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# Reciprocal Disarmament: A Game Proposal

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THE EVENTS OF THE late 1980s brought high hopes that arms control could play a major role in reducing both the danger of war and the considerable economic burden which the maintenance of large military forces represents. At the same time, many critics have pointed out that arms control, at least as traditionally conceived, has inherent limitations. For no treaty, however well–drafted, can ever encompass and quantify every significant aspect of the military strength that potential adversaries may have. As a result, one of the most important requirements for the success of arms control, in practice, is that all parties refrain from exploiting too aggressively whatever "gaps" remain in the agreements they have reached. There may be domestic pressures not to sacrifice capabilities or programmes that are not specifically ruled out by the letter of an agreement. But if these pressures are not resisted, any gains—whether in terms of increased military stability or in terms of cost savings—will likely be undermined over time should parties to the agreement divert their efforts into areas that are not rigorously fixed by the agreement. The SALT I Treaty, for example, encouraged, rather than discouraged, destabilizing developments in strategic force structure—notably MIRVing—and as a result, helped to discredit arms control *per se* for many years.

Yet even the Conventional Forces in Europe (CFE) Treaty, by far the most comprehensive and far–reaching of all the agreements that marked the end of the Cold War, has important limitations. It places no restrictions on the quality of the forces allowed the two sides, nor on the rate at which they can be modernised. As Nato discovered, to its apparent surprise early in 1991, the treaty permits the stockpiling of massive inventories of equipment by the Soviet Union just east of the Ural Mountains. And it takes no account of the considerable firepower that U.S. and Allied naval forces could bring to bear on a land war in Europe, an issue on which the Soviet military continues to feel unfairly treated.

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If the very real gains from the signature of the CFE Treaty are not to be whittled away, the signatories must refrain from assuming that "everything not prohibited is allowed." If resources released from frontline equipment stocks are used to improve quality, if savings on ground-based air forces are used to build up carrier air power, and, more generally, savings on treaty-limited items are used to build up non-limited aspects of military capability, the arms race will not have been reversed; it simply will have been displaced.

The negotiation of a second treaty (a CFE II) is often suggested as a means for safeguarding and increasing the benefits that flow from the CFE Treaty. Such an agreement could reduce the number of major weapon systems to a level 35–40 percent below that of "CFE I." Negotiators might also seek to extend the treaty to include items not presently included, such as manpower or even naval forces. Even if this were to occur—and at present the difficulties inherent in extending CFE to include naval forces seem insurmountable—there would remain many aspects of military power that would be unconstrained by treaty.

Because of this problem, which it can be argued is an inherent consequence of the attempt to restrain complex military capabilities through simple numerical ceilings on weapons inventories, I am suggesting an approach that complements formal arms control: a process of unilateral, but broadly reciprocal, concessions. In such a process, concessions by one side might be matched by cuts in a quite different area by the other side. The direct and immediate object of unilateral steps would not be to elicit a similar response from the other side, but rather to contribute to a climate in which both sides would be able to draw down their threats to each other. This may involve a whole series of unreciprocated initiatives in unrelated areas.

This broad concept seems to have informed much of what has actually been happening in recent years, such as Gorbachev's approach to arms control since he came to power in 1985. Beginning with his unilateral moratorium on nuclear tests, and culminating in the complete withdrawal of Soviet troops from Eastern Europe, Gorbachev has systematically sought to demonstrate by deeds that he is "taking away the enemy." Even before a successful conclusion had been reached in the CFE talks, the Soviet Union had announced the withdrawal of half of its tanks from Eastern Europe, and was well advanced in talks aimed at withdrawing all its forces from Eastern Europe. In response to this sharp reduction in the Soviet threat, both the United States and its major European allies announced plans to cut their forces in Europe to levels well below those to which they were entitled by the CFE Treaty. On both sides, therefore, the main impetus for mutual force reductions came not from the CFE Treaty, but from a more complex process of mutual threat revision and unilateralism.

While it is likely that a role for such mutual unilateralism will continue, so far there has been rather little thought given to what form it might and should take. I suggest that there should be at least three criteria taken into account:

• Whether a set of steps proposed for a country would leave that country feeling significantly less secure militarily.

• Whether an opponent would view the steps taken as a genuine reduction in the threat that it perceives.

• How acceptable the proposed cuts would be to the decision-making apparatus of the country that is to make the cuts, given the power of their various pressure groups—military, industrial, bureaucratic—which are capable of blocking or supporting such developments.

A "disarmament game," which seeks to go beyond the discussions of military doctrine already begun between members of the Conference on Security and Cooperation in Europe (CSCE), could help determine what steps might best meet these three criteria. Such exchanges are of value insofar as each participant is able to form a more accurate sense of the others' concerns, both military and domestic-political. Yet by their nature they may be too unstructured to give specific guidance to a country as to what unilateral measures might most contribute to its own security, at minimum cost to itself. Our game thus seeks to develop a means of filling the gap between, on the one hand, the detailed "bean-counting" approach of the formal arms control talks, and on the other hand, the broader approach seen in the doctrine discussions.

