A RAND REPORT

PREPARED FOR

ADVANCED RESEARCH PROJECTS AGENCY

DEPARTMENT OF DEFENSE

THE VIOLATION OF ARMS-CONTROL AGREEMENTS:
DETERRENCE VS. DETECTION

Fred Charles Iklé

RM-2609-ARPA

August 1, 1960

This research is supported and monitored by the Advanced Research Projects Agency under Contract No. AF 49(638)-710. This report does not necessarily represent the views of the Advanced Research Projects Agency.

This is a working paper. Because it may be expanded, modified, or withdrawn at any time, permission to quote or reproduce must be obtained from RAND.
SUMMARY

A potential violator of an arms-control agreement will not be deterred by the risk of detection unless he fears that his gains from an evasion will be outweighed by unfavorable consequences. Therefore, we must study, not only what our opponent may do to avoid detection, but also what he may do to escape his penalty.

History shows that world opinion is a rather ineffective sanction for deterring the violation of agreements. The impotence of world opinion stems largely from its short memory. Furthermore, a violator can pursue many stratagems to avoid or mitigate the reaction of world opinion.

An effective sanction depends, above all, on governmental decisions by the injured countries. Unfortunately, a democratic government has to overcome a number of obstacles before it can decide to react effectively to an evasion. It may be reluctant for political reasons to admit that the agreement was violated. It may be unwilling to accept the new risks inherent in stepping-up the "arms race," to raise the military budget, and to offend pacifist feelings. In addition, it may hesitate to split with those allies who wish to ignore the evasion for fear of exacerbating international relations.
One of the most effective deterrents to violation is the threat of a general increase in the military effort of the injured country. It is not enough merely to restore the situation that would exist had it not been for the arms-control agreement. This might still leave the violator with a net gain, as would be the case if he breaks only those parts of a large package agreement that are to his disadvantage, so that the residual agreement will be more in his favor.

A number of measures for deterring evasions ought to be pursued to make it more likely that sanctions will be applied and to make sanctions seem more threatening. Political measures would be helpful to make sanctions seem more certain. They would include such things as enabling legislation to facilitate executive action, parliamentary arrangements to publicize evasions, and interallied contingency plans for dealing with a violation if it occurs. To make sanctions seem more effective we need technical and military preparations, so that a violator cannot obtain a technological or strategic lead.
THE VIOLATION OF ARMS-CONTROL AGREEMENTS:

DETERRENCE VS. DETECTION

The current debate on arms-control and disarmament puts great stress on the detection of violations. To this end inspection schemes and detection instruments are developed, their capabilities and limitations scrutinized, and efforts bent to test and improve them. Indeed, the technical question of detection dominates not only the domestic debate but also international disarmament negotiations.

Yet detecting violations is not enough. What counts are the political and military consequences of a detected violation, since it is these alone that determine whether or not a violator stands to gain in the end. If we enter into an arms-control agreement, we have to know not only whether we are technically capable of detecting a violation, but also whether we or the rest of the world will be politically, legally, and militarily in a position to react effectively if violation is discovered. With all our attention focused on the technicalities of detection, we run the risk of simply assuming that our reactions and sanctions will be adequate.

A potential violator of an arms-control agreement will not be deterred by the risk of detection alone. To be deterred, he has to fear that his gain from violation would be outweighed
by the loss he expects to suffer from the reaction to his violation. In other words, even if we can develop an inspection system that makes the probability of detection very high, the potential violator will not be deterred if he thinks he can discourage, circumvent, or absorb our reaction.

