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Robert Jervis

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COOPERATION UNDER THE SECURITY DILEMMA

By ROBERT JERVIS*

I. Anarchy and the Security Dilemma

THE lack of an international sovereign not only permits wars to occur, but also makes it difficult for states that are satisfied with the status quo to arrive at goals that they recognize as being in their common interest. Because there are no institutions or authorities that can make and enforce international laws, the policies of cooperation that will bring mutual rewards if others cooperate may bring disaster if they do not. Because states are aware of this, anarchy encourages behavior that leaves all concerned worse off than they could be, even in the extreme case in which all states would like to freeze the status quo. This is true of the men in Rousseau's "Stag Hunt." If they cooperate to trap the stag, they will all eat well. But if one person defects to chase a rabbit—which he likes less than stag—none of the others will get anything. Thus, all actors have the same preference order, and there is a solution that gives each his first choice: (1) cooperate and trap the stag (the international analogue being cooperation and disarmament); (2) chase a rabbit while others remain at their posts (maintain a high level of arms while others are disarmed); (3) all chase rabbits (arms competition and high risk of war); and (4) stay at the original position while another chases a rabbit (being disarmed while others are armed).[1]

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[1] This kind of rank-ordering is not entirely an analyst's invention, as is shown by the following section of a British army memo of 1903 dealing with British and Russian railroad construction near the Persia-Afghanistan border:

> The conditions of the problem may . . . be briefly summarized as follows:
>
> a) If we make a railway to Seistan while Russia remains inactive, we gain a considerable defensive advantage at considerable financial cost;
>
> b) If Russia makes a railway to Seistan, while we remain inactive, she gains a considerable offensive advantage at considerable financial cost;
>
> c) If both we and Russia make railways to Seistan, the defensive and offensive advantages may be held to neutralize each other; in other words, we shall have spent a good deal of money and be no better off than we are at present. On the

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Unless each person thinks that the others will cooperate, he himself will not. And why might he fear that any other person would do something that would sacrifice his own first choice? The other might not understand the situation, or might not be able to control his impulses if he saw a rabbit, or might fear that some other member of the group is unreliable. If the person voices any of these suspicions, others are more likely to fear that he will defect, thus making them more likely to defect, thus making it more rational for him to defect. Of course in this simple case—and in many that are more realistic—there are a number of arrangements that could permit cooperation. But the main point remains: although actors may know that they seek a common goal, they may not be able to reach it.

Even when there is a solution that is everyone's first choice, the international case is characterized by three difficulties not present in the Stag Hunt. First, to the incentives to defect given above must be added the potent fear that even if the other state now supports the staus quo, it may become dissatisfied later. No matter how much decision makers are committed to the status quo, they cannot bind themselves and their successors to the same path. Minds can be changed, new leaders can come to power, values can shift, new opportunities and dangers can arise.

The second problem arises from a possible solution. In order to protect their possessions, states often seek to control resources or land outside their own territory. Countries that are not self-sufficient must try to assure that the necessary supplies will continue to flow in wartime. This was part of the explanation for Japan's drive into China and Southeast Asia before World War II. If there were an international authority that could guarantee access, this motive for control would disappear. But since there is not, even a state that would prefer the status quo to increasing its area of control may pursue the latter policy.

When there are believed to be tight linkages between domestic and foreign policy or between the domestic politics of two states, the quest for security may drive states to interfere pre-emptively in the domestic politics of others in order to provide an ideological buffer zone. Thus,

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other hand, we shall be no worse off, whereas under alternative (b) we shall be much worse off. Consequently, the theoretical balance of advantage lies with the proposed railway extension from Quetta to Seistan.

W. G. Nicholson, "Memorandum on Seistan and Other Points Raised in the Discussion on the Defence of India," (Committee of Imperial Defence, March 20, 1903). It should be noted that the possibility of neither side building railways was not mentioned, thus strongly biasing the analysis.

Metternich's justification for supervising the politics of the Italian states has been summarized as follows:

> Every state is absolutely sovereign in its internal affairs. But this implies that every state must do nothing to interfere in the internal affairs of any other. However, any false or pernicious step taken by any state in its internal affairs may disturb the repose of another state, and this consequent disturbance of another state's repose constitutes an interference in that state's internal affairs. Therefore, every state—or rather, every sovereign of a great power—has the duty, in the name of the sacred right of independence of every state, to supervise the governments of smaller states and to prevent them from taking false and pernicious steps in their internal affairs.[2]

More frequently, the concern is with direct attack. In order to protect themselves, states seek to control, or at least to neutralize, areas on their borders. But attempts to establish buffer zones can alarm others who have stakes there, who fear that undesirable precedents will be set, or who believe that their own vulnerability will be increased. When buffers are are sought in areas empty of great powers, expansion tends to feed on itself in order to protect what is acquired, as was often noted by those who opposed colonial expansion. Balfour's complaint was typical: "Every time I come to a discussion—at intervals of, say, five years—I find there is a new sphere which we have got to guard, which is supposed to protect the gateways of India. Those gateways are getting further and further away from India, and I do not know how far west they are going to be brought by the General Staff."[3]

Though this process is most clearly visible when it involves territorial expansion, it often operates with the increase of less tangible power and influence. The expansion of power usually brings with it an expansion of responsibilities and commitments; to meet them, still greater power is required. The state will take many positions that are subject to challenge. It will be involved with a wide range of controversial issues unrelated to its core values. And retreats that would be seen as normal if made by a small power would be taken as an index of weakness inviting predation if made by a large one.

The third problem present in international politics but not in the Stag Hunt is the security dilemma: many of the means by which a state tries to increase its security decrease the security of others. In domestic

[2] Paul Schroeder, *Metternich's Diplomacy at Its Zenith, 1820–1823* (Westport, Conn.: Greenwood Press 1969), 126.

[3] Quoted in Michael Howard, *The Continental Commitment* (Harmondsworth, England: Penguin 1974), 67.

society, there are several ways to increase the safety of one's person and property without endangering others. One can move to a safer neighborhood, put bars on the windows, avoid dark streets, and keep a distance from suspicious-looking characters. Of course these measures are not convenient, cheap, or certain of success. But no one save criminals need be alarmed if a person takes them. In international politics, however, one state's gain in security often inadvertently threatens others. In explaining British policy on naval disarmament in the interwar period to the Japanese, Ramsey MacDonald said that "Nobody wanted Japan to be insecure."[4] But the problem was not with British desires, but with the consequences of her policy. In earlier periods, too, Britain had needed a navy large enough to keep the shipping lanes open. But such a navy could not avoid being a menace to any other state with a coast that could be raided, trade that could be interdicted, or colonies that could be isolated. When Germany started building a powerful navy before World War I, Britain objected that it could only be an offensive weapon aimed at her. As Sir Edward Grey, the Foreign Secretary, put it to King Edward VII: "If the German Fleet ever becomes superior to ours, the German Army can conquer this country. There is no corresponding risk of this kind to Germany; for however superior our Fleet was, no naval victory could bring us any nearer to Berlin." The English position was half correct: Germany's navy was an anti-British instrument. But the British often overlooked what the Germans knew full well: "in every quarrel with England, German colonies and trade were . . . hostages for England to take." Thus, whether she intended it or not, the British Navy constituted an important instrument of coercion.[5]

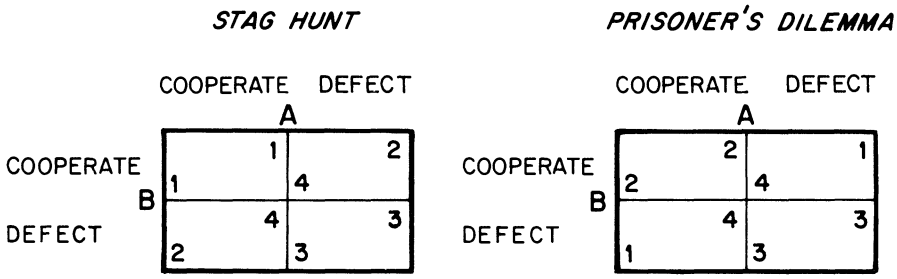
II. What Makes Cooperation More Likely?

Given this gloomy picture, the obvious question is, why are we not all dead? Or, to put it less starkly, what kinds of variables ameliorate the impact of anarchy and the security dilemma? The workings of several

[4] Quoted in Gerald Wheeler, *Prelude to Pearl Harbor* (Columbia: University of Missouri Press 1963), 167.

[5] Quoted in Leonard Wainstein, "The Dreadnought Gap," in Robert Art and Kenneth Waltz, eds., *The Use of Force* (Boston: Little, Brown 1971), 155; Raymond Sontag, *European Diplomatic History, 1871–1932* (New York: Appleton-Century-Crofts 1933), 147. The French had made a similar argument 50 years earlier; see James Phinney Baxter III, *The Introduction of the Ironclad Warship* (Cambridge: Harvard University Press 1933), 149. For a more detailed discussion of the security dilemma, see Jervis, *Perception and Misperception in International Politics* (Princeton: Princeton University Press 1976), 62-76.

can be seen in terms of the Stag Hunt or repeated plays of the Prisoner's Dilemma. The Prisoner's Dilemma differs from the Stag Hunt in that there is no solution that is in the best interests of all the participants; there are offensive as well as defensive incentives to defect from the coalition with the others; and, if the game is to be played only once, the only rational response is to defect. But if the game is repeated indefinitely, the latter characteristic no longer holds and we can analyze the game in terms similar to those applied to the Stag Hunt. It would be in the interest of each actor to have others deprived of the power to defect; each would be willing to sacrifice this ability if others were similarly restrained. But if the others are not, then it is in the actor's interest to retain the power to defect.[6] The game theory matrices for these two situations are given below, with the numbers in the boxes being the order of the actors' preferences.



We can see the logical possibilities by rephrasing our question: "Given either of the above situations, what makes it more or less likely that the players will cooperate and arrive at CC?" The chances of achieving this outcome will be increased by: (1) anything that increases incentives to cooperate by increasing the gains of mutual cooperation (CC) and/or decreasing the costs the actor will pay if he cooperates and the other does not (CD); (2) anything that decreases the incentives for defecting by decreasing the gains of taking advantage of the other (DC) and/or increasing the costs of mutual noncooperation (DD); (3) anything that increases each side's expectation that the other will cooperate.[7]

[6] Experimental evidence for this proposition is summarized in James Tedeschi, Barry Schlenker, and Thomas Bonoma, *Conflict, Power, and Games* (Chicago: Aldine 1973), 135-41.

[7] The results of Prisoner's Dilemma games played in the laboratory support this argument. See Anatol Rapoport and Albert Chammah, *Prisoner's Dilemma* (Ann Arbor: University of Michigan Press 1965), 33-50. Also see Robert Axelrod, *Conflict of Interest* (Chicago: Markham 1970), 60-70.

THE COSTS OF BEING EXPLOITED (CD)

The fear of being exploited (that is, the cost of CD) most strongly drives the security dilemma; one of the main reasons why international life is not more nasty, brutish, and short is that states are not as vulnerable as men are in a state of nature. People are easy to kill, but as Adam Smith replied to a friend who feared that the Napoleonic Wars would ruin England, "Sir, there is a great deal of ruin in a nation."[8] The easier it is to destroy a state, the greater the reason for it either to join a larger and more secure unit, or else to be especially suspicious of others, to require a large army, and, if conditions are favorable, to attack at the slightest provocation rather than wait to be attacked. If the failure to eat that day—be it venison or rabbit—means that he will starve, a person is likely to defect in the Stag Hunt even if he really likes venison and has a high level of trust in his colleagues. (Defection is especially likely if the others are also starving or if they know that he is.) By contrast, if the costs of CD are lower, if people are well-fed or states are resilient, they can afford to take a more relaxed view of threats.