## The Game's Principles

The game suggested in this paper is intended to help identify specific reciprocal steps which could achieve substantial and mutually satisfactory results. It is thus both a test as to whether reciprocal disarmament would produce results that are mutually acceptable, and an effort to elaborate specific options for such a process. However, I do not propose that negotiations should actually take this form. The game is designed to stimulate ideas and inputs that might enrich the existing decision-making mechanisms, not to serve as an alternative model.

There are some parallels to war gaming—which has cost a great deal of effort and expense in governments over the last 20 years.[1] War gaming involves teams of players—traditionally Red and Blue—taking on the make-believe roles of decision makers. It may be more informative in the questions it raises than in the answers it gives, and disarmament gaming may be too. At any rate, it is hoped that in thinking about the proposed game, the participants will develop new ideas on how to carry forward the process of disarmament.

The idea of such games is not entirely new. It was first proposed, to my knowledge, by S. H. Salter, in a little-known paper distributed in 1984.[2] It has been tried as a teaching aid in reference to strategic nuclear negotiations at the U.S. Naval War College.[3] And, most recently, the Center for Foreign Policy Development at Brown University, working with the Institute for U.S. and

Canada in Moscow, has begun playing a game designed to explore possibilities for CFE II talks.[4]

Surprisingly, however, games of this sort have never been used to explore the possibilities for reciprocal unilateralism, a purpose for which they are particularly well-suited. In formal negotiations, symbolic results, such as the explicit acceptance of parity in force numbers, are of considerable importance. Even if military stability might be better served by an asymmetrical agreement (with each side ahead in some categories, while behind in others, as a game that models formal negotiations is likely to suggest, it may be difficult to justify such an agreement to a wider political audience. By contrast, our game seeks to complement the formal arms control process, rather than guide it directly, and thus does not require an explicit rejection of the "parity principle." Because it is not bound by the need to limit itself to particular categories of weapons or units, it is free to explore other, less-examined, means of achieving mutual reassurance.

The game assumes there are two decision-making centres, one representing Nato and the other representing the Soviet Union. It is assumed that each side is capable of making its own decisions as to priorities and threat perception. It is also assumed that CFE I has been agreed upon and is in the process of being implemented. Game Control gives the teams a list of assumptions as to what the post-CFE I forces look like, as well as how the treaty provides for phasing in the proposed reductions.[5]

Step 1 in the game is the Disarmament Initiative Shopping List. It might alternatively be called the threat identification step.

Each team, simultaneously, lists all the military capabilities of the other team which it considers to be threats. Control may provide first drafts of these lists in order to expedite the game. It is up to the teams, however, to amend or ignore these drafts as they wish.

For each of the capabilities listed (in as much detail as they wish), each team specifies what steps will have to be taken by the other team for it to be satisfied that the threat has been removed. Thus, for example, the Nato team might consider two Soviet squadrons of attack aircraft to be a threat. For the Nato team to be satisfied that the threat has been removed, the aircraft would have to be destroyed and the units disbanded. This in turn would require the type of on-site inspection that has already been provided for in the CFE Treaty.

Limitation on what may be included in the list of threats is as small as possible. Threats can be defined in terms of a combination of different units (weapons, soldiers, brigades, etc.); location of units; action of units (training, exercises, concealment, etc.). If a team wishes, it may include the possibility of accelerating the process of cuts announced in CFE. The main fixed requirement is that the team specifying a particular threat should also specify a means of adequately verifying its removal.

This liberal interpretation of threat has a number of advantages. It allows bringing into discussion many military capabilities that are presently left out. For example, potential threats from navies and from forces based east of the Urals could be discussed, as could the rates at which new weapons or technologies are introduced by potential opponents. It is even possible that one or both teams may decide to include factors that are integral to military preparations, but are generally overlooked in formal negotiations. Some boundaries to the exercise clearly need to be established in order to forestall an all-encompassing discussion of the East-West relationship in all its political, humanitarian and cultural dimensions. Certainly, however, the possibility of limiting the adaptation of civil assets for military purposes, or the type and scope of military intelligence activities, should not be ruled out.

This liberal approach to setting the limits of the discussion provides a useful complement to the CFE process—a process in which the setting of limits has been the central bone of contention at every stage. The talks did not formally start until the Warsaw Pact agreed to exclude navies and nuclear weapons. By far the most important breakthrough came when Nato agreed to include manpower, aircraft and helicopters. The main substantive disagreements in the endgame focused on which aircraft and armoured vehicles should be included in the treaty, and which should be excluded. By comparison, setting the actual level of the ceilings was a much less controversial matter since both sides were committed to the principle of numerical parity at or below current Nato levels.