We have learned (almost too late in case of the nuclear test ban) that our detection techniques may be thwarted by evasive techniques. We should also realize that the consequences of detection -- on which we count to deter violations -- may be thwarted by the military or political stratagems of our opponent. We must study, therefore, not only what our opponent may do to avoid detection, but also what he may do to escape the penalty. This question can be clarified by discussing the consequences of a detected evasion under four general headings: (1) the effect that a reaction by world opinion will exert, (2) the effect of the political reaction by the injured country, (3) the effect of various military measures that could be undertaken by the injured country in an effort to restore the situation that would exist had it not been for this arms-control agreement, and (4) the effect of military and political measures that go beyond this "restoration."

\[1\text{In somewhat oversimplified statistical language, the violator's expectation of loss might be described as the probability of detection times the probability of a reaction times the loss due to this reaction.}\]
World Opinion As A Sanction

World opinion, it is sometimes argued, will help to enforce disarmament agreements. According to this view, world opinion will turn against the violator, provided he is discovered and "convicted" by an internationally accepted forum. It is said that the violator will lose prestige with and influence over the uncommitted countries. In addition to these losses, certain world-wide political reactions are expected to work to his disadvantage.

"World opinion" is such an amorphous concept, one finds it difficult to determine with precision how it can injure a violator of arms-control agreements. Speeches or resolutions in the United Nations, or critical editorials in the world press are not likely to hurt him very much. More damaging might be election outcomes that run counter to his interests or a tightening of the alliances that oppose him. Unfortunately, effective results like these often fail to materialize.

The impotence of world opinion stems largely from its short memory. If world opinion cannot be translated immediately into substantive political or military changes that will hurt the violator, the world's reaction will lose all its force.

The suppression of the Hungarian revolution illustrates the point. This was surely an exceptionally violent shock to
world opinion, in fact, far more violent than many possible
violations of arms-control agreements are likely to be. This
is particularly true since the fact of violation usually rests
on easily challenged or equivocal evidence and involves
technicalities that are hard for the public to understand.
Some of the most cherished beliefs of the West and of the
uncommitted countries were flouted by what happened in Hungary:
a large power invaded a small nation to stifle a popular struggle
for full independence; and a popular revolt against a dictatorial
regime was crushed from outside. Many agreements were broken
in the most flagrant fashion, such as the promise given by
the Soviet installed Hungarian government to the Yugoslavian
government not to apply sanctions against Imre Nagy when he left
the Yugoslavian Embassy, and the invitation extended to
General Maléter and other delegates of the Hungarian governme:
to negotiate the withdrawal of Soviet forces. The latter was
an agreement that turned out to be a trap for their imprisonment

2In a note verbale, the Yugoslavian government condemned
the abduction of Imre Nagy as a "flagrant breach of the
agreement reached" (United Nations, General Assembly, Report
of the Special Committee on the Problem of Hungary, New York
1957, pp. 10-11). There were more broken promises in the
Nagy affair. While Nagy was already being detained in Romania
for example, Janos Kádár, as head of the Soviet-installed
Hungarian government, declared: "We have promised not to start
any punitive proceedings against Imre Nagy, and we shall keep
our word" (Nepszabadság, November 27, 1956).
and execution. Yet if one tries to list the penalties that world opinion imposed for this violation of its most sacred norms and of several important articles of the United Nations Charter, there is very little to record only a few years later. There was a slight loss in the strength of communist parties in Western Europe (confined mostly to intellectuals on the fringe of the party), but it was a loss that is no longer noticeable. And the strain in Tito's relations with Moscow and the strengthening of NATO ties (particularly with Iceland) were hardly more than ephemeral.

Some other events of recent years that aroused an adverse reaction in world opinion were Peking's repressions in Tibet and its violations of the Indian border. Yet in February, 1960, only a few months after indignation in India had reached its peak, the Communists increased their vote in Kerala from 35 to 43 per cent. (The attitude of the Indian government today toward China is probably not what it would have been had these events not occurred, but this falls into a category we discuss below: the political reaction of the injured country.)