A relatively low cost of CD has the effect of transforming the game from one in which both players make their choices simultaneously to one in which an actor can make his choice after the other has moved. He will not have to defect out of fear that the other will, but can wait to see what the other will do. States that can afford to be cheated in a bargain or that cannot be destroyed by a surprise attack can more easily trust others and need not act at the first, and ambiguous, sign of menace. Because they have a margin of time and error, they need not match, or more than match, any others' arms in peacetime. They can mobilize in the prewar period or even at the start of the war itself, and still survive. For example, those who opposed a crash program to develop the H-bomb felt that the U.S. margin of safety was large enough so that even if Russia managed to gain a lead in the race, America would not be endangered. The program's advocates disagreed: "If we let the Russians get the super first, catastrophe becomes all but certain."[9]

When the costs of CD are tolerable, not only is security easier to attain but, what is even more imporant here, the relatively low level of arms and relatively passive foreign policy that a status-quo power will be able to adopt are less likely to threaten others. Thus it is easier for

[8] Quoted in Bernard Brodie, *Strategy in the Missile Age* (Princeton: Princeton University Press 1959), 6.

[9] Herbert York, *The Advisors: Oppenheimer, Teller, and the Superbomb* (San Francisco: Freeman 1976), 56-60.

status-quo states to act on their common interests if they are hard to conquer. All other things being equal, a world of small states will feel the effects of anarchy much more than a world of large ones. Defensible borders, large size, and protection against sudden attack not only aid the state, but facilitate cooperation that can benefit all states.

Of course, if one state gains invulnerability by being more powerful than most others, the problem will remain because its security provides a base from which it can exploit others. When the price a state will pay for DD is low, it leaves others with few hostages for its good behavior. Others who are more vulnerable will grow apprehensive, which will lead them to acquire more arms and will reduce the chances of cooperation. The best situation is one in which a state will not suffer greatly if others exploit it, for example, by cheating on an arms control agreement (that is, the costs of CD are low); but it will pay a high long-run price if cooperation with the others breaks down—for example, if agreements cease functioning or if there is a long war (that is, the costs of DD are high). The state's invulnerability is then mostly passive; it provides some protection, but it cannot be used to menace others. As we will discuss below, this situation is approximated when it is easier for states to defend themselves than to attack others, or when mutual deterrence obtains because neither side can protect itself.

The differences between highly vulnerable and less vulnerable states are illustrated by the contrasting policies of Britain and Austria after the Napoleonic Wars. Britain's geographic isolation and political stability allowed her to take a fairly relaxed view of disturbances on the Continent. Minor wars and small changes in territory or in the distribution of power did not affect her vital interests. An adversary who was out to overthrow the system could be stopped after he had made his intentions clear. And revolutions within other states were no menace, since they would not set off unrest within England. Austria, surrounded by strong powers, was not so fortunate; her policy had to be more closely attuned to all conflicts. By the time an aggressor-state had clearly shown its colors, Austria would be gravely threatened. And foreign revolutions, be they democratic or nationalistic, would encourage groups in Austria to upset the existing order. So it is not surprising that Metternich propounded the doctrine summarized earlier, which defended Austria's right to interfere in the internal affairs of others, and that British leaders rejected this view. Similarly, Austria wanted the Congress system to be a relatively tight one, regulating most disputes. The British favored a less centralized system. In other words, in order

to protect herself, Austria had either to threaten or to harm others, whereas Britain did not. For Austria and her neighbors the security dilemma was acute; for Britain it was not.

The ultimate cost of CD is of course loss of sovereignty. This cost can vary from situation to situation. The lower it is (for instance, because the two states have compatible ideologies, are similar ethnically, have a common culture, or because the citizens of the losing state expect economic benefits), the less the impact of the security dilemma; the greater the costs, the greater the impact of the dilemma. Here is another reason why extreme differences in values and ideologies exacerbate international conflict.

It is through the lowering of the costs of CD that the proposed Rhodesian "safety net"—guaranteeing that whites who leave the country will receive fair payment for their property—would have the paradoxical effect of making it more likely that the whites will stay. This is less puzzling when we see that the whites are in a multi-person Prisoner's Dilemma with each other. Assume that all whites are willing to stay if most of the others stay; but, in the absence of guarantees, if there is going to be a mass exodus, all want to be among the first to leave (because late-leavers will get less for their property and will have more trouble finding a country to take them in). Then the problem is to avoid a self-fulfilling prophecy in which each person rushes to defect because he fears others are going to. In narrowing the gap between the payoff for leaving first (DC) and leaving last (CD) by reducing the cost of the latter, the guarantees make it easier for the whites to cooperate among themselves and stay.

Subjective Security Demands. Decision makers act in terms of the vulnerability they feel, which can differ from the actual situation; we must therefore examine the decision makers' subjective security requirements.[10] Two dimensions are involved. First, even if they agree about the objective situation, people can differ about how much security they desire—or, to put it more precisely, about the price they are willing to pay to gain increments of security. The more states value their security above all else (that is, see a prohibitively high cost in CD), the more they are likely to be sensitive to even minimal threats, and to demand high levels of arms. And if arms are positively valued be-

[10] For the development of the concept of subjective security, see Arnold Wolfers, *Discord and Collaboration* (Baltimore: Johns Hopkins Press 1962), chap. 10. In the present section we assume that the state believes that its security can be best served by increasing its arms; later we will discuss some of the conditions under which this assumption does not hold.

cause of pressures from a military-industrial complex, it will be especially hard for status-quo powers to cooperate. By contrast, the security dilemma will not operate as strongly when pressing domestic concerns increase the opportunity costs of armaments. In this case, the net advantage of exploiting the other (DC) will be less, and the costs of arms races (that is, one aspect of DD) will be greater; therefore the state will behave as though it were relatively invulnerable.

The second aspect of subjective security is the perception of threat (that is, the estimate of whether the other will cooperate).[11] A state that is predisposed to see either a specific other state as an adversary, or others in general as a menace, will react more strongly and more quickly than a state that sees its environment as benign. Indeed, when a state believes that another not only is not likely to be an adversary, but has sufficient interests in common with it to be an ally, then it will actually welcome an increase in the other's power.

British and French foreign policies in the interwar years illustrate these points. After the rise of Hitler, Britain and France felt that increases in each other's arms increased rather than decreased their own security. The differing policies that these states followed toward Germany can be explained by their differences on both dimensions of the variable of subjective security.[12] Throughout the period, France perceived Germany as more of a threat than England did. The British were more optimistic and argued that conciliation could turn Germany into a supporter of the status quo. Furthermore, in the years immediately following World War I, France had been more willing to forego other values in order to increase her security and had therefore followed a more belligerent policy than England, maintaining a larger army and moving quickly to counter German assertiveness. As this example shows, one cannot easily say how much subjective security a state should seek. High security requirements make it very difficult to capitalize on a common interest and run the danger of setting off spirals of arms races and hostility. The French may have paid this price in the 1920's. Low security requirements avoid this trap, but run the risk of having too few arms and of trying to conciliate an aggressor.

One aspect of subjective security related to the predisposition to per-

[11] The question of when an actor will see another as a threat is important and understudied. For a valuable treatment (although one marred by serious methodological flaws), see Raymond Cohen, "Threat Perception in International Relations," Ph.D. diss. (Hebrew University 1974). Among the important factors, touched on below, are the lessons from the previous war.

[12] Still the best treatment is Arnold Wolfers, *Britain and France Between Two Wars* (New York: Harcourt, Brace 1940).

ceive threat is the state's view of how many enemies it must be prepared to fight. A state can be relaxed about increases in another's arms if it believes that there is a functioning collective security system. The chances of peace are increased in a world in which the prevailing international system is valued in its own right, not only because most states restrain their ambitions and those who do not are deterred (these are the usual claims for a Concert system), but also because of the decreased chances that the status-quo states will engage in unnecessary conflict out of the quest for security. Indeed, if there were complete faith in collective security, no state would want an army. By contrast, the security dilemma is insoluble when each state fears that many others, far from coming to its aid, are likely to join in any attack. Winston Churchill, as First Lord of the Admiralty, was setting a high security requirement when he noted:

> Besides the Great Powers, there are many small states who are buying or building great ships of war and whose vessels may by purchase, by some diplomatic combination, or by duress, be brought into the line against us. None of these powers need, like us, navies to defend their actual safety of independence. They build them so as to play a part in world affairs. It is sport to them. It is death to us.[13]

It takes great effort for any one state to be able to protect itself alone against an attack by several neighbors. More importantly, it is next to impossible for all states in the system to have this capability. Thus, a state's expectation that allies will be available and that only a few others will be able to join against it is almost a necessary condition for security requirements to be compatible.

GAINS FROM COOPERATION AND COSTS OF A BREAKDOWN (CC AND DD)

The main costs of a policy of reacting quickly and severely to increases in the other's arms are not the price of one's own arms, but rather the sacrifice of the potential gains from cooperation (CC) and the increase in the dangers of needless arms races and wars (DD). The greater these costs, the greater the incentives to try cooperation and wait for fairly unambiguous evidence before assuming that the other must be checked by force. Wars would be much more frequent—even if the first choice of all states was the status quo—if they were less risky and costly, and if peaceful intercourse did not provide rich benefits. Ethiopia recently asked for guarantees that the Territory of Afars and Issas would not join a hostile alliance against it when it gained independ-

[13] Quoted in Peter Gretton, *Former Naval Person* (London: Cassell 1968), 151.

ence. A spokesman for the Territory replied that this was not necessary: Ethiopia "already had the best possible guarantee in the railroad" that links the two countries and provides indispensable revenue for the Territory.[14]

The basic points are well known and so we can move to elaboration. First, most statesmen know that to enter a war is to set off a chain of unpredictable and uncontrollable events. Even if everything they see points to a quick victory, they are likely to hesitate before all the uncertainties. And if the battlefield often produces startling results, so do the council chambers. The state may be deserted by allies or attacked by neutrals. Or the postwar alignment may rob it of the fruits of victory, as happened to Japan in 1895. Second, the domestic costs of wars must be weighed. Even strong states can be undermined by dissatisfaction with the way the war is run and by the necessary mobilization of men and ideas. Memories of such disruptions were one of the main reasons for the era of relative peace that followed the Napoleonic Wars. Liberal statesmen feared that large armies would lead to despotism; conservative leaders feared that wars would lead to revolution. (The other side of this coin is that when there are domestic consequences of foreign conflict that are positively valued, the net cost of conflict is lowered and cooperation becomes more difficult.) Third—turning to the advantages of cooperation—for states with large and diverse economies the gains from economic exchange are rarely if ever sufficient to prevent war. Norman Angell was wrong about World War I being impossible because of economic ties among the powers; and before World War II, the U.S. was Japan's most important trading partner. Fourth, the gains from cooperation can be increased, not only if each side gets more of the traditional values such as wealth, but also if each comes to value the other's well-being positively. Mutual cooperation will then have a double payoff: in addition to the direct gains, there will be the satisfaction of seeing the other prosper.[15]

While high costs of war and gains from cooperation will ameliorate the impact of the security dilemma, they can create a different problem. If the costs are high enough so that DD is the last choice for both sides, the game will shift to "Chicken." This game differs from the Stag Hunt in that each actor seeks to exploit the other; it differs from Prisoner's Dilemma in that both actors share an interest in avoiding

[14] Michael Kaufman, "Tension Increases in French Colony," *New York Times*, July 11, 1976.

[15] Experimental support for this argument is summarized in Morton Deutsch, *The Resolution of Conflict* (New Haven: Yale University Press 1973), 181-95.

mutual non-cooperation. In Chicken, if you think the other side is going to defect, you have to cooperate because, although being exploited (CD) is bad, it is not as bad as a total breakdown (DD). As the familiar logic of deterrence shows, the actor must then try to convince his adversary that he is going to stand firm (defect) and that the only way the other can avoid disaster is to back down (cooperate). Commitment, the rationality of irrationality, manipulating the communications system, and pretending not to understand the situation, are among the tactics used to reach this goal. The same logic applies when both sides are enjoying great benefits from cooperation. The side that can credibly threaten to disrupt the relationship unless its demands are met can exploit the other. This situation may not be stable, since the frequent use of threats may be incompatible with the maintenance of a cooperative relationship. Still, de Gaulle's successful threats to break up the Common Market unless his partners acceded to his wishes remind us that the shared benefits of cooperation as well as the shared costs of defection can provide the basis for exploitation. Similarly, one reason for the collapse of the Franco-British entente more than a hundred years earlier was that decision makers on both sides felt confident that their own country could safely pursue a policy that was against the other's interest because the other could not afford to destroy the highly valued relationship.[16] Because statesmen realize that the growth of positive interdependence can provide others with new levers of influence over them, they may resist such developments more than would be expected from the theories that stress the advantages of cooperation.