In our game, by contrast, the boundaries of the talks can be left much less well-defined. Unlike the CFE process, inclusion of a particular type of unit in the discussion (through its inclusion in one team's "disarmament shopping list") does not imply that the other side will choose to accept limits on that unit. For each team decides which of its own forces it will remove, choosing only a fraction of the options submitted by the opposite team. (See step 3.) Thus, acceptance that it is legitimate for either side to voice concern about something in no way implies that anything will be done about it.

The listing of possible disarmament steps is interesting and even modestly revealing. In order to give it bite, however, it is necessary to weigh these threat perceptions. This obliges participants to state the relative importance of the items in the list of choices. This is carried out in Step 2: Pricing the Disarmament Shopping List. In this stage of the game, each team attaches a value (up to a total of, say, 10,000 for the overall selection) to each threat on the list.

In addition, both teams are told that they must divide their list of threats into units of no more than, say, 100. This requirement for a maximum value for any one threat is necessary in order to allow for the fact that a number of small steps may be easier for either side to take than one or two larger ones. It may be easier for Nato, for example, to cut the size of all its separate air forces by 10 percent than for it to totally withdraw all U.S. aircraft from Europe. It is thus necessary

that, in identifying the threats it believes it faces, the Soviet Union break down the threats from each of the Nato air forces to a level of detail that allows for cuts of this order of magnitude.

Disarmament initiatives may overlap each other in content. Thus a team can ask for both a reduction in production and in deployment of a particular weapon and weigh them separately. Although cuts in overall budgets may be given a separate weight, clearly much of the budget is for items—such as weapons and personnel—that may also be listed elsewhere.

However, there is nothing particularly unusual in this. No one measure can capture the entire character of a particular threat, and the use of several indicators thus adds to the realism of the exercise. Indeed, this very point was recognised in the limits placed on numbers of U.S. and German military personnel, which complement the simultaneous restrictions the CFE Treaty places on the equipment held by these forces.

Step 3 is the Threat Removal Step. In this step, each side is obliged to make a list of the measures it proposes to carry out. These should add up to 20 percent of the disarmament initiatives identified by the other side.

Step 4 is the Reciprocation Agreement Step. Once both sides have looked at and compared the lists, each should discuss separately whether or not to accept the entire package. The game is "won" only if both sides believe that they would be better off by participating in the mutual cutbacks than by retreating from the process.

## The Players

The disarmament game is quite complex. It may work best with well-informed participants who have a broad knowledge of the current correlation of military forces, as well as an understanding of the political factors that would limit the flexibility of a reciprocation process. It seems plausible to suggest that different types of participants—military or civilian, American or European, academicians or practicing politicians—might adopt different priorities and approaches. This suggests that, firstly, the teams should be chosen to reflect a balance of different interests;[6] and secondly, that it would be interesting to see whether significantly different results would be obtained if dissimilar types of participants were chosen.

The complexity of the game should not, however, be overstated. For a knowledgeable group of 10-12 people, and with careful preparation, the game's purposes and rules could be explained in half a day; the actual game could be played over perhaps two days; and an initial feedback session might last a further half day. Assembling a group of middle-ranking officials, officers and non-governmental experts together to play the game could yield results more concrete than many of the short seminars in this field. If nothing else they would

produce some concentrated brainstorming on the possibilities for disarmament post-CFE I: a topic which is already becoming of ever greater importance to the security planning of both sides.

## The Advantages of the Game

*It Rewards Honestly*. The first advantage of the game is that it creates incentives for both sides to be honest about what it is that they fear most, and what they fear very little, if at all. Because the choice of what to cut is decided by the other team, overstating a threat for deliberate propaganda or deception purposes (as opposed to genuine misunderstanding) would be a foolish tactic that would allow the opposite side to earn its quota of disarmament points by removing precisely those threats that have been distorted.

In addition, it would minimise the tendency in traditional arms control for reductions to be concentrated on those weapons and units which are of lowest military value. One drawback of CFE-type processes is that the first weapons to be scrapped are always the oldest and least threatening. The need to agree to common and verifiable definitions of categories of weapon systems, as a precursor to an agreement on parity in those categories, tends to lead to very broad categories of weapons—such as "combat aircraft" or "artillery." One merit of the game is that it allows each team to segregate the forces of the other side in any way it chooses, without having to suggest that this type of segregation is appropriate to its own forces. For example, Nato could divide the Soviet tank fleet between old and new models, and define these two categories in terms of the actual models (T-54/55/62 as old, T-64/72/80 as new).[7] As long as the team choosing to divide the threat in this way is satisfied that it can verify the difference, that is sufficient.

