within the United States Administration. The Committee was sponsored by the Arms Control and Disarmament Agency (ACDA), which had been established in September 1961. The Committee was chaired either by ACDA's Deputy Director, Adrian S. Fisher, or by Franklin Long, the Assistant Director, who was in charge of the Bureau of Science and Technology. The other agencies represented were the Department of Defense, including the Joint Chiefs of Staff, the Atomic Energy Commission, the Department of State, the Executive Office of the President, and the Central Intelligence Agency. This group met periodically during the succeeding two months; its last regular meeting was held on July 3, 1962. By that time a tentative version of a new United States position had been evolved.

Contributing Factors

Several factors contributed to the reformulation of the American position. Perhaps what did most to trigger the reexamination was the reaction in the Eighteen-Nation Committee, among world leaders, and within the United States to the resumption of atmospheric testing. The widespread opposition to atmospheric testing made American leaders hesitant to order its resumption and also compelled them to search for ways of avoiding such action in the future.

A related point was the fact that during the spring of 1962, as a consequence of the Soviet and American test series, the level of radio-

activity resulting from fallout increased significantly.¹ Later that year it would reach its highest levels. Some scientists felt that the concentration of certain elements, especially Iodine 131, reached dangerous heights, and suggested that, if atmospheric testing continued at existing rates, some protective measures might have to be taken to guard against contaminated foodstuffs, particularly milk for children.

Simultaneously with these developments, American strategic doctrine was changing. The United States was, to some extent, becoming disenchanted with nuclear weapons. This was partly a product of their very abundance. Since 1958 the United States' stockpile of nuclear weapons had increased tremendously, so that by 1962 nuclear weapons were readily available not only for American strategic forces, but also down to the company level in ground formations. This proliferation of nuclear weapons caused serious problems of command and control and led to deep concern about the triggering of accidental war. In addition, the Kennedy Administration was much less sanguine than its predecessor had been about the possibilities of fighting limited nuclear war and of using nuclear weapons in tactical situations. Moreover, it became increasingly clear to the Administration that a neutron bomb was still technologically a long way off and that arguments for it were dubious; that a pure radiation weapon would have very little value in tactical situations involving close engagements. And as the situation in Southeast Asia demonstrated, limited and guerrilla actions seemed to be those which the United States would be most likely to face, and for which it was least adequately prepared. The changing pattern of strategic thought was reflected in President Kennedy's ordering the Department of Defense in the spring of 1962 to cut back its orders for nuclear warheads by several thousand.²

Secretary of Defense Robert S. McNamara sought to develop some aspects of this new strategic doctrine in his commencement address at The University of Michigan on June 16, 1962.³ Review-

¹U.S. Congress, Joint Committee on Atomic Energy, Subcommittee on Research, Development, and Radiation, *Hearings: Radiation Standards, Including Fallout*, 87th Congress, 2d Session (1962).

²*New York Times*, May 4, 1962, p. 1.

³"Defense Arrangements of the North Atlantic Community," U.S. Department of State *Bulletin*, Vol. XLVII, No. 1202 (July 9, 1962), pp. 64-69.

ing the defense arrangements of the North Atlantic Treaty Organization, he stressed the necessity of building up NATO's conventional forces so that the Alliance would be capable of action other than simply a nuclear response in the event of a limited attack. He pointed out that the United States had taken steps to build up its conventional forces and that it expected its NATO allies to follow a similar course.

In the event of a general nuclear war, Mr. McNamara said that the Administration had concluded that basic military strategy:

. . . should be approached in much the same way that more conventional military operations have been regarded in the past. That is to say, principal military objectives, in the event of a nuclear war stemming from a major attack on the alliance, should be the destruction of the enemy's military forces, not of his civilian population.⁴

The implications of this statement for nuclear weapons policy were far-reaching. It meant that the Administration rejected the notion of a "finite deterrent." According to this doctrine, a state could deter possible opponents by merely having sufficient nuclear capacity to inflict serious harm on them. Presumably, with such a doctrine centers of population would be the major targets. By choosing other targets, the Administration hoped to give an opponent a strong incentive to refrain from attacking American cities. Under the evolving Administration doctrine, the number of nuclear weapons which the United States would require would be related to the numbers of enemy military installations rather than to the more constant number of population centers. Another implication of such a strategic doctrine was that extremely high-yield weapons would have relatively little attraction since they could be used most effectively against population centers. Moreover, such weapons went against the whole trend of the new doctrine, which was that only the minimum force necessary to achieve the stated military objectives should be used.

While the new doctrine therefore required more nuclear weapons than would be needed under the "finite deterrent" concept, since it was essentially responsive in character, and since the Administration recognized that there was no feasible way that the United States

⁴*Ibid.*, p. 67.

could prevent an opponent from causing serious harm to American society, the Administration did not see an unlimited, or infinite need for more and more nuclear weapons. The number required could be gauged by the situation at hand. Because of the build-up of American strategic power then in progress, the Kennedy Administration was beginning to feel that American nuclear strength was adequate.

Therefore, as a consequence both of changes in its strategic doctrine and the shifting military balance, the United States was already becoming much less interested in the possible gains that it could achieve from further nuclear testing.

A final element entering into the reformulation of the American position was the changing appreciation of the difficulty of the problem of detecting underground nuclear explosions. This was partly attributable to the fact that the research of the Vela project was beginning to produce results. It was also attributable to a fortuitous circumstance, which will be dealt with first since it served as a focal point.