GAINS FROM EXPLOITATION (DC)

Defecting not only avoids the danger that a state will be exploited (CD), but brings positive advantages by exploiting the other (DC). The lower these possible gains, the greater the chances of cooperation. Even a relatively satisfied state can be tempted to expand by the hope of gaining major values. The temptation will be less when the state sees other ways of reaching its goals, and/or places a low value on what exploitation could bring. The gains may be low either because the immediate advantage provided by DC (for example, having more arms than the other side) cannot be translated into a political advantage (for example, gains in territory), or because the political advantage itself

[16] Roger Bullen, *Palmerston, Guizot, and the Collapse of the Entente Cordiale* (London: Athlone Press 1974), 81, 88, 93, 212. For a different view of this case, see Stanley Mellon, "Entente, Diplomacy, and Fantasy," *Reviews in European History*, 11 (September 1976), 376-80.

is not highly valued. For instance, a state may not seek to annex additional territory because the latter lacks raw materials, is inhabited by people of a different ethnic group, would be costly to garrison, or would be hard to assimilate without disturbing domestic politics and values. A state can reduce the incentives that another state has to attack it, by not being a threat to the latter and by providing goods and services that would be lost were the other to attempt exploitation.

Even where the direct advantages of DC are great, other considerations can reduce the net gain. Victory as well as defeat can set off undesired domestic changes within the state. Exploitation has at times been frowned upon by the international community, thus reducing the prestige of a state that engages in it. Or others might in the future be quicker to see the state as a menace to them, making them more likely to arm, and to oppose it later. Thus, Bismarck's attempts to get other powers to cooperate with him in maintaining the status quo after 1871 were made more difficult by the widely-held mistrust of him that grew out of his earlier aggressions.[17]

THE PROBABILITY THAT THE OTHER WILL COOPERATE

The variables discussed so far influence the payoffs for each of the four possible outcomes. To decide what to do, the state has to go further and calculate the expected value of cooperating or defecting. Because such calculations involve estimating the probability that the other will cooperate, the state will have to judge how the variables discussed so far act on the other. To encourage the other to cooperate, a state may try to manipulate these variables. It can lower the other's incentives to defect by decreasing what it could gain by exploiting the state (DC)—the details would be similar to those discussed in the previous paragraph—and it can raise the costs of deadlock (DD). But if the state cannot make DD the worst outcome for the other, coercion is likely to be ineffective in the short run because the other can respond by refusing to cooperate, and dangerous in the long run because the other is likely to become convinced that the state is aggressive. So the state will have to concentrate on making cooperation more attractive. One way to do this is to decrease the costs the other will pay if it cooperates and the state defects (CD). Thus, the state could try to make the other less vulnerable. It was for this reason that in the late 1950's and early 1960's

[17] Similarly, a French diplomat has argued that "the worst result of Louis XIV's abandonment of our traditional policy was the distrust it aroused towards us abroad." Jules Cambon, "The Permanent Bases of French Foreign Policy," *Foreign Affairs*, VIII (January 1930), 179.

some American defense analysts argued that it would be good for both sides if the Russians developed hardened missiles. Of course, decreasing the other's vulnerability also decreases the state's ability to coerce it, and opens the possibility that the other will use this protection as a shield behind which to engage in actions inimical to the state. But by sacrificing some ability to harm the other, the state can increase the chances of mutually beneficial cooperation.

The state can also try to increase the gains that will accrue to the other from mutual cooperation (CC). Although the state will of course gain if it receives a share of any new benefits, even an increment that accrues entirely to the other will aid the state by increasing the likelihood that the other will cooperate.[18]

This line of argument can be continued through the infinite regressions that game theory has made familiar. If the other is ready to cooperate when it thinks the state will, the state can increase the chances of CC by showing that it *is* planning to cooperate. Thus the state should understate the gains it would make if it exploited the other (DC) and the costs it would pay if the other exploited it (CD), and stress or exaggerate the gains it would make under mutual cooperation (CC) and the costs it would pay if there is deadlock (DD). The state will also want to convince the other that it thinks that the other is likely to cooperate. If the other believes these things, it will see that the state has strong incentives to cooperate, and so it will cooperate in turn. One point should be emphasized. Because the other, like the state, may be driven to defect by the fear that it will be exploited if it does not, the state should try to reassure it that this will not happen. Thus, when Khrushchev indicated his willingness to withdraw his missiles from Cuba, he simultaneously stressed to Kennedy that "we are of sound mind and understand perfectly well" that Russia could not launch a successful attack against the U.S., and therefore that there was no reason for the U.S. to contemplate a defensive, pre-emptive strike of its own.[19]

There is, however, a danger. If the other thinks that the state has little choice but to cooperate, it can credibly threaten to defect unless the state provides it with additional benefits. Great advantages of mutual cooperation, like high costs of war, provide a lever for com-

[18] This assumes, however, that these benefits to the other will not so improve the other's power position that it will be more able to menace the state in the future.

[19] Walter LaFeber, ed., *The Dynamics of World Power; A Documentary History of United States Foreign Policy 1945–1973*, II: *Eastern Europe and the Soviet Union* (New York: Chelsea House in association with McGraw-Hill 1973), 700.

petitive bargaining. Furthermore, for a state to stress how much it gains from cooperation may be to imply that it is gaining much more than the other and to suggest that the benefits should be distributed more equitably.

When each side is ready to cooperate if it expects the other to, inspection devices can ameliorate the security dilemma. Of course, even a perfect inspection system cannot guarantee that the other will not later develop aggressive intentions and the military means to act on them. But by relieving immediate worries and providing warning of coming dangers, inspection can meet a significant part of the felt need to protect oneself against future threats, and so make current cooperation more feasible. Similar functions are served by breaking up one large transaction into a series of smaller ones.[20] At each transaction each can see whether the other has cooperated; and its losses, if the other defects, will be small. And since what either side would gain by one defection is slight compared to the benefits of continued cooperation, the prospects of cooperation are high. Conflicts and wars among status-quo powers would be much more common were it not for the fact that international politics is usually a series of small transactions.

How a statesman interprets the other's past behavior and how he projects it into the future is influenced by his understanding of the security dilemma and his ability to place himself in the other's shoes. The dilemma will operate much more strongly if statesmen do not understand it, and do not see that their arms—sought only to secure the status quo—may alarm others and that others may arm, not because they are contemplating aggression, but because they fear attack from the first state. These two failures of empathy are linked. A state which thinks that the other knows that it wants only to preserve the status quo and that its arms are meant only for self-preservation will conclude that the other side will react to its arms by increasing its own capability only if it is aggressive itself. Since the other side is not menaced, there is no legitimate reason for it to object to the first state's arms; therefore, objection proves that the other is aggressive. Thus, the following exchange between Senator Tom Connally and Secretary of State Acheson concerning the ratification of the NATO treaty:

> Secretary Acheson: [The treaty] is aimed solely at armed aggression.
> Senator Connally: In other words, unless a nation . . . contemplates, meditates, or makes plans looking toward aggression or armed attack on another nation, it has no cause to fear this treaty.

[20] Thomas Schelling, *The Strategy of Conflict* (New York: Oxford University Press 1963), 134-35.

> Secretary Acheson: That is correct, Senator Connally, and it seems to me that any nation which claims that this treaty is directed against it should be reminded of the Biblical admonition that 'The guilty flee when no man pursueth.'
>
> Senator Connally: That is a very apt illustration.
>
> What I had in mind was, when a State or Nation passes a criminal act, for instance, against burglary, nobody but those who are burglars or getting ready to be burglars need have any fear of the Burglary Act. Is that not true?
>
> Secretary Acheson: The only effect [the law] would have [on an innocent person] would be for his protection, perhaps, by deterring someone else. He wouldn't worry about the imposition of the penalties on himself.[21]

The other side of this coin is that part of the explanation for détente is that most American decision makers now realize that it is at least possible that Russia may fear American aggression; many think that this fear accounts for a range of Soviet actions previously seen as indicating Russian aggressiveness. Indeed, even 36 percent of military officers consider the Soviet Union's motivations to be primarily defensive. Less than twenty years earlier, officers had been divided over whether Russia sought world conquest or only expansion.[22]

Statesmen who do not understand the security dilemma will think that the money spent is the only cost of building up their arms. This belief removes one important restraint on arms spending. Furthermore, it is also likely to lead states to set their security requirements too high. Since they do not understand that trying to increase one's security can actually decrease it, they will overestimate the amount of security that is attainable; they will think that when in doubt they can "play it safe" by increasing their arms. Thus it is very likely that two states which support the status quo but do not understand the security dilemma will end up, if not in a war, then at least in a relationship of higher conflict than is required by the objective situation.

The belief that an increase in military strength always leads to an increase in security is often linked to the belief that the only route to security is through military strength. As a consequence, a whole range of meliorative policies will be downgraded. Decision makers who do not believe that adopting a more conciliatory posture, meeting the

[21] U.S. Congress, Senate, Committee on Foreign Relations, *Hearings, North Atlantic Treaty*, 81st Cong., 1st sess. (1949), 17.

[22] Bruce Russett and Elizabeth Hanson, *Interest and Ideology* (San Francisco: Freeman 1975), 260; Morris Janowitz, *The Professional Soldier* (New York: Free Press 1960), chap. 13.

other's legitimate grievances, or developing mutual gains from cooperation can increase their state's security, will not devote much attention or effort to these possibilities.

On the other hand, a heightened sensitivity to the security dilemma makes it more likely that the state will treat an aggressor as though it were an insecure defender of the status quo. Partly because of their views about the causes of World War I, the British were predisposed to believe that Hitler sought only the rectification of legitimate and limited grievances and that security could best be gained by constructing an equitable international system. As a result they pursued a policy which, although well designed to avoid the danger of creating unnecessary conflict with a status-quo Germany, helped destroy Europe.

GEOGRAPHY, COMMITMENTS, BELIEFS, AND SECURITY THROUGH EXPANSION

A final consideration does not easily fit in the matrix we have been using, although it can be seen as an aspect of vulnerability and of the costs of CD. Situations vary in the ease or difficulty with which all states can simultaneously achieve a high degree of security. The influence of military technology on this variable is the subject of the next section. Here we want to treat the impact of beliefs, geography, and commitments (many of which can be considered to be modifications of geography, since they bind states to defend areas outside their homelands). In the crowded continent of Europe, security requirements were hard to mesh. Being surrounded by powerful states, Germany's problem—or the problem created by Germany—was always great and was even worse when her relations with both France and Russia were bad, such as before World War I. In that case, even a status-quo Germany, if she could not change the political situation, would almost have been forced to adopt something like the Schlieffen Plan. Because she could not hold off both of her enemies, she had to be prepared to defeat one quickly and then deal with the other in a more leisurely fashion. If France or Russia stayed out of a war between the other state and Germany, they would allow Germany to dominate the Continent (even if that was not Germany's aim). They therefore had to deny Germany this ability, thus making Germany less secure. Although Germany's arrogant and erratic behavior, coupled with the desire for an unreasonably high level of security (which amounted to the desire to escape from her geographic plight), compounded the problem, even wise German statesmen would have been hard put to gain a high degree of security without alarming their neighbors.