In a similar vein, the game should encourage the players to spread their allocation of the perceived threat in accordance with relative threat values, rather than simply concentrating on one component of the threat to dictate what disarmament actions the other side will take. For example, were Nato to allocate its entire threat budget of 10,000 points to the Soviet ground forces in Germany, with the aim of forcing the Soviet Union to cut here rather than elsewhere, the Soviet Union would then have to cut only 20 percent of this one component of its forces, and nothing else. Yet, if Nato had allocated its 10,000 points over the spectrum of Soviet forces to reflect the multiplicity of threats it faces, the Soviet Union would have to give up 20 percent of its entire threat, not simply 20 percent of one component.

*It Uses Military Asymmetry Productively*. One drawback of traditional arms control is that it tries to fit military structures into a framework—numerical parity—which is essentially artificial, leaving out those elements of the military

balance that cannot be quantified easily (such as personnel quality). Moreover, it often exhibits a tendency to downplay the fact that asymmetries often reflect differences in the geographical, economic, or political environment between the participating states. It is geography that drives the Soviet Union to put emphasis on its army, and the United States to support a large navy. Differences in technological capacity help to explain the Soviet Union's tendency, at least until recently, to emphasise quantity at the expense of quality. Important domestic considerations, in addition to differing geostrategic positions, explain why some countries have conscript armies and other do not.

The logic of the principle of "eliminating asymmetries," if carried to an extreme, would make no allowance for such factors. Rather, whenever there is an asymmetry, it would removed. Nato should reduce the number of its aircraft carriers to Soviet levels, the Soviet Union should replace conscripts with a volunteer force (or the United States should introduce conscription), and all countries should produce weapons of comparable quality! Simply stating these possibilities illustrates the need to recognise that parity is not the ideal for every situation.

All of this is not to deny the strong political imperative for parity, sought as much by the East as by the West. By appealing to popular concepts of equity, the parity principle helps mobilise support for cuts that might otherwise be unobtainable. Yet the limits of parity (as a goal) should always be borne in mind. So far, the CFE process has succeeded because the Soviet Union, for a combination of economic, political and military reasons, wishes to make deep cuts in its force levels. It has thus agreed to a treaty which institutes parity only in those categories in which the Pact is in the lead. In a CFE II it may not be so easy. As the process advances, the more important it will become for the ideal of parity to be tempered by the need to take into account different, yet legitimate, national requirements for defence.

That is why our game does not try to suppress those asymmetries that are useful. It uses them as a lever to make disarmament easier. It starts with the thesis that the desired outcome is not equality of opposing threats at the lowest possible level; it is the clear superiority of each side's defences over the other's possible offensive threats.[8] In order to close in on this goal, the disarmament process should seek to create or widen this superiority by reducing perceived threats more than it reduces the military capability needed to defeat them.

This aim should find broad agreement. All of the major powers have clearly rejected the utility of military force for any purpose other than defence, at least in Europe. Both Nato and the Soviet Union are now, and arguably always have been, essentially defensive and conservative in their broad goals[9]—a conservatism partly forced upon them by the onset of the nuclear age, and partly taken on willingly in order to minimise the risk that Europe might once again face the carnage of world war.

While both sides now seem to be primarily defensive in the objectives they have set for their military forces, neither feels sure that the other side will always feel the same way. Accordingly, both Nato and the Soviet Union are likely to continue planning on the assumption that the other side might, at some stage, go on the offensive, particularly if that potential opponent still maintains, albeit for purely defensive objectives, forces which are viewed as potentially offensive in nature.

The primarily defensive nature of the defence goals of the two alliances, in contrast to the much more ambiguous nature of their military structures, means that one might expect a country's defensive forces to be of more importance to itself than to its potential foe. In practice, most forces can be used, to some extent, to pursue both defensive and offensive goals. Nevertheless, some forces are more suitable to one type of operation than to another, a fact that is already acknowledged in the CFE talks by the decision to single out particular types of weapon systems as essential components of "the capability for launching surprise attack and for initiating large-scale offensive actions."[10]

Mutual defensivity in national objectives has not always existed in Europe. If one country believes that the territorial *status quo* is unacceptable and should be altered by force, as many Germans felt before both World Wars, it is relative military strength that matters. For a state considering military expansion, weakening the other side's defences is just as important as strengthening one's own offenses. Mutual defensive defence would be seen as a legitimation of an unfair *status quo*; and arms control of any sort would be acceptable only if it led to a strengthening of one's relative position. Fortunately this is not the case in Europe today. Both sides are predominantly defensive in their goals. The central purpose of any disarmament process is to seek to reflect these goals in clearly defensive force structures.

Our game should help to do precisely this. Provided that the weight that the two sides attribute to particular forces differs even fractionally, it should allow players on both sides to believe that the opposite side has reduced its threat by more than their own side has reduced its forces. The greater the disparity in perception between the two sides, the greater the gains that can be made.