On May 1, 1962, France carried out an underground nuclear explosion with an estimated yield of about 30 to 50 kilotons in a desolate region of Algeria in the Sahara near the Hoggar Mountains. Although it was not announced immediately, this shot was detected in the United States and also by a number of seismological stations throughout the world which had been equipped by the Coast and Geodetic Survey.⁵ It was the first relatively low-yield shot conducted at a long distance from the United States and detected in the United States, and consequently drew attention to the possibilities of long-range detection, underscoring again the possibility of detection in the so-called "third zone."

The Vela Program was also beginning to produce significant results at about this time. Although, as is often the case, the increased knowledge pointed in several directions, the overall effect was to make the problem of the detection of underground nuclear explosions seem easier.

First, it was discovered that the number of shallow earthquakes in the Soviet Union was substantially less than American scientists had previously thought. The previous estimate had been that there would be about 100 shallow earthquakes above seismic magnitude

⁵See *New York Times*, July 24, 1962, p. 1.

4.75, or the presumed equivalent of a 19 kiloton nuclear explosion in tuff, and about 600 above seismic magnitude 4.00, or the equivalent of a 2 kiloton nuclear explosion in tuff. Now it was estimated that there would be only 40 shallow earthquakes above seismic magnitude 4.75 and 170 above seismic magnitude 4.00.⁶ Previously the United States had based its calculations of the number of earthquakes in the Soviet Union on extrapolations from records collected in 1932 and 1936. With more recent and a greater total supply of data, the earlier estimates proved to be much too large.

Secondly, it was discovered that the sensitivity of seismographs could be increased by a factor of five or ten by placing them in deep holes rather than at the surface.⁷ In addition, on the basis of experimentation with surface arrays of seismic instruments, it was discovered that improvements greater than previously considered possible could be obtained through the use of special filtering techniques. Also, some useful experimentation was being done with ocean-bottom seismometers, which offered promise of increased capabilities. All of these developments indicated that the capability for the detection of underground seismic events was better than had previously been estimated.

On the other hand, certain data indicated unforeseen difficulties. The problem of travel time anomalies first discovered as a result of the Gnome experiments has already been mentioned. It was also discovered, on the basis of the Gnome and subsequent experiments, that there were pronounced differences in the strength of seismic signals when measured in different directions from an underground explosion. Having conducted underground nuclear explosions in a variety of mediums, American scientists had now learned that the size of the seismic signal depended greatly upon the medium and that a shot conducted in alluvium would generate a signal about 7 times

⁶See the testimony of William C. Foster, Director of the United States Arms Control and Disarmament Agency, U.S. Congress, Senate, Committee on Foreign Relations, Subcommittee on Disarmament, *Hearings: Renewed Geneva Disarmament Negotiations*, 87th Congress, 2d Session (1963), p. 12. Mr. Foster testified on July 25, 1962; however, the hearings were not published until the following year.

⁷See "Department of Defense Statement on Project Vela, July 7, 1962," in U.S. Arms Control and Disarmament Agency (Publication 9), *International Negotiations on Ending Nuclear Weapon Tests, September 1961—September 1962*, pp. 246-48.

smaller than it would have had it been conducted in tuff, or 14 times smaller than if it had been conducted in granite.⁸ It was also discovered, however, that underground shots in alluvium were likely to produce a cavity on the surface of the ground which could be seen.

In the spring of 1962, for the first time, the United States was beginning to have adequate technical information on which to base its negotiating position. On balance this information indicated that the task of detecting underground nuclear explosions would be somewhat easier than most American scientists had thought in 1958, and certainly easier than they had thought from early 1959 through mid-1962. Simultaneously with this development, the Administration had become less interested in the further development of nuclear weapons and more concerned about the general reaction against continued nuclear testing, particularly in the atmosphere. It was the confluence of these factors that produced the new Western proposals.

The Range of Choices

In formulating these proposals, the *ad hoc* group explored in depth four possible courses.⁹ The first course which they considered was that of continuing to advance the Anglo-American draft treaty of April 18, 1961, and refusing to make any changes in that proposal. The Administration concluded that this course was unsatisfactory first because standing firm would do little to increase the prospects of obtaining a treaty since the Soviet Union obviously would not accept the 1961 draft. Standing firm would also make the United States seem unresponsive to the Eight-Nation Memorandum. Finally, it would make the United States seem to ignore the progress of science.

The second course considered was that of presenting a simplified treaty banning nuclear weapon tests in the atmosphere, and also in outer space and underwater. Such a treaty would not necessitate control posts or on-site inspections on Soviet territory. As has been mentioned earlier, Ambassador Thompson, John McNaughton, and others within the Administration had argued for this course for some time, and Arthur Dean had become converted to their view, after initially opposing it. Of course others, for example Senator Gore, had

⁸Hearings: *Renewed Geneva Negotiations*, *supra* note 6, p. 11.