It is significant that Khrushchev, when he discussed the nuclear test ban, chose to emphasize the reaction of world

---

opinion as a deterrent to disarmament violations. By arguing that it was a sufficient deterrent, he tried, in effect, to brush aside inspection and control problems. But even if one assumed that the reaction of world opinion constituted an adequate sanction -- an assumption we have just challenged -- inspection would still be essential. It is obvious that a violator who does not risk being detected need not fear world opinion. What received insufficient attention in the West, however, are the stratagems a detected violator can pursue to avoid or mitigate whatever strength lies in world opinion.

Many devices are available for this purpose: (1) The violator can frustrate the international inspection system so that it can not reach an official finding (historical example are plentiful; study of the Communist opposition to inspection in North Korea reveals a large bag of such tricks). (2) The violator can blame the other side for having violated the agreement first, and thus confuse the issue. (If successful, this tactic not only mitigates the international reaction against the actual violator, but may even generate an adverse political reaction against the injured party.) (3) The violator can accuse the other side of fabricating the evidence.

as a pretext for breaking the agreement or for covering up some other misdeed. (4) He can assert that the agreement is obsolete in view of what he claims are changed political or military conditions and renounce it unilaterally prior to the intended violation. This would be analogous to the Soviet declaration that the Four Power agreements on Berlin were no longer valid. (5) Finally, if some reaction in world opinion is unavoidable, it may turn out that the violators "will cover themselves with shame" -- as Khrushchev argued when he spoke about the nuclear test ban:

If some side violates the assumed commitments, the initiators of this violation will cover themselves with shame, they will be branded by all the peoples of the world. 5

Yet, six weeks before making this assertion that a nuclear test ban would be enforced by world opinion, Khrushchev had this to recommend:

... international reactionary circles are still trying to discuss the so-called "Hungarian question" in the United Nations. Let them keep it as a souvenir if this consoles them. 6

The violator may not only be contemptuous about world opinion, but he may also justify his acts as demanded by the welfare of


6Translated from the text in Pravda, December 3, 1959.
"the people" or by History, where History is the violator's conception of a superior morality that takes precedence over world opinion:

Had we not helped you [the Hungarian Communists], we would have been called stupid, and history would not have forgiven us this stupidity.  

The Political Reaction of the Injured Country

A sanction to be effective must be based, above all, on governmental decisions by the injured countries. To the extent that world opinion is a significant force, it is through the leverage provided by such decisions. In democratic countries, government decisions are indeed influenced by the opinions of the politically active public, or, more precisely, by the conception of public opinion held by political leaders.

There is one reaction by parliamentary governments that follows almost inevitably upon a major violation. This is an increase in distrust and caution toward subsequent negotiations with the violator. Occasionally, the anticipation of this very reaction may be an effective deterrent to violation. A potential violator, anxious to reach a number of agreements, will not wish to make his opponent into a tougher negotiator; he will tend to refrain from violations until the negotiations

7Ibid.
are concluded. However, the question is how long this period of negotiatory distrust will last.

More important than any damage to future negotiations are decisions by the governments of the injured countries to implement military measures and foreign policy moves to counter the violation. Unfortunately, democratic governments have to overcome some serious political obstacles before they can react effectively to an evasion, and a shrewd violator will exploit these obstacles in the interests of minimizing his penalty.

Let us look at the many difficulties that confront the decision-makers:

(1) The injured government must acknowledge the fact of violation. In case of an open and well-publicized violation, this difficulty does not exist. But if evidence of the violation is equivocal or based on secret intelligence, the government will not only influence the public conception of this evasion, but must determine its own private interpretation.

A clear-cut admission that the agreement had failed might be exploited by a party out of power, particularly if the administration in power had signed the agreement originally. In such a situation some decision-makers may favor an interpretation which casts doubt on the intelligence data about the evasion or which belittles the importance of the evasion.
Responsible decision-makers seldom distort evidence deliberately.\(^8\)

The interpretation of complicated information, however, is often a matter of judgment and discretion; hence subtle biases may decide the issue. Decision-makers are particularly disinclined to accept equivocal evidence about an evasion if they have previously been forced to defend the disarmament agreement against partisan charges that it would be violated. In so defending it, the decision-makers may have committed themselves -- both publicly and in their own mind -- to the prediction that the agreement would be a success.