One possible advantage of reciprocal disarmament is that it may allow deeper cuts in force levels to be made than would be possible with a further CFE agreement based solely on the principle of equal ceilings. If parity is used as the dominant criterion, a process of cuts will tend to cease whenever either side determines that it has reached the minimum necessary for viable defence.[11] It is possible for both sides to believe (for some categories of military strength) that the acceptable minimum lies at approximately the same level. In this case, our game may offer few additional advantages over parity-based arms control. Given the persistence of differences in geography, technology and military doctrine, however, this may not always be the case. Nato may feel that its minimum force

level in Europe is 3,000 tanks and 1,000 combat helicopters, while the Soviet Union may be willing to go down to 5,000 tanks and 800 helicopters. Permanent geographical differences play an obvious role here. For example, Nato is likely to define a minimum level of sealift and airlift capability much higher than the Soviet Union would accept for its own forces.[12] Other less permanent factors will also be important. For example, the type of equipment used by ground forces may play a role in determining how many kilometres of front can be covered by one regiment.

Parity-based arms control would tend toward impasse in any category in which either side feels it has reached a minimum. By contrast, our game would allow the two sides, if they so wished, to press for further reductions without ignoring these concerns about minimum defensive levels.

A more general but related point is that, for success, parity-based arms control often requires broad agreement as to what constitutes military stability. Though such agreement is both possible and desirable, historical experience, together with continuing heated controversies over whether or not particular forces are defensive or offensive, suggests that it will not be easy. Part of the problem is that stability and deterrence are not purely objective phenomena. They also contain an important subjective element. For stability to exist, it is above all else necessary for all parties in the international system to believe that aggression can not succeed. For if any country believes, even if wrongly, that aggression could be profitable, the possibility of an error in times of crisis clearly must increase.[13] That is why our game is designed to give a key role to the subjective threat perceptions of both sides, and does not require both sides to agree on what constitutes objective stability.

***It Is Sensitive to National Sovereignty.*** One of the persistent obstacles to all forms of disarmament is the requirement that states allow outside interference in areas which traditionally have been considered as essential to their independence and sovereignty. Some forms of disarmament, however, may do this to a greater degree than others. By allowing each team to choose for itself—albeit from a menu of options provided by the other team—which disarmament measures it wants to take, we seek to avoid the problems that are created when one state is viewed as telling another state what to do.

***It Tackles Issues Neglected in Formal Arms Control.*** By limiting only numbers of weapons, there is bound to be a risk that the CFE process could encourage both sides to displace their military efforts into qualitative competition. This is not an easy problem to solve, given the difficulty in defining what is meant by "quality," and our game does not offer a perfect solution to this problem. Yet it does allow either side to specify what aspects of the qualitative arms development of the other side concern it most, and to prescribe measures that would

alleviate those fears. By avoiding the need to create common definitions of quality that can be applied to both sides, as in the CFE process, it widens the type of measure that can be incorporated into the disarmament process. It provides a useful framework within which innovative ideas for curbing the qualitative arms race are given a chance to thrive.

## Possible Limitations of the Game

*Alliance*. In the real world, negotiations on conventional forces took place not between two decision-making centres, but between 23 more-or-less independent states. The more internally democratic the alliances are, the more cumbersome they become as a means of reaching decisions—as the Warsaw Pact discovered in its final months of existence.

The game could seek to reflect the multiplicity of interests within the alliances by including a conscious balance of different nationalities in each team. In particular, it would be of value to include players who represent European states. If it is decided to have two teams of five players each, the Blue team could have two Americans (one of whom would be the "leader,") and one each from Western Europe's three leading military powers.

In the case of the Warsaw Pact, however, the events of the last few months make the creation of a Pact "team" of little value. The newly independent governments of the East European states clearly see the forces of their former ally posing at least as great a threat to their security as those of their former adversaries. It therefore makes more sense to play the game between Nato and the Soviet Union, rather than between Nato and the Warsaw Pact. Given the underlying geopolitical realities of the continent, this bipolarity is likely to remain in being for some time to come.

*Non-Verifiable Activity*. The revolution in expectations as to what is possible in verification is one of the key developments that made CFE possible. Yet there remain many activities, crucial to miliary competition, that methods have not yet been developed to verify.

Although our game will not solve this problem, it can reduce it. By giving credit for greater openness, and by allowing the testing of ideas for initiatives in areas where verification is problematic, the breadth of the disarmament process can be extended. Taken in the context of other steps—mutual visits to research facilities, abolition of closed military areas, and so on—it may be possible to bring within the reciprocation process even such difficult areas as research and development work.

The same holds true on the modernisation of weapons. Production limits of major new weapon platforms should be relatively easy to verify. The greater problem would deal with modernisation of existing ones. Here there will be the

need for combining verification and accepting the premise that the greater the investment that both sides have in good mutual relations, the less either side will wish to jeopardise these relations by breaking clear declarations of intent.

**Political Problems of Asymmetrical Outcomes.** Once the CFE I Treaty is signed, parity will be achieved between Nato and the Warsaw Pact in a number of areas. Does it therefore make political sense to regress from this long-sought goal nearly as soon as it has been reached? Would this not cause a degree of political opposition in one country or another which would outweigh any possible military benefit that would accrue from asymmetrical reductions? This is perhaps the most difficult issue for our game proposal to address.