⁹See the testimony of William C. Foster before the Subcommittee on Disarmament: *Hearings: Renewed Geneva Negotiations*, *supra* note 6, pp. 2-38.

proposed that the United States take such action as early as 1958. William C. Foster, Director of the Arms Control and Disarmament Agency, explained the situation with respect to detection under such a treaty to the Senate Subcommittee on Disarmament in this manner:

Except for small atmospheric tests, tests in the atmosphere can be detected from outside the territory of the Soviet Union. Underwater tests are also reasonably easy to detect. Tests in outer space are difficult to detect at some altitudes, but an inspection system on Soviet territory increases the capability of detection in outer space only modestly over that of a U.S. unilateral system.¹⁰

Such a treaty would stop those tests which produced radioactive fallout and caused the greatest public concern, and in the view of ACDA, this would be an important achievement. It would also do something to prevent the proliferation of nuclear weapons among the non-nuclear powers and to slow down the nuclear arms race. It would be a simple treaty and would not require the establishment of an elaborate and expensive international control system. It would also permit the United States to continue testing and thereby to make advances in its weapons program. Furthermore, since the weapons laboratories would be kept active, the United States "would be in a better position to resume full-scale testing should the Soviets breach or abrogate the treaty and begin testing themselves."¹¹

On the other hand, the Arms Control Agency also felt that a partial ban would have serious disadvantages. As it would not stop all nuclear weapons tests, it would not be as effective a restraint on the proliferation of nuclear weapons capabilities as a comprehensive ban. A second disadvantage in ACDA's view was that it "would make very little, if any, advance in the principle of inspection and control."¹² Also, ACDA felt that to propose a partial treaty might result in a failure to take full advantage of the technological improvements that had been made. The Agency also feared that the USSR would attack the proposal as a device to insure that the United States could continue testing, and that the Soviet Union would insist that such a treaty be accompanied by an unpoliced moratorium on

¹⁰*Ibid.*, p. 5.

¹¹*Ibid.*, p. 6.

¹²*Ibid.*

underground testing. Finally, the Agency thought that the eight new members of the Eighteen-Nation Committee would feel that the United States had ignored their efforts to find a compromise basis for a comprehensive test ban.

The third course considered was for the United States to propose a modified comprehensive treaty responding "as closely as technical knowledge will permit to the eight-nation proposal of April 16."¹³ Such a proposal would continue to insist on the necessity of some on-site inspections on the territory of the USSR, but it would rely on "internationally coordinated and standardized national control posts." The Arms Control and Disarmament Agency estimated that a system based on national seismic stations would be able to detect seismic events equivalent to nuclear explosions of down to 1 kiloton in granite, 2 kilotons in tuff, and 14 kilotons in alluvium. Such a system would obviously cost much less than it would to establish an international system *de novo*. It could also begin operations immediately. In the view of the Arms Control and Disarmament Agency, an important reason for making such a proposal would be that it "would continue to place pressure on the Soviet Union to agree to open up its territory to some inspection and control."¹⁴ The Arms Control Agency admitted that a country that was willing to run the risk of detection might be able to violate the treaty clandestinely and to do some weapons development by testing underground devices with yields in the low kiloton range.

A fourth course considered was simply for the United States to present to the Eighteen-Nation Committee a technical evaluation of the capability of the system provided for in the eight-nation proposal, and not to present any new draft treaty. The rationale for doing this would be that it was a way of being responsive to the Eight-Nation Memorandum. The United States could explain its unwillingness to offer a new draft treaty on the ground that the Soviet Union had rejected out of hand suggestions reported in the press that the United States might modify its position.

These four possibilities were discussed in the *ad hoc* committee and preliminary draft treaties were prepared to implement the second and third possible courses of action. After the final meeting of this

¹³*Ibid.*, p. 10.

¹⁴*Ibid.*

group on July 3, the two drafts were sent to the relevant agencies for formal comment. On July 20, the Committee of Deputies (composed of deputies to the members of the Committee of Principals) met to discuss the formal comments. Following this meeting two new drafts were prepared, and these were submitted to the Committee of Principals on July 26. This Committee met that day with the President, and it also met with the President again the following day, on July 30, and on August 1. The Chairman of the Joint Chiefs of Staff accompanied the Department of Defense Representative at each of the four sessions. Ambassador Dean was recalled from Geneva to participate in these meetings of the Committee of Principals; and two members of the General Advisory Committee of the Arms Control and Disarmament Agency, Mr. John J. McCloy and Mr. Robert Lovett, also took part. After these meetings some consultations continued on a lower level and additional drafts were circulated for comment. There were also meetings with key members of Congress, including members of the Joint Committee on Atomic Energy. The result of this intragovernmental consultation was that on August 27, 1962, the United States submitted two new draft treaties to the ENDC.

II

A Preview in Geneva

While these deliberations were in progress in Washington, the Eighteen-Nation Disarmament Committee had reconvened in Geneva. As a consequence of this simultaneity, the negotiations in Geneva had some impact on the reformulation that was going on in Washington, and the new Western position was revealed in a piecemeal and somewhat confusing fashion.

Initial Confusion

Some of the confusion surrounding the introduction of the new Western position probably could have been averted. Returning from Washington to Geneva on July 14, 1962, two days before the Conference resumed, Ambassador Dean stated, at a press conference held at the airport, that because of new scientific discoveries the United States might be able to modify its position with respect to a

nuclear test ban.¹⁵ He said that it might be possible for the United States to accept a system of nationally manned, internationally supervised control posts, and that control posts in the Soviet Union might not be necessary. However, he declared that on-site inspections would still be needed. Two days previously, also at a news conference, Secretary of State Rusk had said that he did not think that the new scientific information would make it possible to do without control posts in large countries such as the Soviet Union.¹⁶ Immediately after word of Ambassador Dean's remarks reached Washington, the Department of State felt compelled to issue a statement asserting that the results of the Vela Program did "not demonstrate the possibility of doing away with control posts and on-site inspections to determine the precise nature of suspicious events."¹⁷ Although the Department of State statement was issued as a denial of Ambassador Dean's comments, and was treated as such by the press,¹⁸ it of course was not, since no one had talked about the possibility of doing away with control posts altogether or with on-site inspections. It was not until August 1 that President Kennedy announced—again at a press conference—that the United States could accept internationally supervised, nationally manned control stations.¹⁹ His remarks were prefaced by a negative response to a question concerning whether or not the United States position had changed.