A similar situation arose for France after World War I. She was committed to protecting her allies in Eastern Europe, a commitment she could meet only by taking the offensive against Germany. But since there was no way to guarantee that France might not later seek expansion, a France that could successfully launch an attack in response to a German move into Eastern Europe would constitute a potential danger to German core values. Similarly, a United States credibly able to threaten retaliation with strategic nuclear weapons if the Soviet Union attacks Western Europe also constitutes a menace, albeit a reduced one, to the Soviet ability to maintain the status quo. The incompatibility of these security requirements is not complete. Herman Kahn is correct in arguing that the United States could have Type II deterrence (the ability to deter a major Soviet provocation) without gaining first-strike capability because the expected Soviet retaliation following an American strike could be great enough to deter the U.S. from attacking unless the U.S. believed it would suffer enormous deprivation (for instance, the loss of Europe) if it did not strike.[23] Similarly, the Franco-German military balance could have been such that France could successfully attack Germany if the latter's armies were embroiled in Eastern Europe, but could not defeat a Germany that was free to devote all her resources to defending herself. But this delicate balance is very hard to achieve, especially because states usually calculate conservatively. Therefore, such a solution is not likely to be available.

For the United States, the problem posed by the need to protect Europe is an exception. Throughout most of its history, this country has been in a much more favorable position: relatively self-sufficient and secure from invasion, it has not only been able to get security relatively cheaply, but by doing so, did not menace others.[24] But ambitions and commitments have changed this situation. After the American conquest of the Philippines, "neither the United States nor Japan could assure protection for their territories by military and naval means without compromising the defenses of the other. This problem would plague American and Japanese statesmen down to 1941."[25] Furthermore, to the extent that Japan could protect herself, she could resist American threats to go to war if Japan did not respect China's inde-

[23] Kahn, *On Thermonuclear War* (Princeton: Princeton University Press 1960), 138-60. It should be noted that the French example is largely hypothetical because France had no intention of fulfilling her obligations once Germany became strong.

[24] Wolfers (fn. 9), chap. 15; C. Vann Woodward, "The Age of Reinterpretation," *American Historical Review*, Vol. 67 (October 1960), 1-19.

[25] William Braisted, *The United States Navy in the Pacific, 1897-1909* (Austin: University of Texas Press 1958), 240.

pendence. These complications were minor compared to those that followed World War II. A world power cannot help but have the ability to harm many others that is out of proportion to the others' ability to harm it.

Britain had been able to gain security without menacing others to a greater degree than the Continental powers, though to a lesser one than the United States. But the acquisition of colonies and a dependence on foreign trade sacrificed her relative invulnerability of being an island. Once she took India, she had to consider Russia as a neighbor; the latter was expanding in Central Asia, thus making it much more difficult for both countries to feel secure. The need to maintain reliable sea lanes to India meant that no state could be allowed to menace South Africa and, later, Egypt. But the need to protect these two areas brought new fears, new obligations, and new security requirements that conflicted with those of other European nations. Furthermore, once Britain needed a flow of imports during both peace and wartime, she required a navy that could prevent a blockade. A navy sufficient for that task could not help but be a threat to any other state that had valuable trade.

A related problem is raised by the fact that defending the status quo often means protecting more than territory. Nonterritorial interests, norms, and the structure of the international system must be maintained. If all status-quo powers agree on these values and interpret them in compatible ways, problems will be minimized. But the potential for conflict is great, and the policies followed are likely to exacerbate the security dilemma. The greater the range of interests that have to be protected, the more likely it is that national efforts to maintain the status quo will clash. As a French spokesman put it in 1930: "Security! The term signifies more indeed than the maintenance of a people's homeland, or even of their territories beyond the seas. It also means the maintenance of the world's respect for them, the maintenance of their economic interests, everything in a word, which goes to make up the grandeur, the life itself, of the nation."[26] When security is thought of in this sense, it almost automatically has a competitive connotation. It involves asserting one state's will over others, showing a high degree of leadership if not dominance, and displaying a prickly demeanor. The resulting behavior will almost surely clash with that of others who define their security in the same way.

The problem will be almost insoluble if statesmen believe that their security requires the threatening or attacking of others. "That which

[26] Cambon (fn. 17), 185.

stops growing begins to rot," declared a minister to Catherine the Great.[27] More common is the belief that if the other is secure, it will be emboldened to act against one's own state's interests, and the belief that in a war it will not be enough for the state to protect itself: it must be able to take the war to the other's homeland. These convictions make it very difficult for status-quo states to develop compatible security policies, for they lead the state to conclude that its security requires that others be rendered insecure.

In other cases, "A country engaged in a war of defense might be obliged for strategic reasons to assume the offensive," as a French delegate to an interwar disarmament conference put it.[28] That was the case for France in 1799:

> The Directory's political objectives were essentially defensive, for the French wanted only to protect the Republic from invasion and preserve the security and territory of the satellite regimes in Holland, Switzerland, and Italy. French leaders sought no new conquests; they wanted only to preserve the earlier gains of the Revolution. The Directory believed, however, that only a military offensive could enable the nation to achieve its defensive political objective. By inflicting rapid and decisive defeats upon one or more members of the coalition, the directors hoped to rupture allied unity and force individual powers to seek a separate peace.[29]

It did not matter to the surrounding states that France was not attacking because she was greedy, but because she wanted to be left in peace. Unless there was some way her neighbors could provide France with an alternate route to her goal, France had to go to war.

III. Offense, Defense, and the Security Dilemma

Another approach starts with the central point of the security dilemma—that an increase in one state's security decreases the security of others—and examines the conditions under which this proposition holds. Two crucial variables are involved: whether defensive weapons and policies can be distinguished from offensive ones, and whether the

[27] Quoted in Adam Ulam, *Expansion and Co-Existence* (New York: Praeger 1968), 5. In 1920 the U.S. Navy's General Board similarly declared "A nation must advance or retrocede in world position." Quoted in William Braisted, *The United States Navy in the Pacific, 1909–1922* (Austin: University of Texas Press 1971), 488.

[28] Quoted in Marion Boggs, *Attempts to Define and Limit "Aggressive" Armament in Diplomacy and Strategy* (Columbia: University of Missouri Studies, XVI, No. 1, 1941), 41.

[29] Steven Ross, *European Diplomatic History, 1789–1815* (Garden City, N.Y.: Doubleday 1969), 194.

defense or the offense has the advantage. The definitions are not always clear, and many cases are difficult to judge, but these two variables shed a great deal of light on the question of whether status-quo powers will adopt compatible security policies. All the variables discussed so far leave the heart of the problem untouched. But when defensive weapons differ from offensive ones, it is possible for a state to make itself more secure without making others less secure. And when the defense has the advantage over the offense, a large increase in one state's security only slightly decreases the security of the others, and status-quo powers can all enjoy a high level of security and largely escape from the state of nature.

OFFENSE-DEFENSE BALANCE

When we say that the offense has the advantage, we simply mean that it is easier to destroy the other's army and take its territory than it is to defend one's own. When the defense has the advantage, it is easier to protect and to hold than it is to move forward, destroy, and take. If effective defenses can be erected quickly, an attacker may be able to keep territory he has taken in an initial victory. Thus, the dominance of the defense made it very hard for Britain and France to push Germany out of France in World War I. But when superior defenses are difficult for an aggressor to improvise on the battlefield and must be constructed during peacetime, they provide no direct assistance to him.

The security dilemma is at its most vicious when commitments, strategy, or technology dictate that the only route to security lies through expansion. Status-quo powers must then act like aggressors; the fact that they would gladly agree to forego the opportunity for expansion in return for guarantees for their security has no implications for their behavior. Even if expansion is not sought as a goal in itself, there will be quick and drastic changes in the distribution of territory and influence. Conversely, when the defense has the advantage, status-quo states can make themselves more secure without gravely endangering others.[30] Indeed, if the defense has enough of an advantage and if the states are of roughly equal size, not only will the security dilemma cease to inhibit status-quo states from cooperating, but aggression will be next to impossible, thus rendering international anarchy relatively unimportant. If states cannot conquer each other, then the

[30] Thus, when Wolfers (fn. 10), 126, argues that a status-quo state that settles for rough equality of power with its adversary, rather than seeking preponderance, may be able to convince the other to reciprocate by showing that it wants only to protect itself, not menace the other, he assumes that the defense has an advantage.

lack of sovereignty, although it presents problems of collective goods in a number of areas, no longer forces states to devote their primary attention to self-preservation. Although, if force were not usable, there would be fewer restraints on the use of nonmilitary instruments, these are rarely powerful enough to threaten the vital interests of a major state.

Two questions of the offense-defense balance can be separated. First, does the state have to spend more or less than one dollar on defensive forces to offset each dollar spent by the other side on forces that could be used to attack? If the state has one dollar to spend on increasing its security, should it put it into offensive or defensive forces? Second, with a given inventory of forces, is it better to attack or to defend? Is there an incentive to strike first or to absorb the other's blow? These two aspects are often linked: if each dollar spent on offense can overcome each dollar spent on defense, and if both sides have the same defense budgets, then both are likely to build offensive forces and find it attractive to attack rather than to wait for the adversary to strike.

These aspects affect the security dilemma in different ways. The first has its greatest impact on arms races. If the defense has the advantage, and if the status-quo powers have reasonable subjective security requirements, they can probably avoid an arms race. Although an increase in one side's arms and security will still decrease the other's security, the former's increase will be larger than the latter's decrease. So if one side increases its arms, the other can bring its security back up to its previous level by adding a smaller amount to its forces. And if the first side reacts to this change, its increase will also be smaller than the stimulus that produced it. Thus a stable equilibrium will be reached. Shifting from dynamics to statics, each side can be quite secure with forces roughly equal to those of the other. Indeed, if the defense is much more potent than the offense, each side can be willing to have forces much smaller than the other's, and can be indifferent to a wide range of the other's defense policies.

The second aspect—whether it is better to attack or to defend—influences short-run stability. When the offense has the advantage, a state's reaction to international tension will increase the chances of war. The incentives for pre-emption and the "reciprocal fear of surprise attack" in this situation have been made clear by analyses of the dangers that exist when two countries have first-strike capabilities.[31] There is no way for the state to increase its security without menacing,

[31] Schelling (fn. 20), chap. 9.

or even attacking, the other. Even Bismarck, who once called preventive war "committing suicide from fear of death," said that "no government, if it regards war as inevitable even if it does not want it, would be so foolish as to leave to the enemy the choice of time and occasion and to wait for the moment which is most convenient for the enemy."[32] In another arena, the same dilemma applies to the policeman in a dark alley confronting a suspected criminal who appears to be holding a weapon. Though racism may indeed be present, the security dilemma can account for many of the tragic shootings of innocent people in the ghettos.

Beliefs about the course of a war in which the offense has the advantage further deepen the security dilemma. When there are incentives to strike first, a successful attack will usually so weaken the other side that victory will be relatively quick, bloodless, and decisive. It is in these periods when conquest is possible and attractive that states consolidate power internally—for instance, by destroying the feudal barons —and expand externally. There are several consequences that decrease the chance of cooperation among status-quo states. First, war will be profitable for the winner. The costs will be low and the benefits high. Of course, losers will suffer; the fear of losing could induce states to try to form stable cooperative arrangements, but the temptation of victory will make this particularly difficult. Second, because wars are expected to be both frequent and short, there will be incentives for high levels of arms, and quick and strong reaction to the other's increases in arms. The state cannot afford to wait until there is unambiguous evidence that the other is building new weapons. Even large states that have faith in their economic strength cannot wait, because the war will be over before their products can reach the army. Third, when wars are quick, states will have to recruit allies in advance.[33] Without the opportunity for bargaining and re-alignments during the opening stages of hostilities, peacetime diplomacy loses a degree of the fluidity that facilitates balance-of-power policies. Because alliances must be secured during peacetime, the international system is more likely to become bipolar. It is hard to say whether war therefore becomes more or less likely, but this bipolarity increases tension between the two camps and makes it harder for status-quo states to gain the benefits of cooperation. Fourth, if wars are frequent, statesmen's perceptual thresholds will be adjusted accordingly and they will be quick to perceive

[32] Quoted in Fritz Fischer, *War of Illusions* (New York: Norton 1975), 377, 461.
[33] George Quester, *Offense and Defense in the International System* (New York: John Wiley 1977), 105-06; Sontag (fn. 5), 4-5.

ambiguous evidence as indicating that others are aggressive. Thus, there will be more cases of status-quo powers arming against each other in the incorrect belief that the other is hostile.