The first point to make is that the principle of parity between the forces of Nato and the Warsaw Pact has been overtaken by events. With the former Pact countries of Eastern Europe steadily moving towards closer security links with Western Europe, there may soon come a time when the strength of their forces should be weighed on the Nato side of the balance. Even if, for the time being, they are assumed to be neutral in any East-West confrontation, the provisions of the CFE Treaty require that, compared with Nato, the Soviet Union accept clear numerical inferiority in equipment levels in the zone of application of the treaty. For example, Nato is allowed to have 20,000 tanks in Europe, compared with the 13,150 permitted the Soviet Union. Indeed, this very inequality, resulting from the Soviet Union's loss of its allies in Eastern Europe, was probably one of the reasons behind the large-scale movement of treaty-limited items east of the Urals shortly before the treaty's signing in November 1990.

The game recognises the tremendous political momentum created by the CFE process, and thus assumes a CFE I treaty as its starting point. Its main concern is that, in discussing further measures of mutual disarmament, states should recognise that parity is not enough. Both sides have many components of their military capabilities that have not yet been limited by treaty, and negotiators will have to consider whether those components should also be brought into the framework. The more deeply that cuts are made in treaty-limited items, the more important it becomes that the capabilities that are not so limited are also restrained in some way; and in many cases the best way for such restraint to occur is through unilateral action by the states concerned, rather than through the imposition of further common ceilings.

It is difficult to imagine, for example, the United States agreeing to Nato/Soviet parity in the number of major surface ships or in long-range power projection capabilities. Both the greater dependence of the West on sea lines of communication, and the considerable lobbying power of the U.S. Navy should curtail such an option. At the same time, it would also be unreasonable to exempt these forces from the disarmament process altogether, particularly since their relative impact on ground warfare in Europe could increase significantly should

there be deep cuts in land-based forces. The U.S. Navy's 1,823 combat aircraft and the U.S. Marines' 552 combat aircraft[14] are likely to be more important to the balance of air power now that the Soviet Union is only permitted to have 5,150 combat aircraft west of the Urals (as agreed in CFE I), or only 60 percent of that (a possibility for CFE II).[15] Our game will help determine which of the forces outside the CFE process most threaten the continuation of that process and could also help with suggestions for unilateral steps that would prevent such blockage.

Indeed, it is possible that one or both of the teams in our game may refuse to cut the number of any items that are treaty-limited because of fears with regard to the domestic political fallout from such a step. As a consequence, the game could result in a process of reciprocation confined only to those units not limited by treaty. This in itself would be a useful and interesting experience that would help us to understand the dynamics of the disarmament process.

The West may have a particular interest in encouraging the disarmament process to take the form we suggest. So far, the CFE process has been confined to items in which the Warsaw Pact has a numerical superiority. Were the CFE parity principle to be applied to categories that have thus far been left out—such as naval forces or aircraft based outside Europe—we could find that it would be Nato that would have to make the biggest cuts. Unilateral reductions of forces not constrained in CFE I may be preferable to the inclusion of those forces in a wider CFE II treaty.

***How Big Should the Reduction Be?*** The choice of 20 percent as the goal for both sides to reduce their mutual threats has been considered with some care, although it is by no means immutable. On the one hand, it was thought that a much larger reduction—say 40 or 50 percent—would be more appropriately modelled as the result of two or more successive rounds of the game. On the other hand, a small reduction—say of 5 or 10 percent—would make it too easy for the participants to avoid really tough choices. During a period when expectations of deep cuts, and even demilitarisation, are growing, it is necessary not to be too gradualist in one's approach. Moreover, the rules of the game mean that the 20 percent reduction is rather less than it may appear. It will thus lead to a reduction in existing force levels and budgets of substantially less than 20 percent. First of all, not all of the 20 percent need be taken by cutting existing force levels. Some can be taken by abandoning plans for new weapon systems or by redeploying forces in a more reassuring way.

Secondly, each team is obliged to reduce the threat which the other team perceives from its forces by 20 percent. In doing so, however, the first team should be able to choose its reductions so that, according to its own weighting of its own forces, they add up to substantially less than 20 percent of its total military capability. For unless both sides have identical views of the effectiveness

of each others' forces, both teams can, to some extent, focus cuts on items that they feel are less effective than the other team believes, thus removing sources of unjustified "worst case" threats. On the other hand, both teams should find it easy to preserve those forces which they value more highly than their opposite number—such as those capabilities that are viewed as primarily defensive, or those capabilities not primarily intended for use in a Nato/Soviet confrontation.