Both the delegates in Geneva, who carefully analyzed pronouncements from officials of the nuclear powers, and readers of the world press were befuddled by this succession of statements. The problem was partly attributable to the personality traits of the individuals involved. In a more general sense it was attributable to the pressure placed on busy officials by an inquiring and insistent press corps. This pressure forced policy-makers to speak for the public record when their own minds may have been made up, but official United States policy had not yet been determined. Dean may also have

¹⁵See the transcript of the Press Conference: *Hearing: Renewed Geneva Negotiations*, *supra* note 6, pp. 22-23.

¹⁶*International Negotiations on Ending Nuclear Weapon Tests, September 1961—September 1962*, *supra* note 7, pp. 249-50.

¹⁷*Hearing: Renewed Geneva Disarmament Negotiations*, *supra* note 6, p. 25.

¹⁸See *New York Times*, July 16, 1962, p. 1; and July 17, 1962, p. 1.

¹⁹*Documents on Disarmament, 1962*, Vol. II, pp. 709-13.

attempted to use his press conferences to force a decision within the Administration. The press corps further exacerbated the problem by reading their own meaning into the statements and exaggerating their differences.

Another aspect of the problem was the fact that the Administration had to explain the change in its policy to several different audiences. When dealing with the world at large and particularly with the representatives of the eight new members of the Disarmament Committee, the Administration wished to emphasize its flexibility, the extent to which its policy had changed, and the ways in which it had been responsive to new suggestions. At home, when facing critics of its policies and those who feared that the Administration might make concessions which could endanger United States' security, the Administration sought to emphasize continuity and to underplay the changes. Thus different things were said to different groups. Since the statements to each group were almost immediately available to the other, however, the differences in emphasis were apparent to all and both confusion and cynicism were the result.

Another complication arose from the fact that the new scientific information appeared to support the opponents of the American position rather than that position. A final difficulty was that the Administration, following the rules of careful bargaining, did not wish fully to reveal the extent of the concessions which it might offer until it had time to judge its opponent's intentions.

Vela Data and Changes in Western Position Introduced

At the first meeting of the resumed session on July 16, Ambassador Dean introduced the Department of Defense announcement outlining the results of the Vela Program, and said that the United States would develop these findings in detail in the near future. Interestingly, he said that the United States did "not envisage the establishment of a technical working group in the pattern of those previously established, nor any formal report of recommendations and conclusions on the scientific aspects of the question."²⁰ As he put it, the Committee's negotiating time and efforts should be devoted toward agreement on a nuclear test ban, not scientific conclusions.

This position was in sharp contrast to that which the Western

²⁰ENDC/PV. 57, p. 13.

powers had taken during the winter of 1958–59 when the question of new data had first arisen. There were several explanations for this change in attitude, which went farther in the case of the United States than that of the United Kingdom. The United Kingdom, as a matter of principle, continued to look with favor upon meetings of technical experts, and its delegates to the Geneva talks continued to suggest from time to time that experts from all sides should meet together. The United States, on the other hand, had become rather disenchanted with the idea of separate meetings of scientists. The experience of Technical Working Group II had left a profound impact in Washington, and American policy-makers now seriously doubted that scientists could function apolitically in a highly political situation. They were also aware of the costs of forcing scientists to become public participants in political conflicts. The Administration decided that what was essential was first to have a clear understanding of the technical situation within the American government itself, and then to convince others of the correctness of the United States' position. The Administration felt that the best way to achieve the latter goal was again to bring distinguished American scientists to Geneva to explain the technical situation as it was now understood in the light of the results of the Vela Program to all interested listeners at informal sessions. And this is what was done. Finally, it should be recalled that an important reason for the United States' preference for technical meetings during the Eisenhower Administration was that this was a neutral device to which both those who favored and opposed a test ban treaty could agree. The Kennedy Administration was not plagued with this division of opinion; it was much more unanimously in favor of a test ban treaty.

In this particular instance, both the United States and the United Kingdom recognized that the Soviet Union would not be likely to agree to the establishment of another technical working group. The experience of the Seismic Research Program Advisory Group wherein Soviet diplomats had had to retract positions taken by Soviet scientists had proved especially embarrassing for the USSR. Moreover, Western policy-makers reasoned that if the Soviet Union felt that its scientists could effectively support its negotiating position, it would have brought them to Geneva to attempt to convince the eight new members of the Committee, as the United States had done. The two Western powers also realized that the representa-

tives of the eight nations generally felt that the problem of obtaining a nuclear test ban was preeminently political and were somewhat impatient with the Western emphasis on the technical aspects of the question.

The Soviet Union and other Communist states on the Eighteen-Nation Committee greeted the introduction of the results of the Vela Program with derision. A number of delegates representing the eight new members of the Committee also expressed scepticism.²¹ Gradually, however, in the six weeks between the resumption of the Conference and August 27, the day that the United States introduced the two new draft treaties, it was able to win the confidence of this latter group. The presentations by the American and British scientists, including Dr. Wiesner, who returned to Geneva, were quite effective. The Western case was also helped by the fact that on July 21, 1962, the Soviet Union announced that it would resume nuclear tests. The first blast in the new series was detonated on August 5. With an estimated yield of 30 megatons, it was the second largest nuclear explosion, the Soviet Union having detonated the largest the previous fall. Although the Soviet action was not criticized in the Eighteen-Nation Disarmament Committee nearly as much as the American decision to resume atmospheric testing earlier in 1962 had been, it made it impossible for pressure to be directed solely against the United States.