To avoid these political difficulties, the injured governments may try to meet the issue without publicizing it in their own countries. Democratic governments would be severely handicapped if they chose this tactic. Only minor penalties against an evasion could be instituted without informing the parliaments and the public about the need for retaliatory or corrective measures.

\(^8\)When Germany violated rearmament restrictions in the Thirties, Winston Churchill suspected that "somewhere between the Intelligence Service and the ministerial chief there has been some watering down or whittling down of the facts." (Speech of May 22, 1935 in While England Slept [London, 1939], p. 190). Prime Minister Baldwin's later admission suggested that there might have been something deliberate about this "watering down," and perhaps at the highest level.
(2) The injured government must be willing to increase military expenditures and to offend pacifist feelings. Public admission that the agreement has been violated is only the first hurdle which the decision-makers face. To the extent that an effective reaction to an evasion requires new military measures, the decision-makers may have to increase military expenditures. A violation that can be answered only by a major rearmament effort will lead to an increase in taxes or to a budget deficit -- a politically unpleasant prospect in either case. Of course, the reaction to a localized or minor violation need not disturb the defense budget appreciably (e.g., the new military equipment needed to counteract the North Korean violations of the rearmament clause).

The decision to react firmly will be a hard one, not only because of its financial implications but also because it may seem to offend public opinion. The evasion may have occurred gradually, so that, lacking a sudden dramatic stimulus, both the government and public are all the more reluctant to rearm (or to resume some other activity that has been discontinued -- such as testing). If the government's knowledge of the evasion is based exclusively on clandestine intelligence sources, the opponent's denial may find receptive ears among domestic opposition groups. The government may find it necessary to
conceal its sources of information, in which case it faces a particularly delicate task in defending its assertions before an unsympathetic audience.

We have already questioned the effectiveness of world opinion as a sanction against arms-control evasions. It is ironic that domestic public opinion -- or rather the government's conception of it -- may actually prevent an effective sanction. The classic instance of this, and one that may have been a contributing cause of World War II, was England's reluctance to rearm in response to Hitler's violations of the Versailles rearmament restrictions. With what he called "an appalling frankness," Prime Minister Baldwin explained in 1936 why his own government had been unable to react:

You will remember at that time [1932-33] the Disarmament Conference was sitting in Geneva. You will remember at that time there was probably a stronger pacifist feeling running through this country than at any time since the war. You will remember the election at Fulham in the autumn of 1933, when a seat which the National Government held was lost by about 7000 votes on no issue but the pacifist.... I asked myself what chance was there....within the next year or two of that feeling being so changed that the country would give a mandate for rearmament? Supposing I had gone to the country and said that Germany was rearming and that we must rearm, does anybody think that this pacific democracy would have rallied to that cry at that moment? I cannot think of anything that would have made the loss of the election
from my point of view more certain.\(^9\)

(3) **The injured government must accept the new risks born of its reaction to the violation.** Domestic difficulties are not the only obstacles that stand in the way of an effective reaction to a violation. The government may have embarked on long-range policies it considers more promising and more important than some corrective action to an accomplished evasion, and it may fear that these policies would be jeopardized if it reacted to the evasion.\(^10\)

It has been argued that all countries will be deterred from violating a major arms-control agreement in the present era because a violation would set in motion an unrestricted arms race that would eventually lead to disaster for the guilty as well as for the innocent.\(^11\) Such a prospect will inhibit a


\(^10\)When Churchill pleaded for a more effective reaction to Hitler's treaty violations, he was fully aware that such reasoning prevented speedy counter-measures: "Then it is said -- and I must give this explanation of the extraordinary fact -- that 'we were laboring for disarmament,' and it would have spoiled the disarmament hopes if any overt steps to raise our Air Force had been taken." Speech of May 22, 1935, *op. cit.*, p. 190.