As a result of these factors, each side should emerge from the reciprocation game feeling that it has obtained a "bargain"—a threat reduced by 20 percent in return for a reduction in its own capabilities of, say, 10-15 percent. Not only would this powerfully illustrate that military security between potential antagonists need not be a zero-sum game, but the more pronounced the gap between the two sides' views of what really matters militarily, the greater the gains that are likely to result from this trade.[16] Thus, rather than asymmetry blocking the process of arms control and complicating the means to achieve simple parity in everything, it actually aids the process of making reductions mutually acceptable.

**It May Not Lead to Mutual Defensive Defence.** The game can work to produce more stable force structures, in which both sides specialise in the defence, only when this end is the objective of at least one of the two sides. If both teams want, above all, to maintain capabilities for the destruction and/or conquest of the other's territory—whether for purposes of aggression or deterrence—by substantially weighing those defensive elements of the other side's forces which are most likely to thwart an attack, they may choose to preserve their own offense at the expense of their own defence.[17] This could result in a progressively more unstable military structure in which the incentives for pre-emption would increase rather than decrease.

It is unlikely that the game would develop in this way. There is no evidence that either alliance has any plans for military expansion in Europe. Moreover, both sides have expressed a willingness to remove the potential for attack from their conventional forces, either through the CFE process or through unilateral action. In the Soviet Union the explicit endorsement of "defensive defence," as an organising concept for its military forces, has gone furthest, although the concrete moves announced to date still leave substantial offensive capabilities intact. In the West, most governments would maintain that Nato has never had the capability for a strategic offensive into Eastern Europe—thereby placing in doubt whether the West needs to become more defensive. At the same time, however, it was often argued that Nato should not allow Warsaw Pact territory to be a "sanctuary" in war, as this could encourage Soviet leaders to think that, even if an invasion of Western Europe were to fail, they could return to the *status quo ante* at modest cost to themselves.[18]

For both sides, then, there is some ambiguity as to how real their commitment is to possessing purely defensive force capabilities, whether attained unilaterally or bilaterally. One aim of the game would be to test this commitment and its meaning. There is no *a priori* reason why the two teams should move towards "mutual defence" rather than towards "mutual offense." *Inter alia*, the more that either of the teams believe that conventional deterrence depends on the threat of punishment rather than on the threat of denial, the less likely it is that a team will be willing to relinquish capabilities for offense. The best way to determine the balance between these different considerations is to take note of the "revealed preferences" of the two sides in practice.

**Forces Not Covered by the Steps?** Even though our game allows for a broad definition of what constitutes threat reduction, the *quid pro quo* is that the initiative as to which of these forces to cut is in the hands of the other team. It opens up the possibility that, while making the 20 percent cut in threats specified by one team, the other team could simultaneously be increasing the threat it poses with units from the other 80 percent which it chooses not to constrain. This is a serious problem, and one which our game does not fully address. As in other forms of arms control, successful reciprocal disarmament relies, in the final analysis, on mutual restraint outside the main area of prescribed reductions. If such restraint is lacking, the process could be fatally weakened. However, there are ways by which we can minimise the likelihood of this occurring in our game. Firstly, we assume that a CFE I treaty will be in operation. This in itself increases predictability significantly and reduces options for "breakout" from the reciprocation process.

Secondly, both teams would be told of their option to include some "no-increase" provisions in their threat list. For example, Nato could assign a priority value to Soviet promises not to increase tank production, not to deploy a new type of aircraft carrier, or not to increase the level of readiness of army personnel. The weight given to these "no-increase" commitments would depend on both the threat that any increases would pose and the perceived likelihood that they would occur.

By allowing such fears to be made explicit, the game would also allow the two teams to take credit by allaying them. It could be expected that both teams will collect a certain proportion of points simply by picking up a number of "no increase" tickets.

In order to further strengthen the safeguards against breakout, the game could include the provision that both sides would have to make a statement of any unilateral increases it is making in those areas that are not included in the 20 percent reductions. Such increases would have to be, at least in the view of the team making the increase, politically and technically feasible. Those considering

whether to accept the whole package in Step 4 would then be able to take into account such changes.

These procedures do not offer a perfect solution. They do, however, by making a series of no-increase commitments, allow each side to take credit for assuaging fears of threatening unilateral increases. On the other hand they ensure that neither side will blow such fears out of proportion lest the other team should earn its full quota of points simply by standing still!

Finally, it should always be remembered that, at least in the short to medium term (up to three or four years), the options for radical breakout are rather limited. New production lines can not be started overnight. It takes time to build new bases or redeploy whole armies. Perhaps most crucially, the political will to carry out such increases in a time of general tension reduction may be difficult to achieve.

One genuine concern remains. Both teams may feel that the other is more able to take "breakout" steps than it can itself, due to domestic political constraints. This fear can be removed fully only through practice. The procedures outlined here should, however, help to reduce the fears on both sides that "breakout" by itself can offset the substantial gains made possible by reciprocal disarmament in other respects.