On August 5, immediately after his return from a hasty trip to Washington to participate in the meetings of the Committee of Principals, Ambassador Dean began to outline in more specific terms what changes might be forthcoming in the Western position. He did this in an informal meeting with Ambassador Zorin that day, in a meeting of the tripartite subcommittee four days later, and before the plenary sessions of the ENDC several days after that.²² Ambassador Dean stated that the United States felt that the new scientific developments did not eliminate the necessity of on-site inspections. On the other hand, they would make it possible for the United States to consider a reduction in the number of on-site inspections and also to consider a network of detection stations that would be considerably smaller than that which had previously been envisaged and which

²¹See for example Ambassador Lall's comments: ENDC/58, pp. 29-30.

²²See ENDC/SC. 1/PV. 23, pp. 3-30, and ENDC/PV. 69, pp. 6-21.

would be nationally manned, though internationally supervised, rather than internationally operated. If such changes were made, the area open to an on-site inspection might have to be increased. Negotiation on these issues, he explained, would be contingent on the USSR's acceptance of the principle of obligatory on-site inspection.

The Soviet Union's reaction, expressed each time Ambassador Dean outlined the new Western position, was that it represented no change. The chief factor cited to support this charge was the fact that the West still continued to insist on obligatory on-site inspection. Soviet representatives dismissed the offer to reduce the number of on-site inspections and to have a smaller number of control stations which would be manned by national rather than international personnel as mere details. They also asserted that by continuing to demand obligatory on-site inspections the Western powers were ignoring the Eight-Nation Memorandum.

Suggestions of the Eight Nations

Representatives of the eight new members of the Committee were more impressed with Ambassador Dean's presentations, and by this time the work of the American scientists in Geneva had had an important effect. However, it was also apparent to the delegations of the eight nations that the nuclear powers continued to be at loggerheads. They therefore continued their efforts to break the impasse. For some, this meant hortatory appeals to both East and West. Others attempted to achieve the desired results by going over the remarks of the representatives of the nuclear powers and giving glosses on them, which in their view proved that the two sides were moving closer together.

In the realm of practical suggestions, on July 25, the Brazilian delegate noted that the divergencies between the two nuclear sides concerned underground tests, and that the control required for atmospheric and outer space tests did not appear to present as many difficulties.²³ He therefore suggested that the Committee might concentrate its efforts on stopping tests in the latter two environments, which he said "are the most dangerous, actually and potentially, and the ones which have a most disturbing effect on mind, body and nerves." This notion of a partial ban had been mentioned previously,

²³ENDC/PV. 61, p. 36.

and after its reintroduction by Brazil, several other delegations from the eight nations supported it. By early August all of the eight had, with varying degrees of enthusiasm, given their support to the idea of a partial ban, and on August 15, Italy did this also.²⁴ Some felt that a partial ban should cover atmospheric tests. Others added those in outer space and underwater as well. In most cases, approval of a partial ban was coupled with approval of the Mexican suggestion for a cut-off date on nuclear testing. Gradually there came to be a consensus among the eight that this date should be January 1, 1963.

Another practical attempt to break the stalemate was made by Sweden on August 1, 1962. Mrs. Myrdal presented a fairly detailed analysis of the existing facilities for meteorological and seismological observation, which could be used for the detection of nuclear detonations, and the present extent of international collaboration among them. She suggested that the nuclear powers carry this inventory further, and that they make plans for the immediate creation of the international commission which would be responsible for processing the data from the observation stations, and that they also make plans for sharing the financial burdens associated with exchanging the data.²⁵

Even her rather superficial inventory was impressive. The Swedish delegation had discovered from public sources that there were 7,800 land stations making meteorological observations and 12 anchored weather ships. In addition some 3,000 ships had agreed to make observations while crossing the oceans. At that time the United States also had at least two satellites in orbit making meteorological observations. Under arrangements for the transmission of data then in effect, data gathered at one of the stations would be available throughout the world in about one hour. Not all of the stations were equipped to monitor nuclear tests, but such equipment could be provided at a modest cost. The General Assembly of the United Nations had asked the World Meteorological Organization, the International Atomic Energy Agency, and the United Nations Scientific Committee on the Effects of Atomic Radiation to study the feasibility of such a move.²⁶

²⁴ENDC/PV. 70, p. 20.

²⁵ENDC/PV. 64, pp. 5-18.

²⁶General Assembly Resolution 1629 (XVI).

So far as seismology was concerned, the Swedish delegation had discovered that there were approximately 800 stations in operation and that about half of them had participated actively in the International Geophysical Year in 1957. Mrs. Myrdal mentioned the collaboration of many of the stations with the United States Coast and Geodetic Survey and stated that 65 nations throughout the world had reported the French underground nuclear test of May 1 to the Coast and Geodetic Survey within six weeks of its occurrence. She singled out twenty-four countries or territories, stations in which had reported most rapidly. These were Bolivia, Canada, the Congo, Czechoslovakia, Ethiopia, Finland, France, the Federal Republic of Germany, Eastern Germany, Greece, Greenland, Iran, Israel, Italy, Morocco, Norway, Peru, Puerto Rico, Spain, Sweden, Southern Rhodesia, Turkey, the United States, and Yugoslavia. The combination of countries, representing East and West as well as North and South was indeed impressive. Mrs. Myrdal's broad point was that a substantial measure of international collaboration already existed in these matters.