\(^11\)This argument has often been made. For example, the Committee on Science and Technology of the Democratic Advisory Council wrote on March 14, 1960, about the nuclear test ban: "A nation which violates such an agreement automatically sets into motion an arms race from which there may never be an end."
violation, however, only if it seems likely that the violation will actually provoke the other side to resume the arms race. The trouble here is that the very prospect of an unrestricted arms race might itself inhibit the injured party from reacting to the violation. It might seem safer to the injured party to write off the violation as a loss than to risk new dangers by a policy of rearmament, especially since the injured country may be in a weaker military position as a result of having complied with the agreement.

This dilemma is a most serious one. For example, the nuclear test-ban conference adopted an article on March 19, 1959, upon the insistence of the United States and the United Kingdom, that affirms a country's "inherent right" to withdraw from the treaty if its provisions, "including those providing for the timely installation and effective operation of the control system," are not being fulfilled. This article might play a cardinal role in the accession of China to the test-ban treaty, because part of the control system would have to be installed in China. But would it give the Western powers much leverage against Chinese obstructionism? In the absence of a known instance of illegal testing, would the West be willing to withdraw from a test-ban treaty with the Soviet Union, resume testing, and risk accelerating the arms race, merely because
the "timely installation" of the control system was being prevented by China?

(4) The injured government may have to reach agreement with allies before it can react. -- All disarmament agreements of current interest (both those already negotiated and those in the planning stage) involve the United States with one or several of its allies. It is usually a difficult task to prepare a joint negotiatory position vis-à-vis a Communist opponent. A Western reaction to a violation will raise anew the problem of allied coordination. The stronger and more explicit the planned reaction, the more coordination will usually be required. Thus, the above-mentioned difficulties over domestic public opinion and partisan politics will be repeated in the allied nations whose cooperation is required.

Military Measures to Restore the Status Quo

The military sanctions against the evasion of an arms-control agreement can either be confined to measures that restore the situation that would have existed without the agreement, or they can go beyond that. Let us call the former "restorative measures." If the violator resumes testing, the injured country will do likewise; if the violator re-occupies his part of a neutralized zone, the other will move back into his, and if the violator rearms, his opponent will rearm to
The problem of deterring evasions has often been oversimplified by assuming that a detected evasion would automatically be taken care of by the cancellation of the agreement and such "restorative measures." Three conditions have to be met if "restorative measures" by themselves are to be an adequate deterrent:

1. The potential violator must fear the risk of being detected.
2. He must also fear that a detected violation will be reacted to by the injured country.
3. He must not expect an irrevocable advantage from violation that would outweigh the gain he derives from abiding by the agreement.

The first condition, detectability, is always fully recognized. The second condition, the reaction to a violation, depends on the political factors we just have discussed. Both these conditions are needed for deterring an evasion by any type of sanctions, whether "restorative measures" or punitive reactions that go beyond the status quo. Here we are interested in the third condition, because if it is not met, "restorative measures"
alone are inadequate.

This third condition is not met, for example, if an agreement comprises several arms-control measures in such a way that the individual measures, taken by themselves, favor either one side or the other. Such an agreement remains equally in the interest of both parties only if all measures are combined. Given such a composite agreement, the violation of a part of the agreement cannot be deterred by the threat of "restorative measures" that are confined to only this particular part. Additional sanctions are required. Otherwise the violator can break just those control measures within the over-all agreement that are not to his advantage. He will stand to gain if his violation remains undiscovered or ignored; and he will also gain if the violated part of the agreement is cancelled, because the residual agreement will then be more to his advantage.

This is precisely what happened with the Korean armistice. The clause prohibiting the introduction of new military equipment was violated by the Communists from the first day on, but cancellation of this clause by the United Nations Command did not come until four years later. So the Communists gained on the first count. They also gained on the second count (after the United Nations eventually instituted "restorative measures"), because the residual armistice agreement was more favorable to
the Communists than the original agreement. (It was they who had been primarily constrained by the cancelled rearmament clause.)