When the defense has the advantage, all the foregoing is reversed. The state that fears attack does not pre-empt—since that would be a wasteful use of its military resources—but rather prepares to receive an attack. Doing so does not decrease the security of others, and several states can do it simultaneously; the situation will therefore be stable, and status-quo powers will be able to cooperate. When Herman Kahn argues that ultimatums "are vastly too dangerous to give because . . . they are quite likely to touch off a pre-emptive strike,"[34] he incorrectly assumes that it is always advantageous to strike first.

More is involved than short-run dynamics. When the defense is dominant, wars are likely to become stalemates and can be won only at enormous cost. Relatively small and weak states can hold off larger and stronger ones, or can deter attack by raising the costs of conquest to an unacceptable level. States then approach equality in what they can do to each other. Like the .45-caliber pistol in the American West, fortifications were the "great equalizer" in some periods. Changes in the status quo are less frequent and cooperation is more common wherever the security dilemma is thereby reduced.

Many of these arguments can be illustrated by the major powers' policies in the periods preceding the two world wars. Bismarck's wars surprised statesmen by showing that the offense had the advantage, and by being quick, relatively cheap, and quite decisive. Falling into a common error, observers projected this pattern into the future.[35] The resulting expectations had several effects. First, states sought semi-permanent allies. In the early stages of the Franco-Prussian War, Napoleon III had thought that there would be plenty of time to recruit Austria to his side. Now, others were not going to repeat this mistake. Second, defense budgets were high and reacted quite sharply to increases on the other side. It is not surprising that Richardson's theory of arms races fits this period well. Third, most decision makers thought that the next Euro-

[34] Kahn (fn. 23), 211 (also see 144).

[35] For a general discussion of such mistaken learning from the past, see Jervis (fn. 5), chap. 6. The important and still not completely understood question of why this belief formed and was maintained throughout the war is examined in Bernard Brodie, *War and Politics* (New York: Macmillan 1973), 262-70; Brodie, "Technological Change, Strategic Doctrine, and Political Outcomes," in Klaus Knorr, ed., *Historical Dimensions of National Security Problems* (Lawrence: University Press of Kansas 1976), 290-92; and Douglas Porch, "The French Army and the Spirit of the Offensive, 1900–14," in Brian Bond and Ian Roy, eds., *War and Society* (New York: Holmes & Meier 1975), 117-43.

pean war would not cost much blood and treasure.[36] That is one reason why war was generally seen as inevitable and why mass opinion was so bellicose. Fourth, once war seemed likely, there were strong pressures to pre-empt. Both sides believed that whoever moved first could penetrate the other deep enough to disrupt mobilization and thus gain an insurmountable advantage. (There was no such belief about the use of naval forces. Although Churchill made an ill-advised speech saying that if German ships "do not come out and fight in time of war they will be dug out like rats in a hole,"[37] everyone knew that submarines, mines, and coastal fortifications made this impossible. So at the start of the war each navy prepared to defend itself rather than attack, and the short-run destabilizing forces that launched the armies toward each other did not operate.)[38] Furthermore, each side knew that the other saw the situation the same way, thus increasing the perceived danger that the other would attack, and giving each added reasons to precipitate a war if conditions seemed favorable. In the long and the short run, there were thus both offensive and defensive incentives to strike. This situation casts light on the common question about German motives in 1914: "Did Germany unleash the war deliberately to become a world power or did she support Austria merely to defend a weakening ally," thereby protecting her own position?[39] To some extent, this question is misleading. Because of the perceived advantage of the offense, war was seen as the best route both to gaining expansion and to avoiding drastic loss of influence. There seemed to be no way for Germany merely to retain and safeguard her existing position.

Of course the war showed these beliefs to have been wrong on all points. Trenches and machine guns gave the defense an overwhelming advantage. The fighting became deadlocked and produced horrendous casualties. It made no sense for the combatants to bleed themselves to death. If they had known the power of the defense beforehand, they would have rushed for their own trenches rather than for the enemy's territory. Each side could have done this without increasing the other's

[36] Some were not so optimistic. Gray's remark is well-known: "The lamps are going out all over Europe; we shall not see them lit again in our life-time." The German Prime Minister, Bethmann Hollweg, also feared the consequences of the war. But the controlling view was that it would certainly pay for the winner.

[37] Quoted in Martin Gilbert, *Winston S. Churchill*, III, *The Challenge of War, 1914–1916* (Boston: Houghton Mifflin 1971), 84.

[38] Quester (fn. 33), 98-99. Robert Art, *The Influence of Foreign Policy on Seapower*, II (Beverly Hills: Sage Professional Papers in International Studies Series, 1973), 14-18, 26-28.

[39] Konrad Jarausch, "The Illusion of Limited War: Chancellor Bethmann Hollweg's Calculated Risk, July 1914," *Central European History*, II (March 1969), 50.

incentives to strike. War might have broken out anyway, just as DD is a possible outcome of Chicken, but at least the pressures of time and the fear of allowing the other to get the first blow would not have contributed to this end. And, had both sides known the costs of the war, they would have negotiated much more seriously. The obvious question is why the states did not seek a negotiated settlement as soon as the shape of the war became clear. Schlieffen had said that if his plan failed, peace should be sought.[40] The answer is complex, uncertain, and largely outside of the scope of our concerns. But part of the reason was the hope and sometimes the expectation that breakthroughs could be made and the dominance of the offensive restored. Without that hope, the political and psychological pressures to fight to a decisive victory might have been overcome.

The politics of the interwar period were shaped by the memories of the previous conflict and the belief that any future war would resemble it. Political and military lessons reinforced each other in ameliorating the security dilemma. Because it was believed that the First World War had been a mistake that could have been avoided by skillful conciliation, both Britain and, to a lesser extent, France were highly sensitive to the possibility that interwar Germany was not a real threat to peace, and alert to the danger that reacting quickly and strongly to her arms could create unnecessary conflict. And because Britain and France expected the defense to continue to dominate, they concluded that it was safe to adopt a more relaxed and nonthreatening military posture.[41] Britain also felt less need to maintain tight alliance bonds. The Allies' military posture then constituted only a slight danger to Germany; had the latter been content with the status quo, it would have been easy for both sides to have felt secure behind their lines of fortifications. Of course the Germans were not content, so it is not surprising that they devoted their money and attention to finding ways out of a defense-dominated stalemate. *Blitzkrieg* tactics were necessary if they were to use force to change the status quo.

The initial stages of the war on the Western Front also contrasted with the First World War. Only with the new air arm were there any

[40] Brodie (fn. 8), 58.

[41] President Roosevelt and the American delegates to the League of Nations Disarmament Conference maintained that the tank and mobile heavy artillery had reestablished the dominance of the offensive, thus making disarmament more urgent (Boggs, fn. 28, pp. 31, 108), but this was a minority position and may not even have been believed by the Americans. The reduced prestige and influence of the military, and the high pressures to cut government spending throughout this period also contributed to the lowering of defense budgets.

incentives to strike first, and these forces were too weak to carry out the grandiose plans that had been both dreamed and feared. The armies, still the main instrument, rushed to defensive positions. Perhaps the allies could have successfully attacked while the Germans were occupied in Poland.[42] But belief in the defense was so great that this was never seriously contemplated. Three months after the start of the war, the French Prime Minister summed up the view held by almost everyone but Hitler: on the Western Front there is "deadlock. Two Forces of equal strength and the one that attacks seeing such enormous casualties that it cannot move without endangering the continuation of the war or of the aftermath."[43] The Allies were caught in a dilemma they never fully recognized, let alone solved. On the one hand, they had very high war aims; although unconditional surrender had not yet been adopted, the British had decided from the start that the removal of Hitler was a necessary condition for peace.[44] On the other hand, there were no realistic plans or instruments for allowing the Allies to impose their will on the other side. The British Chief of the Imperial General Staff noted, "The French have no intention of carrying out an offensive for years, if at all"; the British were only slightly bolder.[45] So the Allies looked to a long war that would wear the Germans down, cause civilian suffering through shortages, and eventually undermine Hitler. There was little analysis to support this view—and indeed it probably was not supportable—but as long as the defense was dominant and the numbers on each side relatively equal, what else could the Allies do?

To summarize, the security dilemma was much less powerful after World War I than it had been before. In the later period, the expected power of the defense allowed status-quo states to pursue compatible security policies and avoid arms races. Furthermore, high tension and fear of war did not set off short-run dynamics by which each state, trying to increase its security, inadvertently acted to make war more likely. The expected high costs of war, however, led the Allies to believe

[42] Jon Kimche, *The Unfought Battle* (New York: Stein 1968); Nicholas William Bethell, *The War Hitler Won: The Fall of Poland, September 1939* (New York: Holt 1972); Alan Alexandroff and Richard Rosecrance, "Deterrence in 1939," *World Politics*, XXIX (April 1977), 404-24.

[43] Roderick Macleod and Denis Kelly, eds., *Time Unguarded: The Ironside Diaries, 1937–1940* (New York: McKay 1962), 173.

[44] For a short time, as France was falling, the British Cabinet did discuss reaching a negotiated peace with Hitler. The official history ignores this, but it is covered in P.M.H. Bell, *A Certain Eventuality* (Farnborough, England: Saxon House 1974), 40-48.

[45] Macleod and Kelly (fn. 43), 174. In flat contradiction to common sense and almost everything they believed about modern warfare, the Allies planned an expedition to Scandinavia to cut the supply of iron ore to Germany and to aid Finland against the Russians. But the dominant mood was the one described above.

that no sane German leader would run the risks entailed in an attempt to dominate the Continent, and discouraged them from risking war themselves.

Technology and Geography. Technology and geography are the two main factors that determine whether the offense or the defense has the advantage. As Brodie notes, "On the tactical level, as a rule, few physical factors favor the attacker but many favor the defender. The defender usually has the advantage of cover. He characteristically fires from behind some form of shelter while his opponent crosses open ground."[46] Anything that increases the amount of ground the attacker has to cross, or impedes his progress across it, or makes him more vulnerable while crossing, increases the advantage accruing to the defense. When states are separated by barriers that produce these effects, the security dilemma is eased, since both can have forces adequate for defense without being able to attack. Impenetrable barriers would actually prevent war; in reality, decision makers have to settle for a good deal less. Buffer zones slow the attacker's progress; they thereby give the defender time to prepare, increase problems of logistics, and reduce the number of soldiers available for the final assault. At the end of the 19th century, Arthur Balfour noted Afghanistan's "non-conducting" qualities. "So long as it possesses few roads, and no railroads, it will be impossible for Russia to make effective use of her great numerical superiority at any point immediately vital to the Empire." The Russians valued buffers for the same reasons; it is not surprising that when Persia was being divided into Russian and British spheres of influence some years later, the Russians sought assurances that the British would refrain from building potentially menacing railroads in their sphere. Indeed, since railroad construction radically altered the abilities of countries to defend themselves and to attack others, many diplomatic notes and much intelligence activity in the late 19th century centered on this subject.[47]

Oceans, large rivers, and mountain ranges serve the same function as buffer zones. Being hard to cross, they allow defense against superior numbers. The defender has merely to stay on his side of the barrier and so can utilize all the men he can bring up to it. The attacker's men, however, can cross only a few at a time, and they are very vulnerable

[46] Brodie (fn. 8), 179.

[47] Arthur Balfour, "Memorandum," Committee on Imperial Defence, April 30, 1903, pp. 2-3; see the telegrams by Sir Arthur Nicolson, in G. P. Gooch and Harold Temperley, eds., *British Documents on the Origins of the War*, Vol. 4 (London: H.M.S.O. 1929), 429, 524. These barriers do not prevent the passage of long-range aircraft; but even in the air, distance usually aids the defender.

when doing so. If all states were self-sufficient islands, anarchy would be much less of a problem. A small investment in shore defenses and a small army would be sufficient to repel invasion. Only very weak states would be vulnerable, and only very large ones could menace others. As noted above, the United States, and to a lesser extent Great Britain, have partly been able to escape from the state of nature because their geographical positions approximated this ideal.