In the course of her presentation, Mrs. Myrdal gave what to her was the most imperative reason for preferring to utilize existing observation stations rather than creating a new international network. She felt that only in this way could one be certain "that scientists, attracted as they are by the full freedom of research, being subservient to nothing but truth will feel a lasting propensity for playing an additional role in this international scheme for promoting peace-making."²⁷ Under such circumstances scientists would be free to continue their normal work. On the other hand, Mrs. Myrdal doubted that scientists would have much enthusiasm for participating in a system which had as its exclusive task policing a nuclear test ban. She also emphasized how much less expensive it would be to rely on existing stations.

As the month of August passed by and September 18, the date of the opening of the seventeenth session of the General Assembly, drew near, the pleas of eight new members of the Disarmament Committee became increasingly urgent. They strongly desired to be able to present some tangible evidence of progress to the General Assembly, which the previous fall had sanctioned their participation.

²⁷*Ibid.*, p. 15.

They seemed to be encouraged by the knowledge that a new Western position would be forthcoming, but at the same time it was fairly obvious from the Western outline of the changes and the USSR's advance reaction to them that the deadlock would remain.

III

The Two Draft Treaties of August 27, 1962

Partly because of the anticipated Soviet rejection, and partly because so much of its contents had been foretold, the new draft comprehensive treaty which the United Kingdom and the United States tabled on August 27, 1962, did not receive much acclaim in Geneva. However, the United Kingdom and the United States also tabled, at the same time, a draft partial treaty outlawing nuclear weapons tests in the atmosphere, outer space, and underwater. This treaty did not require the creation of any international control features. Prior to late August, the Western powers had given no indication that they would make such a move, although the United States had not reacted adversely when Italy endorsed the Brazilian suggestion for a partial ban.²⁸ Actually, the Italian delegate had seen Ambassador Dean's instructions.

As mentioned previously, the idea of proposing a partial ban had been under consideration in Washington for some time. The draft treaty for a partial ban had been approved in the meetings of the Committee of Principals during the last days of July and August 1. It was approved then, though only as a fall-back position. The decision to introduce it on the same day as the new comprehensive treaty was tabled was based on the negative Soviet reaction to the outline of what the new Western position would be and on the positive endorsement of the idea of a partial ban by the eight new members of the Disarmament Committee. Because it was unexpected (except for the indiscretion of the Italian delegate), and because it fitted in with the developing current of thought in the ENDC, the draft partial treaty received more attention in the Committee than the draft comprehensive treaty. Before considering this reaction, however, the main features of the two new draft treaties should be analyzed.

²⁸See *New York Times*, August 19, 1962, p. 1; August 22, 1962, p. 3; and August 26, 1962, p. 1.

The Draft Comprehensive Test Ban Treaty: Obligations and Organs

Although the new draft comprehensive treaty was considerably shorter than that which the United Kingdom and the United States had tabled more than a year before on April 18, 1961, it was still a complicated document.²⁹ Essentially, the new draft treaty was a simplified version of the earlier one, modified in the light of the Eight-Nation Memorandum and the new appraisal of the technical situation.

The first article stated the obligations of signatories. It was taken directly from the first article of the 1961 draft. According to it, signatory states would undertake:

- (a) to prohibit and prevent the carrying out of nuclear weapon test explosions at any place under its jurisdiction or control; and
- (b) to refrain from causing, encouraging, or in any way participating in, the carrying out of nuclear weapon test explosions anywhere.

As in the previous proposal, all of the surveillance machinery provided for in the treaty was designed to check compliance with the first obligation; there was no machinery to oversee the second.

The surveillance machinery consisted of these elements: an International Scientific Commission, an International Staff, and a Verification System.

The International Scientific Commission was the principal organ. This body would consist of fifteen members. The USSR, the United Kingdom, and the United States would be permanent members. The other twelve members would be elected for three-year terms by a majority vote in a conference of all of the signatories. Of the twelve, three would have to be elected from among states, parties to the treaty, nominated by the Soviet Union, two from states nominated jointly by the United States and the United Kingdom, and the remaining seven, from states nominated jointly by the three nuclear powers. The division of the Commission among East, West, and nonaligned states therefore presumably would be four-four-seven. The 1961 draft treaty had provided for an eleven-member commis-

²⁹For the text see *International Negotiations on Ending Nuclear Weapon Tests, September 1961—September 1962*, *supra* note 7, pp. 286-97. The draft was circulated as document ENDC/58.

sion, with a presumed distribution of 4-4-3. The eight new members of the Disarmament Committee had raised the possibility that all members of the Commission might come from nonaligned states. Although the Western powers were willing to increase the representation of this group, they strongly felt that the nuclear powers must have permanent representation on an organ dealing with such a vital matter as compliance with a test ban. The eight new members had also suggested that the Commission should be composed of scientists. The Western powers virtually disregarded this suggestion, except for the inclusion of the word "scientific" in the title of the organization. Their draft provided for membership by states, not individuals, and there were no restrictions in the draft on the right of states to select their own representatives. By taking this position, the Western powers clearly indicated their feeling that the issues which would come before the International Scientific Commission would be political and diplomatic, not technical.