It might be argued that an arms-control measure can survive only if all its separable components are equally in the interest of both parties. If this argument is true, the future for disarmament agreements is bleak. It is hard enough to arrive at over-all agreements that will not, over time, seem disadvantageous to one side or the other. But individual components of an agreement are inevitably of unequal value to opposing nations. For example, in addition to the Korean armistice, several of the current proposals for disengagement zones are composed of very unequally balanced measures.

There are other situations where the threat of "restorative measures" is inadequate to deter an evasion. The violator may gain an irrevocable technological lead or an irreversible strategic advantage. It has often been contended that in the event of a withdrawal of U.S. and Soviet troops from West and East Europe, the United States would find it difficult or impossible to return should the Soviet troops move back in. This would be because Western alliance arrangements might have lapsed, U.S. troops might have been demobilized and would, in any case, have to be moved a greater distance -- not to mention
the American public's unwillingness to send "the boys" back overseas, particularly under a threat of nuclear war.

To sum up, "restorative measures" will not deter a violator in those situations where our third condition is not met, namely, when the violator expects to gain less from the continued existence of the arms limitation than from its abandonment. Hence, a potential violator may enter such agreements solely in order to seek gains by violating them. There would always be a chance that he might not be detected or that "restorative measures" might be delayed or frustrated for political reasons. And if he lost out on these chances, the mere return to the status quo would leave him no worse off than before he entered such an agreement. The violator, in fact, would be playing the profitable game: "Heads you lose, tails we're even."

Military and Political Measures Beyond "Restoration"

Where the threat of "restorative measures" is not enough to deter evasions, additional penalties are required. In view of the inefficacy of world opinion as a sanction, and because of the above-mentioned political obstacles to a vigorous reaction by the injured party, it seems dangerous to assume that "restorative measures" would automatically lead to additional penalties. Unless a special effort is made to make
the threat of additional penalties more credible, a potential violator will not be deterred.

We must first consider what penalties are available for this threat before turning to some suggestions for making it more credible. By far the most important and practical penalty is a general increase in the military effort of the injured country that goes beyond that required for "restorative measures." (A threat to start a war would not be equally credible and would therefore be less effective.) Suppose the aggrieved nation increases its defense budget by twenty billion dollars? (As a result of the North Korean aggression, U.S. national security expenditures rose from $13 billion to $52 billion, and afterwards leveled off at $45 billion.) If the violator does not follow suit, he will become relatively weaker than he was before breaking the disarmament agreement. If he does follow suit, he would, in effect, be "fined" the equivalent of twenty billion.

The injured country can step up its defense effort in ways that do not require a large increase in the budget and still impose significant penalties on the violator in a number of ways: for example, by changing the deployment and readiness of weapons, or by resuming military activities that were voluntarily limited beforehand. However, the injured party
that does this runs the risk that such a "punitive" increase in its defense effort will renew or accelerate the arms race. If it is not willing to run this risk, violations that cannot be deterred by "restorative measures" alone cannot be deterred effectively. Actually, the violator has good reasons for avoiding an arms race with so determined an opponent. In fact, the violator may be unwilling or unable to pay his full "fine" and have to accept a loss in relative military strength.

Those who wish to prevent the violation of arms-control agreements must seek to deter potential violators by their determination to make a double sacrifice. In the event of violation, they must assume a greater economic burden for defense, and they must risk a stepped-up military competition. The willingness to make the sacrifices required to deter arms-control violations, however, is qualitatively less formidable than that required to deter limited aggression. To deter limited aggression, a country must be willing not only to accept increased defense costs if deterrence fails, but also to suffer casualties and face the risk that the limited conflict may expand.