Although geography cannot be changed to conform to borders, borders can and do change to conform to geography. Borders across which an attack is easy tend to be unstable. States living within them are likely to expand or be absorbed. Frequent wars are almost inevitable since attacking will often seem the best way to protect what one has. This process will stop, or at least slow down, when the state's borders reach—by expansion or contraction—a line of natural obstacles. Security without attack will then be possible. Furthermore, these lines constitute salient solutions to bargaining problems and, to the extent that they are barriers to migration, are likely to divide ethnic groups, thereby raising the costs and lowering the incentives for conquest.

Attachment to one's state and its land reinforce one quasi-geographical aid to the defense. Conquest usually becomes more difficult the deeper the attacker pushes into the other's territory. Nationalism spurs the defenders to fight harder; advancing not only lengthens the attacker's supply lines, but takes him through unfamiliar and often devastated lands that require troops for garrison duty. These stabilizing dynamics will not operate, however, if the defender's war materiel is situated near its borders, or if the people do not care about their state, but only about being on the winning side. In such cases, positive feedback will be at work and initial defeats will be insurmountable.[48]

Imitating geography, men have tried to create barriers. Treaties may provide for demilitarized zones on both sides of the border, although such zones will rarely be deep enough to provide more than warning. Even this was not possible in Europe, but the Russians adopted a gauge for their railroads that was broader than that of the neighboring states, thereby complicating the logistics problems of any attacker—including Russia.

Perhaps the most ambitious and at least temporarily successful attempts to construct a system that would aid the defenses of both sides were the interwar naval treaties, as they affected Japanese-American

[48] See, for example, the discussion of warfare among Chinese warlords in Hsi-Sheng Chi, "The Chinese Warlord System as an International System," in Morton Kaplan, ed., *New Approaches to International Relations* (New York: St. Martin's 1968), 405-25.

relations. As mentioned earlier, the problem was that the United States could not defend the Philippines without denying Japan the ability to protect her home islands.[49] (In 1941 this dilemma became insoluble when Japan sought to extend her control to Malaya and the Dutch East Indies. If the Philippines had been invulnerable, they could have provided a secure base from which the U.S. could interdict Japanese shipping between the homeland and the areas she was trying to conquer.) In the 1920's and early 1930's each side would have been willing to grant the other security for its possessions in return for a reciprocal grant, and the Washington Naval Conference agreements were designed to approach this goal. As a Japanese diplomat later put it, their country's "fundamental principle" was to have "a strength insufficient for attack and adequate for defense."[50] Thus, Japan agreed in 1922 to accept a navy only three-fifths as large as that of the United States, and the U.S. agreed not to fortify its Pacific islands.[51] (Japan had earlier been forced to agree not to fortify the islands she had taken from Germany in World War I.) Japan's navy would not be large enough to defeat America's anywhere other than close to the home islands. Although the Japanese could still take the Philippines, not only would they be unable to move farther, but they might be weakened enough by their efforts to be vulnerable to counterattack. Japan, however, gained security. An American attack was rendered more difficult because the American bases were unprotected and because, until 1930, Japan was allowed unlimited numbers of cruisers, destroyers, and submarines that could weaken the American fleet as it made its way across the ocean.[52]

The other major determinant of the offense-defense balance is technology. When weapons are highly vulnerable, they must be employed before they are attacked. Others can remain quite invulnerable in their bases. The former characteristics are embodied in unprotected missiles and many kinds of bombers. (It should be noted that it is not vulnerability *per se* that is crucial, but the location of the vulnerability. Bombers and missiles that are easy to destroy only after having been launched toward their targets do not create destabilizing dynamics.) Incentives to strike first are usually absent for naval forces that are threatened by

[49] Some American decision makers, including military officers, thought that the best way out of the dilemma was to abandon the Philippines.

[50] Quoted in Elting Morrison, *Turmoil and Tradition: A Study of the Life and Times of Henry L. Stimson* (Boston: Houghton Mifflin 1960), 326.

[51] The U.S. "refused to consider limitations on Hawaiian defenses, since these works posed no threat to Japan." Braisted (fn. 27), 612.

[52] That is part of the reason why the Japanese admirals strongly objected when the civilian leaders decided to accept a seven-to-ten ratio in lighter craft in 1930. Stephen Pelz, *Race to Pearl Harbor* (Cambridge: Harvard University Press 1974), 3.

a naval attack. Like missiles in hardened silos, they are usually well protected when in their bases. Both sides can then simultaneously be prepared to defend themselves successfully.

In ground warfare under some conditions, forts, trenches, and small groups of men in prepared positions can hold off large numbers of attackers. Less frequently, a few attackers can storm the defenses. By and large, it is a contest between fortifications and supporting light weapons on the one hand, and mobility and heavier weapons that clear the way for the attack on the other. As the erroneous views held before the two world wars show, there is no simple way to determine which is dominant. "[T]hese oscillations are not smooth and predictable like those of a swinging pendulum. They are uneven in both extent and time. Some occur in the course of a single battle or campaign, others in the course of a war, still others during a series of wars." Longer-term oscillations can also be detected:

> The early Gothic age, from the twelfth to the late thirteenth century, with its wonderful cathedrals and fortified places, was a period during which the attackers in Europe generally met serious and increasing difficulties, because the improvement in the strength of fortresses outran the advance in the power of destruction. Later, with the spread of firearms at the end of the fifteenth century, old fortresses lost their power to resist. An age ensued during which the offense possessed, apart from short-term setbacks, new advantages. Then, during the seventeenth century, especially after about 1660, and until at least the outbreak of the War of the Austrian Succession in 1740, the defense regained much of the ground it had lost since the great medieval fortresses had proved unable to meet the bombardment of the new and more numerous artillery.[53]

Another scholar has continued the argument: "The offensive gained an advantage with new forms of heavy mobile artillery in the nineteenth century, but the stalemate of World War I created the impression that the defense again had an advantage; the German invasion in World War II, however, indicated the offensive superiority of highly mechanized armies in the field."[54]

The situation today with respect to conventional weapons is un-

[53] John Nef, *War and Human Progress* (New York: Norton 1963), 185. Also see *ibid.*, 237, 242-43, and 323; C. W. Oman, *The Art of War in the Middle Ages* (Ithaca, N.Y.: Cornell University Press 1953), 70-72; John Beeler, *Warfare in Feudal Europe, 730–1200* (Ithaca, N.Y.: Cornell University Press 1971), 212-14; Michael Howard, *War in European History* (London: Oxford University Press 1976), 33-37.

[54] Quincy Wright, *A Study of War* (abridged ed.; Chicago: University of Chicago Press 1964), 142. Also see 63-70, 74-75. There are important exceptions to these generalizations—the American Civil War, for instance, falls in the middle of the period Wright says is dominated by the offense.

clear. Until recently it was believed that tanks and tactical air power gave the attacker an advantage. The initial analyses of the 1973 Arab-Israeli war indicated that new anti-tank and anti-aircraft weapons have restored the primacy of the defense. These weapons are cheap, easy to use, and can destroy a high proportion of the attacking vehicles and planes that are sighted. It then would make sense for a status-quo power to buy lots of $20,000 missiles rather than buy a few half-million dollar tanks and multi-million dollar fighter-bombers. Defense would be possible even against a large and well-equipped force; states that care primarily about self-protection would not need to engage in arms races. But further examinations of the new technologies and the history of the October War cast doubt on these optimistic conclusions and leave us unable to render any firm judgment.[55]

Concerning nuclear weapons, it is generally agreed that defense is impossible—a triumph not of the offense, but of deterrence. Attack makes no sense, not because it can be beaten off, but because the attacker will be destroyed in turn. In terms of the questions under consideration here, the result is the equivalent of the primacy of the defense. First, security is relatively cheap. Less than one percent of the G.N.P. is devoted to deterring a direct attack on the United States; most of it is spent on acquiring redundant systems to provide a lot of insurance against the worst conceivable contingencies. Second, both sides can simultaneously gain security in the form of second-strike capability. Third, and related to the foregoing, second-strike capability can be maintained in the face of wide variations in the other side's military posture. There is no purely military reason why each side has to react quickly and strongly to the other's increases in arms. Any spending that the other devotes to trying to achieve first-strike capability can be neutralized by the state's spending much smaller sums on protecting its second-strike capability. Fourth, there are no incentives to strike first in a crisis.

Important problems remain, of course. Both sides have interests that go well beyond defense of the homeland. The protection of these interests creates conflicts even if neither side desires expansion. Furthermore, the shift from defense to deterrence has greatly increased the importance and perceptions of resolve. Security now rests on each side's belief that the other would prefer to run high risks of total destruction rather than sacrifice its vital interests. Aspects of the se-

[55] Geoffrey Kemp, Robert Pfaltzgraff, and Uri Ra'anan, eds., *The Other Arms Race* (Lexington, Mass.: D. C. Heath 1975); James Foster, "The Future of Conventional Arms Control," *Policy Sciences*, No. 8 (Spring 1977), 1-19.

curity dilemma thus appear in a new form. Are weapons procurements used as an index of resolve? Must they be so used? If one side fails to respond to the other's buildup, will it appear weak and thereby invite predation? Can both sides simultaneously have images of high resolve or is there a zero-sum element involved? Although these problems are real, they are not as severe as those in the prenuclear era: there are many indices of resolve, and states do not so much judge images of resolve in the abstract as ask how likely it is that the other will stand firm in a particular dispute. Since states are most likely to stand firm on matters which concern them most, it is quite possible for both to demonstrate their resolve to protect their own security simultaneously.

OFFENSE-DEFENSE DIFFERENTIATION

The other major variable that affects how strongly the security dilemma operates is whether weapons and policies that protect the state also provide the capability for attack. If they do not, the basic postulate of the security dilemma no longer applies. A state can increase its own security without decreasing that of others. The advantage of the defense can only ameliorate the security dilemma. A differentiation between offensive and defensive stances comes close to abolishing it. Such differentiation does not mean, however, that all security problems will be abolished. If the offense has the advantage, conquest and aggression will still be possible. And if the offense's advantage is great enough, status-quo powers may find it too expensive to protect themselves by defensive forces and decide to procure offensive weapons even though this will menace others. Furthermore, states will still have to worry that even if the other's military posture shows that it is peaceful now, it may develop aggressive intentions in the future.

Assuming that the defense is at least as potent as the offense, the differentiation between them allows status-quo states to behave in ways that are clearly different from those of aggressors. Three beneficial consequences follow. First, status-quo powers can identify each other, thus laying the foundations for cooperation. Conflicts growing out of the mistaken belief that the other side is expansionist will be less frequent. Second, status-quo states will obtain advance warning when others plan aggression. Before a state can attack, it has to develop and deploy offensive weapons. If procurement of these weapons cannot be disguised and takes a fair amount of time, as it almost always does, a status-quo state will have the time to take countermeas-

ures. It need not maintain a high level of defensive arms as long as its potential adversaries are adopting a peaceful posture. (Although being so armed should not, with the one important exception noted below, alarm other status-quo powers.) States do, in fact, pay special attention to actions that they believe would not be taken by a status-quo state because they feel that states exhibiting such behavior are aggressive. Thus the seizure or development of transportation facilities will alarm others more if these facilities have no commercial value, and therefore can only be wanted for military reasons. In 1906, the British rejected a Russian protest about their activities in a district of Persia by claiming that this area was "only of [strategic] importance [to the Russians] if they wished to attack the Indian frontier, or to put pressure upon us by making us think that they intend to attack it."[56]

The same inferences are drawn when a state acquires more weapons than observers feel are needed for defense. Thus, the Japanese spokesman at the 1930 London naval conference said that his country was alarmed by the American refusal to give Japan a 70 percent ratio (in place of a 60 percent ratio) in heavy cruisers: "As long as America held that ten percent advantage, it was possible for her to attack. So when America insisted on sixty percent instead of seventy percent, the idea would exist that they were trying to keep that possibility, and the Japanese people could not accept that."[57] Similarly, when Mussolini told Chamberlain in January 1939 that Hitler's arms program was motivated by defensive considerations, the Prime Minister replied that "German military forces were now so strong as to make it impossible for any Power or combination of Powers to attack her successfully. She could not want any further armaments for defensive purposes; what then did she want them for?"[58]

Of course these inferences can be wrong—as they are especially likely to be because states underestimate the degree to which they menace others.[59] And when they are wrong, the security dilemma is deepened. Because the state thinks it has received notice that the other is aggressive, its own arms building will be less restrained and the chances of

[56] Richard Challener, *Admirals, Generals, and American Foreign Policy, 1898–1914* (Princeton: Princeton University Press 1973), 273; Grey to Nicolson, in Gooch and Temperley (fn. 47), 414.