According to the new draft comprehensive treaty, the Commission would be organized so that it could meet on twenty-four hours' notice. Each state would have one vote, and all except a few specified decisions would be by majority vote. Those specified decisions which would require the concurring votes of the permanent members were essentially the same as in the 1961 draft treaty and will be treated topically in the appropriate section of the following description.

The Commission would be the keystone of the organization. It would approve the total amount of the annual budget, and it would also appoint the Executive Officer, who would recruit, organize, and oversee the functioning of the International Staff. As in the earlier draft treaty, both of these decisions would require the concurring votes of the permanent members.

The Commission would supervise all elements of the Verification System. In fulfilling this function it would "establish and monitor adherence to standards for the operation, calibration, and coordination of all elements of the [Verification] System." Since the performance of this function was not one of the stated exceptions to the normal voting procedure, standards would be established by a simple majority vote. These would then be imposed on the various elements of the Verification System, including the nationally owned and nationally manned stations. In this sense the rights of the nuclear powers were less than they had been in the previous draft, for there the

nature of the international Verification System was specified in the draft treaty and by reference to the reports of the Conference of Experts and the various technical working groups, and changes in these specifications would have required the concurring votes of the nuclear powers. The new draft treaty stated that:

The Commission shall arrange for observers to be permanently stationed at, and to make periodic visits to, elements of the System in order to ensure that established procedures for the rapid, coordinated and reliable collection of data are being followed.

In many ways this resembled the old Soviet proposal for controllers, except that the nationality of the permanent observers was not specified.

The Commission could consult with parties to the treaty concerning the nature of unidentified events reported to it by the Staff and it could issue reports to all parties to the treaty concerning the nature and origins of such events.

The Commission would also be charged with the responsibility of establishing such laboratories as might be necessary and of facilitating the participation of the International Staff in research. Until the first elections to the Commission, the three nuclear powers, acting by unanimous agreement, would exercise the functions of the Commission.

The new draft, as the previous one, provided for a conference of all of the parties; however, its status and functions were considerably reduced. It would meet only triennially, rather than annually, and on the call of the Commission. Its sole functions would be to elect members of the Commission, "discuss matters pertaining to the treaty," and "examine the facts and assess the significance of the situation" in a special session in the event of a party's desiring to withdraw from the treaty.

Similarly, the Executive Officer was a somewhat shrunken version of the Chief Executive Officer or Administrator of the 1961 draft treaty. In the earlier version he was listed as one of the principal elements of the control system, but in the new version he was not given this status. The Executive Officer's functions were reduced because international elements of the Verification System were substantially diluted as compared with the earlier Detection and Identi-

fication System. Other than differences necessitated by this, the provisions of the two treaties were virtually identical. The new draft treaty also contained a provision, similar to the amendment which Ambassador Dean had tabled on August 30, 1961, for the removal of the Executive Officer. Such a decision would require the affirmative votes of eleven members of the Commission; in other words, all of the members of one side and all of the nonaligned members. (The amendment which Ambassador Dean tabled on August 30 would have required seven affirmative votes, which, with the composition of the Commission then envisaged, would have had the same political effect.) Under the new draft the Executive Officer would serve for a term of four years, one year longer than provided in the 1961 draft.

The functions of the International Staff would be to man such elements of the system as might be established by the Commission and to analyze the data collected by the Verification System. The Executive Officer and the International Staff would be international civil servants and the new draft treaty contained the usual provision found in the constitutions of international organizations attempting to insure their independence from national governments and policies. Unlike the 1961 version, the new draft treaty contained no provisions specifying the nationality distribution of the International Staff.

The Verification System

The biggest difference between the old and new draft concerned the Verification System. In the earlier treaty the Detection and Identification System was patterned on the rather elaborate recommendations of the Conference of Experts and the various technical working groups, and all elements would be established and operated on an international basis. In the new draft the Verification System would consist of three elements:

- 1) Stations constructed at sites listed in an annex to the treaty. Although the Commission would finance the construction of these stations and would train the personnel to operate them, they would be maintained and manned by nationals of the state or the territory on which they were located. These stations would have observers from the International Commission.

- 2) Existing stations provided, maintained and manned by signatories to the treaty.

3) "Stations to be constructed, maintained and manned by the Commission in agreement with individual Parties if the Commission deems such stations desirable." Ambassador Dean explained that this last category would apply principally to states which felt that they could not afford to maintain and operate stations themselves or which felt that they did not have sufficient trained manpower for this purpose.

Stations in the first category would have to be in operation within twelve months from the entry into force of the treaty and those in the second category, within six months.

Although these provisions showed considerable movement in the direction of the suggestions embodied in the Eight-Nation Memorandum, the Western powers obviously were much less confident of the facilities of existing stations than the eight were. The Western powers wanted new stations so that they would be spaced appropriate distances apart, so that they would be located on sites with relatively low background noise, and so that they would have the most modern equipment. The requirement for an observer from the Commission was designed as a means of checking on the operation of the stations and the prompt and complete transmission of data to the international headquarters. No figures were listed for the numbers of such new stations, although the Western representatives indicated that they would be willing to accept fewer than the 19 previously envisaged for the USSR. In one oral presentation, Mr. Godber mentioned the figure of "only a handful."³⁰

The new treaty gave the Commission broad freedom to include in the Verification System any detection instruments that it desired in outer space, on and beneath the surface of the earth, and underwater. These could either be provided, maintained, and manned by the Commission or by signatories to the treaty, the choice being left to the Commission. The treaty did not include any provision for routine or special air sampling flights.