Political sanctions are generally less effective than an increased defense effort, although they may play an important complementary role. A tightening and more effective cooperation
of the alliance opposed to the violator is perhaps one of the strongest deterre\nents, next to an increase in military budgets. As we have shown, however, this reaction may be thwarted by skillful, political and propagandistic counter-strategies. Political reactions to what may or may not happen in the future, such as an arms-control violation, are largely unpredictable. If the potential violator is cautious, this unpredictability in itself will help to deter him; if he is adventurous, like Hitler, he will gamble on his ability to meet and overcome the political reaction.

**Measures to Make Deterrence More Effective**

The nature of arms-control agreements is such that violations cannot usually be prevented directly, in the way an invasion might be stopped, but only indirectly, by deterring the potential violator. Hence, we must think of ways to make the penalties of evasion seem more inevitable and severe and the gains more dubious.

Parliamentary governments are more likely to take strong action against a violation if they are supported by public opinion. To enlist this support, the evidence of violation must be such as to impress the public as authoritative and impartial. A finding by an international organization will be more effective for this purpose, especially to rally public
opinion within a broader alliance system. An international body, however, has many weaknesses that can be exploited by a violator. Ideally, one would want the best of both worlds: the greater authenticity and dramatic impact that an international inspectorate provides, and the flexibility and versatility of national intelligence systems. One should at least avoid arms-control arrangements that are administratively closed off to intelligence information. On the test-cessation agreement, the negotiatory tactics of the Soviet Union in 1958-60 seem to be aimed at a very rigidly confined scheme into which Western nations could not feed intelligence information.12 The Antarctica treaty, on the other hand, provides for complete freedom of unilateral inspection without any international mechanism (except suggestions for arbitration in the event of "disputes").

The deterrence of evasions could be strengthened by certain legislative measures to lower the hurdles in the decision-making process of parliamentary governments. This process is

12Khrushchev, in his letter to Eisenhower of April 23, 1959, regarding the nuclear test ban, agreed that on-site inspections might be carried out in areas where the instrument readings indicated suspicious events. But he hastened to add that "Such suspicion would of course have to be founded, not on the personal conclusions of staff members of the control organ, but on objective instrument readings."
strongly influenced by the decision-makers' conception of world opinion. The United States government, for example, has sometimes resorted to enabling legislation designed to facilitate quick Presidential action, in order to disabuse a potential aggressor of the idea that partisan conflict or public quarreling about constitutional limitations or the issue at hand might inhibit an effective response. The Formosa resolution of 1955 is an example of Congressional authorization for the President to take action on the basis of his finding alone.\textsuperscript{13} The United Nations Participation Act of 1945, on the other hand, authorizes the President to act upon a decision by an international body, the U.N. Security Council.\textsuperscript{14} To strengthen a disarmament agreement both types of authorizations might be useful. The latter, which follows a decision by an international-control body, could make that body more effective; and the former, which leaves it to the President's discretion to determine when action is needed, would enable the United States to act quickly,

\textsuperscript{13}Public Law 84-4 (January 29, 1955). This resolution authorizes the President to employ armed forces "as he deems necessary for the specific purpose of securing and protecting Formosa and the Pescadores against armed attack..."

\textsuperscript{14}22 U.S.C. 287. This act authorizes the President to apply economic sanctions whenever called upon by the Security Council, and to negotiate an agreement with the Council providing for armed forces.
and would make it seem likely to a potential violator that the President will take strong action. A good time for enacting such enabling legislation is when Congress ratifies an arms-control treaty.

Other administrative devices might take advantage of the power of the legislative, rather than the executive branch of the government, in order to increase the credibility of a strong reaction to an evasion. Special parliamentary committees might assume an explicit responsibility for all arms-control agreements, and help to enlist the support of the legislative branch whenever a special effort is required to respond to an evasion. In the United States, the Joint Committee on Atomic Energy, with its privileged access to classified information and its intimate interaction with the executive, could offer some administrative precedents specially suited for this purpose. Congress, for example, might create a "Joint Committee on the Observance of Arms Controls" to show its determination to make arms-control agreements succeed.