[57] Quoted in James Crowley, *Japan's Quest for Autonomy* (Princeton: Princeton University Press 1966), 49. American naval officers agreed with the Japanese that a ten-to-six ratio would endanger Japan's supremacy in her home waters.

[58] E. L. Woodward and R. Butler, eds., *Documents on British Foreign Policy, 1919–1939*, Third series, III (London: H.M.S.O. 1950), 526.

[59] Jervis (fn. 5), 69-72, 352-55.

cooperation will be decreased. But the dangers of incorrect inferences should not obscure the main point: when offensive and defensive postures are different, much of the uncertainty about the other's intentions that contributes to the security dilemma is removed.

The third beneficial consequence of a difference between offensive and defensive weapons is that if all states support the status quo, an obvious arms control agreement is a ban on weapons that are useful for attacking. As President Roosevelt put it in his message to the Geneva Disarmament Conference in 1933: "If all nations will agree wholly to eliminate from possession and use the weapons which make possible a successful attack, defenses automatically will become impregnable, and the frontiers and independence of every nation will become secure."[60] The fact that such treaties have been rare—the Washington naval agreements discussed above and the anti-ABM treaty can be cited as examples—shows either that states are not always willing to guarantee the security of others, or that it is hard to distinguish offensive from defensive weapons.

Is such a distinction possible? Salvador de Madariaga, the Spanish statesman active in the disarmament negotiations of the interwar years, thought not: "A weapon is either offensive or defensive according to which end of it you are looking at." The French Foreign Minister agreed (although French policy did not always follow this view): "Every arm can be employed offensively or defensively in turn. . . . The only way to discover whether arms are intended for purely defensive purposes or are held in a spirit of aggression is in all cases to enquire into the intentions of the country concerned." Some evidence for the validity of this argument is provided by the fact that much time in these unsuccessful negotiations was devoted to separating offensive from defensive weapons. Indeed, no simple and unambiguous definition is possible and in many cases no judgment can be reached. Before the American entry into World War I, Woodrow Wilson wanted to arm merchantmen only with guns in the back of the ship so they could not initiate a fight, but this expedient cannot be applied to more common forms of armaments.[61]

There are several problems. Even when a differentiation is possible, a status-quo power will want offensive arms under any of three conditions. (1) If the offense has a great advantage over the defense, protection through defensive forces will be too expensive. (2) Status-quo

[60] Quoted in Merze Tate, *The United States and Armaments* (Cambridge: Harvard University Press 1948), 108.

[61] Boggs (fn. 28), 15, 40.

states may need offensive weapons to regain territory lost in the opening stages of a war. It might be possible, however, for a state to wait to procure these weapons until war seems likely, and they might be needed only in relatively small numbers, unless the aggressor was able to construct strong defenses quickly in the occupied areas. (3) The state may feel that it must be prepared to take the offensive either because the other side will make peace only if it loses territory or because the state has commitments to attack if the other makes war on a third party. As noted above, status-quo states with extensive commitments are often forced to behave like aggressors. Even when they lack such commitments, status-quo states must worry about the possibility that if they are able to hold off an attack, they will still not be able to end the war unless they move into the other's territory to damage its military forces and inflict pain. Many American naval officers after the Civil War, for example, believed that "only by destroying the commerce of the opponent could the United States bring him to terms."[62]

A further complication is introduced by the fact that aggressors as well as status-quo powers require defensive forces as a prelude to acquiring offensive ones, to protect one frontier while attacking another, or for insurance in case the war goes badly. Criminals as well as policemen can use bulletproof vests. Hitler as well as Maginot built a line of forts. Indeed, Churchill reports that in 1936 the German Foreign Minister said: "As soon as our fortifications are constructed [on our western borders] and the countries in Central Europe realize that France cannot enter German territory, all these countries will begin to feel very differently about their foreign policies, and a new constellation will develop."[63] So a state may not necessarily be reassured if its neighbor constructs strong defenses.

More central difficulties are created by the fact that whether a weapon is offensive or defensive often depends on the particular situation—for instance, the geographical setting and the way in which the weapon is used. "Tanks . . . spearheaded the fateful German thrust through the Ardennes in 1940, but if the French had disposed of a properly concentrated armored reserve, it would have provided the best means for their cutting off the penetration and turning into a disaster for the Germans what became instead an overwhelming victory."[64] Anti-aircraft weapons seem obviously defensive—to be used, they must wait

[62] Kenneth Hagan, *American Gunboat Diplomacy and the Old Navy, 1877–1889* (Westport, Conn.: Greenwood Press 1973), 20.

[63] Winston Churchill, *The Gathering Storm* (Boston: Houghton 1948), 206.

[64] Brodie, *War and Politics* (fn. 35), 325.

for the other side to come to them. But the Egyptian attack on Israel in 1973 would have been impossible without effective air defenses that covered the battlefield. Nevertheless, some distinctions are possible. Sir John Simon, then the British Foreign Secretary, in response to the views cited earlier, stated that just because a fine line could not be drawn, "that was no reason for saying that there were not stretches of territory on either side which all practical men and women knew to be well on this or that side of the line." Although there are almost no weapons and strategies that are useful only for attacking, there are some that are almost exclusively defensive. Aggressors could want them for protection, but a state that relied mostly on them could not menace others. More frequently, we cannot "determine the absolute character of a weapon, but [we can] make a comparison . . . [and] discover whether or not the offensive potentialities predominate, whether a weapon is more useful in attack or in defense."[65]

The essence of defense is keeping the other side out of your territory. A purely defensive weapon is one that can do this without being able to penetrate the enemy's land. Thus a committee of military experts in an interwar disarmament conference declared that armaments "incapable of mobility by means of self-contained power," or movable only after long delay, were "only capable of being used for the defense of a State's territory."[66] The most obvious examples are fortifications. They can shelter attacking forces, especially when they are built right along the frontier,[67] but they cannot occupy enemy territory. A state with only a strong line of forts, fixed guns, and a small army to man them would not be much of a menace. Anything else that can serve only as a barrier against attacking troops is similarly defensive. In this category are systems that provide warning of an attack, the Russian's adoption of a different railroad gauge, and nuclear land mines that can seal off invasion routes.

If total immobility clearly defines a system that is defensive only, limited mobility is unfortunately ambiguous. As noted above, short-range fighter aircraft and anti-aircraft missiles can be used to cover an attack. And, unlike forts, they can advance with the troops. Still, their inability to reach deep into enemy territory does make them more

[65] Boggs (fn. 28), 42, 83. For a good argument about the possible differentiation between offensive and defensive weapons in the 1930's, see Basil Liddell Hart, "Aggression and the Problem of Weapons," *English Review*, Vol. 55 (July 1932), 71-78.

[66] Quoted in Boggs (fn. 28), 39.

[67] On these grounds, the Germans claimed in 1932 that the French forts were offensive (*ibid.*, 49). Similarly, fortified forward naval bases can be necessary for launching an attack; see Braisted (fn. 27), 643.

useful for the defense than for the offense. Thus, the United States and Israel would have been more alarmed in the early 1970's had the Russians provided the Egyptians with long-range instead of short-range aircraft. Naval forces are particularly difficult to classify in these terms, but those that are very short-legged can be used only for coastal defense.

Any forces that for various reasons fight well only when on their own soil in effect lack mobility and therefore are defensive. The most extreme example would be passive resistance. Noncooperation can thwart an aggressor, but it is very hard for large numbers of people to cross the border and stage a sit-in on another's territory. Morocco's recent march on the Spanish Sahara approached this tactic, but its success depended on special circumstances. Similarly, guerrilla warfare is defensive to the extent to which it requires civilian support that is likely to be forthcoming only in opposition to a foreign invasion. Indeed, if guerrilla warfare were easily exportable and if it took ten defenders to destroy each guerrilla, then this weapon would not only be one which could be used as easily to attack the other's territory as to defend one's own, but one in which the offense had the advantage: so the security dilemma would operate especially strongly.

If guerrillas are unable to fight on foreign soil, other kinds of armies may be unwilling to do so. An army imbued with the idea that only defensive wars were just would fight less effectively, if at all, if the goal were conquest. Citizen militias may lack both the ability and the will for aggression. The weapons employed, the short term of service, the time required for mobilization, and the spirit of repelling attacks on the homeland, all lend themselves much more to defense than to attacks on foreign territory.[68]

Less idealistic motives can produce the same result. A leading student of medieval warfare has described the armies of that period as follows: "Assembled with difficulty, insubordinate, unable to maneuver, ready to melt away from its standard the moment that its short period of service was over, a feudal force presented an assemblage of unsoldierlike qualities such as have seldom been known to coexist. Primarily intended to defend its own borders from the Magyar, the Northman, or the Saracen . . . , the institution was utterly unadapted to take the offensive."[69] Some political groupings can be similarly described. In-

[68] The French made this argument in the interwar period; see Richard Challener, *The French Theory of the Nation in Arms* (New York: Columbia University Press 1955), 181-82. The Germans disagreed; see Boggs (fn. 28), 44-45.

[69] Oman (fn. 53), 57-58.

ternational coalitions are more readily held together by fear than by hope of gain. Thus Castlereagh was not being entirely self-serving when in 1816 he argued that the Quadruple Alliance "could only have owed its origin to a sense of common danger; in its very nature it must be conservative; it cannot threaten either the security or the liberties of other States."[70] It is no accident that most of the major campaigns of expansion have been waged by one dominant nation (for example, Napoleon's France and Hitler's Germany), and that coalitions among relative equals are usually found defending the status quo. Most gains from conquest are too uncertain and raise too many questions of future squabbles among the victors to hold an alliance together for long. Although defensive coalitions are by no means easy to maintain—conflicting national objectives and the free-rider problem partly explain why three of them dissolved before Napoleon was defeated—the common interest of seeing that no state dominates provides a strong incentive for solidarity.

Weapons that are particularly effective in reducing fortifications and barriers are of great value to the offense. This is not to deny that a defensive power will want some of those weapons if the other side has them: Brodie is certainly correct to argue that while their tanks allowed the Germans to conquer France, properly used French tanks could have halted the attack. But France would not have needed these weapons if Germany had not acquired them, whereas even if France had no tanks, Germany could not have foregone them since they provided the only chance of breaking through the French lines. Mobile heavy artillery is, similarly, especially useful in destroying fortifications. The defender, while needing artillery to fight off attacking troops or to counterattack, can usually use lighter guns since they do not need to penetrate such massive obstacles. So it is not surprising that one of the few things that most nations at the interwar disarmament conferences were able to agree on was that heavy tanks and mobile heavy guns were particularly valuable to a state planning an attack.[71]

Weapons and strategies that depend for their effectiveness on surprise are almost always offensive. That fact was recognized by some of the delegates to the interwar disarmament conferences and is the principle behind the common national ban on concealed weapons. An earlier representative of this widespread view was the mid-19th-century Philadelphia newspaper that argued: "As a measure of defense, knives, dirks,

[70] Quoted in Charles Webster, *The Foreign Policy of Castlereagh*, II, *1815–1822* (London: G. Bell and Sons 1963), 510.