On-Site Inspections

The criteria stated in the new draft for determining eligibility for on-site inspection were the same as those which had been contained in the 1961 draft, except that the 4.75 seismic magnitude threshold

³⁰ENDC/PV. 75, p. 23.

was eliminated. As a special safeguard, the new draft stated that data from stations on the territory of the state in which the unidentified event occurred could not be used to render an event ineligible for inspection, but could be used to establish its eligibility. The Executive Officer would certify the unidentified events which according to the standards specified in the treaty would be eligible for on-site inspection. As in the case of the earlier draft, quotas for on-site inspections on the territory of the USSR, the United Kingdom, and the United States would be fixed in the treaty, and they would be identical. Incorporating the proposal which the Western powers made at the opening of the Eighteen-Nation Disarmament Committee, only a limited percentage of this quota—the specific figure was left open to negotiation—could be applied to the aseismic areas of the nuclear powers, thus there would be very few inspections in European Russia. Also as in the earlier version, the United States or the United Kingdom would have the right to select which of the unidentified events in the Soviet Union should be inspected and the Soviet Union would have the right to select which of the unidentified events in the United Kingdom and the United States should be inspected.

Although the quota number for the nuclear powers was left blank, subject to negotiations, both the American and British delegates said that it would be less than the 12 to 20 previously requested, and in one speech Mr. Godber said it would be "a double handful at most."³¹ If there were no unidentified events, there would be no on-site inspections. Ambassador Dean stated that the United States now estimated that there would be from 50 to 75 unidentified events each year in the Soviet Union, most of which would be concentrated in a small area of the USSR, the area of Kamchatka Peninsula.³²

Previously the United States had thought that there would be roughly two and a half times as many unidentified seismic events in the Soviet Union. However, until the opening of the Eighteen-Nation Disarmament Committee in March 1962, the United States' position had been that only those events which generated a seismic signal of 4.75 or more would have been eligible for on-site inspection. No one

³¹ENDC/SC. 1/PV. 24, p. 16.

³²ENDC/PV. 71, p. 18.

knew exactly how many unidentified events there would have been in the USSR above this threshold; the usual estimate was from 60 to 100. On the basis of the Vela Program American scientists discovered that the figure probably would be from 10 to 15.³³ It is to this figure that the pre-March 1962 quota proposal of 12 to 20 on-site inspections would have been applied.

Ambassador Dean admitted that the number of unidentified seismic events in the United States would be somewhat larger than in the Soviet Union;³⁴ however, the provision contained in both the new and old Western draft treaties was that the quota for the United States and the Soviet Union should be equal. Of course, the United Kingdom would also be subject to an equal number of on-site inspections, and this quota could be used in any territory under that country's jurisdiction or control.

The new draft treaty provided that the maximum number of inspections annually on the territory of states other than the USSR, the United Kingdom, and the United States would be three "or such higher number as the Commission, after consultation with the Party, may determine by a two-thirds majority of those present and voting." In the 1961 draft the Commission's prerogatives were the same; however, the standard quota figure was two unless the signatory had more than 1,000,000 square kilometers of territory under its jurisdiction, in which case there would be one inspection for each 500,000 square kilometers or fraction thereof. The Western Powers decided that two was too small a number to constitute a practical safeguard. In cases involving inspections on the territories of states other than the USSR, the United Kingdom, and the United States, the Commission would decide whether or not to exercise the option of an on-site inspection. In the 1961 draft, the Commission could only take such a decision if it were requested by a party to the treaty.

The new draft treaty differed from the previous Western proposal in that the Executive Officer was given complete freedom in staffing on-site inspection teams, except that nationals of the state which was being inspected could not be included. Thus the previous

³³See U.S. Congress, Senate, Committee on Foreign Relations, *Hearing: Test Ban Negotiations and Disarmament*, 88th Congress, 1st Session (1963), p. 15.

³⁴ENDC/PV. 71, p. 18.

requirement that in the case of on-site inspections involving the nuclear powers or permanent members of the Commission the team should be comprised of nationals of the other nuclear side was dropped. Such individuals could or could not be included as the Executive Officer chose.

The area to be subject to on-site inspection was left blank in the new draft treaty, reflecting the Western desire to have a larger area eligible than had been provided for in the 1961 draft. The area normally eligible for on-site inspection under that treaty would have been 200 square kilometers. In certain instances, however, it would have been 500 square kilometers.

Other Modifications

The August 27, 1962, draft treaty allowed nuclear detonations for peaceful purposes only if the permanent members of the Commission unanimously agreed, or if they were carried out in accordance with provisions to be specified in an annex. This annex was not tabled. As will be recalled, the 1961 draft treaty contained an elaborate series of safeguards for peaceful detonations.

Unlike its predecessor, the new Western draft treaty provided that the Commission could make appropriate arrangements for the Commission, the International Staff, and the Verification System "to become part of, or to enter into an appropriate relationship with, an international disarmament organization, or any international organization which may in the future be established among any of the Parties to this Treaty to supervise disarmament or related measures."

The earlier version of the article on finance had stated that the financial contributions of the Soviet Union and the United States should be equal. In the new draft the contributions for the three permanent members would be fixed in percentages, as they would for all signatories, but the specific figures were left for negotiation.

The amendment procedure differed somewhat in the new draft treaty in that the consent of the three permanent members of the Commission was necessary to approve an amendment as well as for its entry into force.

The new draft stated that all parties to the treaty would have the right to inspect the data gathered by the Verification System and reports prepared on these data by the International Staff. The absence of such a provision in the 1961 draft had been felt to be a weakness