An effective response to a violation often requires coordination and agreement among allies. As said before, this might be difficult to achieve for a number of reasons, such as inter-allied differences in the interpretation of the evidence of an evasion, conflicting views about the most appropriate
form of reaction,\textsuperscript{15} and the reluctance of certain allied governments to antagonize their internal pacifist opposition.

This situation might be improved by a preparatory agreement among allies for joint action in the event of an evasion. One device to reduce inter-allied differences might be a contingency plan for dealing with the problem in a piecemeal fashion. First, to reach agreement as to the fact of evasion, all evidence could be evaluated by a committee of the allies, or better still, by an inter-allied agency permanently set up for this purpose. To minimize considerations of domestic politics, this committee or agency should not be made responsible for recommending any action. The next step by the allied governments might be a relatively minor action on which agreement could easily be reached, but one that would give publicity to the finding of this committee; for example, these governments might forward a report on the evasion to the United Nations or to an international

\textsuperscript{15}This reason has played an important role in past differences with our allies, for example, in the British-American dispute over the reaction to the Suez nationalization. Sometimes these conflicting views are based on purely legalistic reasons or at least justified by such reasons -- a serious possibility for complicated international arms-control agreements. For instance, the United Kingdom abstained on the U.N. resolution deploring the Chinese actions in Tibet (October 21, 1959), the British delegation declaring that it was "reluctantly unable to support the resolution because of doubts whether Article II, vii of the Charter [which forbids interference in a country's domestic affairs] applied."
control system provided by the disarmament treaty. At this point, the allied governments would be faced with a jointly held and publicized interpretation of the violation, and would accordingly feel under a greater compulsion to reach agreement on effective sanctions.

It may be argued that allied governments cannot be "tricked" into such a procedure, because if they are opposed to or afraid of vigorous action they will avoid taking the first step; the evaluation of evidence. This argument would have force if the procedure were to be determined after the violation had been charged. But it is proposed here that the allies firmly establish the procedure by a preparatory agreement at the time they conclude the arms-control treaty. Then they will still be fairly confident that the other side will adhere to it, and they will be less opposed to a firm commitment for this seemingly remote contingency.

All these political measures must be complemented by military preparations against the event of violation. For instance, under an agreement that prohibits only the testing of certain weapons, both sides remain free to continue research and development. The country that wants to abide by the agreement cannot afford to neglect this research without tempting a potential violator to exploit a technological lead. Unless this fact is well understood by the public, parliamentary governments will be handicapped in maintaining a research effort for weapons whose
testing has been prohibited. The same problem would also arise under an agreement that prohibits the deployment, but not the development, of a weapon -- for example, a ban on placing weapons of mass destruction in orbit.

A program to deter the evasion of arms control agreements -- such as is suggested here -- does raise some additional problems for which an analogy can be found in the modern military strategy of deterrence against nuclear attack. First, there is the problem of carrying out a threat if deterrence fails, that is, of imposing sanctions in the event of evasion, or of retaliating in the event of attack. An advance commitment to carry out the threat is rational and necessary for a policy aimed at deterrence; but carrying out the threat after deterrence has failed may be undesirable or even irrational. Second, a policy of deterrence against evasions has to cope with accidental violations, just as a policy of deterrence against nuclear attack has to control the risk of accidental war. In the former case it is desirable for both sides to correct the unintended violation and to preserve the agreement; in the latter, both want to avoid or correct an "accident" before it leads to the full exchange of violence. Third, there is some resemblance between the advantage of a first strike in mutual deterrence against nuclear attack and the advantage of gaining time through an evasion in certain arms-control agreements. All these analogies are
not exact, of course. But they do suggest that ideas in the literature on deterrence can be as relevant to the prevention of violations in arms-control agreements, as they are to the prevention of war.