## Conclusion

The aim of this paper is to propose a possible structure through which we can think about what unilateral concessions would be most helpful during the coming period of uncertainty in the Soviet/Nato military relationship. In the game outlined, in addition to its use as a forum for analysing what types of unilateralism could work and which will not, it is suggested that both East and West could gain greater understanding of the role that unilateral measures could play in a disarmament process. Results from a trial run played at Stanford University in 1990 illustrate that the game can produce unexpected, but realistic, ideas.

The game suggested in this paper, however, could have uses well beyond the issue of conventional forces in Europe. It might well provide a useful device for helping students gain insight into the complexities of other conflicts, as well as encouraging them to think through potential issues and how they might be resolved or ameliorated.

## Notes

1. See T. Allen, *War Games* (London: Heinemann, 1987).

2. S. H. Salter, "Some Ideas to Help Stop World War" (London: Institute for Social Inventions, 1984); see also April Carter, *Success and Failure in Army Control Negotiation* (London: Oxford Univ. Press, 1989), pp. 295-297.

3. See L. M. Lamkin and S. O. Fought, "Teaching about Arms Control," *Naval War College Review*, Winter 1988, pp. 94-104.

4. "Americans and Soviets to Participate in Arms Reduction Simulation," *Update* (Providence, R.I.: Brown University, Center for Foreign Policy Development), January 1990; P. Terrence Hopmann, *Mutual Security and Arms Reduction in Europe*, mimeo, 1990; and discussions with Terrence Hopmann.

5. It would be possible to use pre-CFE forces as one's baseline. This, however, might invite either team to speculate on the worthiness of identifying a threat that could be a force soon removed from the treaty. Moreover, the assumption that CFE I is in place makes it easier for participants to accept our assumption that in subsequent reductions the principle of equal reductions should be followed.

6. For the sake of realism, each team should also be chaired by a superpower player with a casting vote.

7. The difficulties of applying common definitions of "old" and "new" to Nato and Pact equipment are well-illustrated in C. Levin, *Beyond the Bean Count*, Senate Armed Services Subcommittee on Conventional Forces and Alliance Defense, 1988, pp. 29-44. Here the relative quality of Pact and Nato equipment is assessed by dividing weapons of both sides into several "generations." The categorisation decisions are, however, open to question and unlikely to be easily agreed upon by the two alliances.

8. This is the central thesis of "defensive defence" advocates in both East and West. See, for example, A. Kokoshin et al., *Problems of Ensuring Stability with Radical Cuts in Armed Forces and Conventional Armaments in Europe* (Moscow: Progress Publishers, 1989).

9. With the possible exception of the years from the beginning of the Cold war up until the death of Stalin in 1953. This conservatism has been far less marked outside Europe, where the United States, the Soviet Union, France and the United Kingdom have all been involved in several military conflicts since World War II.

10. The major weapon systems excluded from the process—surface-to-air missiles, antitank-guided weapons, and mines—are often considered to be primarily defensive in nature.

11. More precisely, one side will resist further symmetrical cuts in any single category of weapon when the marginal gains from such cuts (reduced threat, financial savings) are outweighed by the marginal losses in defensive capability.

12. See T. Mason, "Airpower in Conventional Arms Control," *Survival*, September-October, 1989.

13. Stephen van Evera makes this argument in relation to the start of World War One. He argues that the perception of offense dominance by Germany led it to believe that it was possible to win the war quickly; and it led all the major powers to mobilise quickly during the pre-war period, despite the fact that such mobilisation might make war more likely. "Had Europe known that, in reality, the defense dominated, these dynamics might have been dampened," S. van Evera, "The Cult of the Offensive and the Origins of the First World War," *International Security*, Summer 1984.

14. See "Cutting Conventional Forces: An Analysis of the Official Mandate, Statistics, and Proposals in the NATO-WTO Talks on Reducing Conventional Forces in Europe" (Brookline: IDDS, 1989).

15. U.S. Navy and U.S. Marine combat aircraft numbers include 269 and 49 aircraft in store respectively. International Institute for Strategic Studies, *Military Balance 1990-91* (London: Brasseys, 1990, pp. 20-22). The ceiling on Soviet aircraft under the CFE Treaty is taken from *Survival*, January-February 1991, p. 83.

16. This suggests a parallel with the simple Ricardian theory of comparative advantage in trade in which the great merit of economic relations between countries is that they allow each country to specialise in what it does best, i.e., one grows apples, another oranges, and they trade so that each has both apples and oranges. I'm not sure I want to stretch this parallel too far!

17. By contrast, many nuclear arms control analysts see the strengthening of the dominance of the offense over the defence as stabilising. However this does not imply a rejection of the theoretical desirability of mutual defence dominance. Rather, it results from the enormous destructive effect of nuclear weapons, which makes offense dominance a fact of life.

18. See S. Huntington, "Conventional Forces and Conventional Retaliation in Europe," *International Security*, Winter 1984.

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