[71] Boggs (fn. 28), 14-15, 47-48, 60.

and sword canes are entirely useless. They are fit only for attack, and all such attacks are of murderous character. Whoever carries such a weapon has prepared himself for homicide."[72]

It is, of course, not always possible to distinguish between forces that are most effective for holding territory and forces optimally designed for taking it. Such a distinction could not have been made for the strategies and weapons in Europe during most of the period between the Franco-Prussian War and World War I. Neither naval forces nor tactical air forces can be readily classified in these terms. But the point here is that when such a distinction is possible, the central characteristic of the security dilemma no longer holds, and one of the most troublesome consequences of anarchy is removed.

Offense-Defense Differentiation and Strategic Nuclear Weapons. In the interwar period, most statesmen held the reasonable position that weapons that threatened civilians were offensive.[73] But when neither side can protect its civilians, a counter-city posture is defensive because the state can credibly threaten to retaliate only in response to an attack on itself or its closest allies. The costs of this strike are so high that the state could not threaten to use it for the less-than-vital interest of compelling the other to abandon an established position.

In the context of deterrence, offensive weapons are those that provide defense. In the now familiar reversal of common sense, the state that could take its population out of hostage, either by active or passive defense or by destroying the other's strategic weapons on the ground, would be able to alter the status quo. The desire to prevent such a situation was one of the rationales for the anti-ABM agreements; it explains why some arms controllers opposed building ABM's to protect cities, but favored sites that covered ICBM fields. Similarly, many analysts want to limit warhead accuracy and favor multiple re-entry vehicles (MRV's), but oppose multiple independently targetable re-entry vehicles (MIRV's). The former are more useful than single warheads for penetrating city defenses, and ensure that the state has a second-strike capability. MIRV's enhance counterforce capabilities. Some arms controllers argue that this is also true of cruise missiles, and therefore do not want them to be deployed either. There is some evidence that the Russians are not satisfied with deterrence and are seeking to regain the capability for defense. Such an effort, even if not inspired by aggressive designs, would create a severe security dilemma.

[72] Quoted in Philip Jordan, *Frontier Law and Order* (Lincoln: University of Nebraska Press 1970), 7; also see 16-17.

[73] Boggs (fn. 28), 20, 28.

What is most important for the argument here is that land-based ICBM's are both offensive and defensive, but when both sides rely on Polaris-type systems (SLBM's), offense and defense use different weapons. ICBM's can be used either to destroy the other's cities in retaliation or to initiate hostilities by attacking the other's strategic missiles. Some measures—for instance, hardening of missile sites and warning systems—are purely defensive, since they do not make a first strike easier. Others are predominantly offensive—for instance, passive or active city defenses, and highly accurate warheads. But ICBM's themselves are useful for both purposes. And because states seek a high level of insurance, the desire for protection as well as the contemplation of a counterforce strike can explain the acquisition of extremely large numbers of missiles. So it is very difficult to infer the other's intentions from its military posture. Each side's efforts to increase its own security by procuring more missiles decreases, to an extent determined by the relative efficacy of the offense and the defense, the other side's security. That is not the case when both sides use SLBM's. The point is not that sea-based systems are less vulnerable than land-based ones (this bears on the offense-defense ratio) but that SLBM's are defensive, retaliatory weapons. First, they are probably not accurate enough to destroy many military targets.[74] Second, and more important, SLBM's are not the main instrument of attack against other SLBM's. The hardest problem confronting a state that wants to take its cities out of hostage is to locate the other's SLBM's, a job that requires not SLBM's but anti-submarine weapons. A state might use SLBM's to attack the other's submarines (although other weapons would probably be more efficient), but without anti-submarine warfare (ASW) capability the task cannot be performed. A status-quo state that wanted to forego offensive capability could simply forego ASW research and procurement.

There are two difficulties with this argument, however. First, since the state's SLBM's are potentially threatened by the other's ASW capabilities, the state may want to pursue ASW research in order to know what the other might be able to do and to design defenses. Unless it does this, it cannot be confident that its submarines are safe. Second, because some submarines are designed to attack surface ships, not launch missiles, ASW forces have missions other than taking cities out of hostage. Some U.S. officials plan for a long war in Europe which would require keeping the sea lanes open against Russian submarines. De-

[74] See, however, Desmond Ball, "The Counterforce Potential of American SLBM Systems," *Journal of Peace Research*, XIV (No. 1, 1977), 23-40.

signing an ASW force and strategy that would meet this threat without endangering Soviet SLBM's would be difficult but not impossible, since the two missions are somewhat different.[75] Furthermore, the Russians do not need ASW forces to combat submarines carrying out conventional missions; it might be in America's interest to sacrifice the ability to meet a threat that is not likely to materialize in order to reassure the Russians that we are not menacing their retaliatory capability.

When both sides rely on ICBM's, one side's missiles can attack the other's, and so the state cannot be indifferent to the other's building program. But because one side's SLBM's do not menace the other's, each side can build as many as it wants and the other need not respond. Each side's decision on the size of its force depends on technical questions, its judgment about how much destruction is enough to deter, and the amount of insurance it is willing to pay for—and these considerations are independent of the size of the other's strategic force. Thus the crucial nexus in the arms race is severed.

Here two objections not only can be raised but have been, by those who feel that even if American second-strike capability is in no danger, the United States must respond to a Soviet buildup. First, the relative numbers of missiles and warheads may be used as an index of each side's power and will. Even if there is no military need to increase American arms as the Russians increase theirs, a failure to respond may lead third parties to think that the U.S. has abandoned the competition with the U.S.S.R. and is no longer willing to pay the price of world leadership. Furthermore, if either side believes that nuclear "superiority" matters, then, through the bargaining logic, it will matter. The side with "superiority" will be more likely to stand firm in a confrontation if it thinks its "stronger" military position helps it, or if it thinks that the other thinks its own "weaker" military position is a handicap. To allow the other side to have more SLBM's—even if one's own second-strike capability is unimpaired—will give the other an advantage that can be translated into political gains.

The second objection is that superiority *does* matter, and not only because of mistaken beliefs. If nuclear weapons are used in an all-or-none fashion, then all that is needed is second-strike capability. But limited, gradual, and controlled strikes are possible. If the other side has superiority, it can reduce the state's forces by a slow-motion war

[75] Richard Garwin, "Anti-Submarine Warfare and National Security," *Scientific American*, Vol. 227 (July 1972), 14-25.

of attrition. For the state to strike at the other's cities would invite retaliation; for it to reply with a limited counterforce attack would further deplete its supply of missiles. Alternatively, the other could employ demonstration attacks—such as taking out an isolated military base or exploding a warhead high over a city—in order to demonstrate its resolve. In either of these scenarios, the state will suffer unless it matches the other's arms posture.[76]

These two objections, if valid, mean that even with SLBM's one cannot distinguish offensive from defensive strategic nuclear weapons. Compellence may be more difficult than deterrence,[77] but if decision makers believe that numbers of missiles or of warheads influence outcomes, or if these weapons can be used in limited manner, then the posture and policy that would be needed for self-protection is similar to that useful for aggression. If the second objection has merit, security would require the ability to hit selected targets on the other side, enough ammunition to wage a controlled counterforce war, and the willingness to absorb limited countervalue strikes. Secretary Schlesinger was correct in arguing that this capability would not constitute a first-strike capability. But because the "Schlesinger Doctrine" could be used not only to cope with a parallel Russian policy, but also to support an American attempt to change the status quo, the new American stance would decrease Russian security. Even if the U.S.S.R. were reassured that the present U.S. Government lacked the desire or courage to do this, there could be no guarantee that future governments would not use the new instruments for expansion. Once we move away from the simple idea that nuclear weapons can only be used for all-out strikes, half the advantage of having both sides rely on a sea-based force would disappear because of the lack of an offensive-defensive differentiation. To the extent that military policy affects political relations, it would be harder for the United States and the Soviet Union to cooperate even if both supported the status quo.

Although a full exploration of these questions is beyond the scope of this paper, it should be noted that the objections rest on decision makers' beliefs—beliefs, furthermore, that can be strongly influenced by American policy and American statements. The perceptions of third

[76] The latter scenario, however, does not require that the state closely match the number of missiles the other deploys.

[77] Thomas Schelling, *Arms and Influence* (New Haven: Yale University Press 1966), 69-78. Schelling's arguments are not entirely convincing, however. For further discussion, see Jervis, "Deterrence Theory Re-Visited," Working Paper No. 14, UCLA Program in Arms Control and International Security.

nations of whether the details of the nuclear balance affect political conflicts—and, to a lesser extent, Russian beliefs about whether superiority is meaningful—are largely derived from the American strategic debate. If most American spokesmen were to take the position that a secure second-strike capability was sufficient and that increments over that (short of a first-strike capability) would only be a waste of money, it is doubtful whether America's allies or the neutrals would judge the superpowers' useful military might or political will by the size of their stockpiles. Although the Russians stress war-fighting ability, they have not contended that marginal increases in strategic forces bring political gains; any attempt to do so could be rendered less effective by an American assertion that this is nonsense. The bargaining advantages of possessing nuclear "superiority" work best when both sides acknowledge them. If the "weaker" side convinces the other that it does not believe there is any meaningful difference in strength, then the "stronger" side cannot safely stand firm because there is no increased chance that the other will back down.

This kind of argument applies at least as strongly to the second objection. Neither side can employ limited nuclear options unless it is quite confident that the other accepts the rules of the game. For if the other believes that nuclear war cannot be controlled, it will either refrain from responding—which would be fine—or launch all-out retaliation. Although a state might be ready to engage in limited nuclear war without acknowledging this possibility—and indeed, that would be a reasonable policy for the United States—it is not likely that the other would have sufficient faith in that prospect to initiate limited strikes unless the state had openly avowed its willingness to fight this kind of war. So the United States, by patiently and consistently explaining that it considers such ideas to be mad and that any nuclear wars will inevitably get out of control, could gain a large measure of protection against the danger that the Soviet Union might seek to employ a "Schlesinger Doctrine" against an America that lacked the military ability or political will to respond in kind. Such a position is made more convincing by the inherent implausibility of the arguments for the possibility of a limited nuclear war.

In summary, as long as states believe that all that is needed is second-strike capability, then the differentiation between offensive and defensive forces that is provided by reliance on SLBM's allows each side to increase its security without menacing the other, permits some inferences about intentions to be drawn from military posture, and removes the main incentive for status-quo powers to engage in arms races.

IV. Four Worlds

The two variables we have been discussing—whether the offense or the defense has the advantage, and whether offensive postures can be distinguished from defensive ones—can be combined to yield four possible worlds.

	OFFENSE HAS THE ADVANTAGE	DEFENSE HAS THE ADVANTAGE
OFFENSIVE POSTURE NOT DISTINGUISHABLE FROM DEFENSIVE ONE	1 Doubly dangerous	2 Security dilemma, but security requirements may be compatible.
OFFENSIVE POSTURE DISTINGUISHABLE FROM DEFENSIVE ONE	3 No security dilemma, but aggression possible. Status-quo states can follow different policy than aggressors. Warning given.	4 Doubly stable

The first world is the worst for status-quo states. There is no way to get security without menacing others, and security through defense is terribly difficult to obtain. Because offensive and defensive postures are the same, status-quo states acquire the same kind of arms that are sought by aggressors. And because the offense has the advantage over the defense, attacking is the best route to protecting what you have; status-quo states will therefore behave like aggressors. The situation will be unstable. Arms races are likely. Incentives to strike first will turn crises into wars. Decisive victories and conquests will be common. States will grow and shrink rapidly, and it will be hard for any state to maintain its size and influence without trying to increase them. Cooperation among status-quo powers will be extremely hard to achieve.

There are no cases that totally fit this picture, but it bears more than a passing resemblance to Europe before World War I. Britain and Germany, although in many respects natural allies, ended up as enemies. Of course much of the explanation lies in Germany's ill-chosen policy. And from the perspective of our theory, the powers' ability to avoid war in a series of earlier crises cannot be easily explained. Nevertheless, much of the behavior in this period was the product of technology and beliefs

that magnified the security dilemma. Decision makers thought that the offense had a big advantage and saw little difference between offensive and defensive military postures. The era was characterized by arms races. And once war seemed likely, mobilization races created powerful incentives to strike first.

In the nuclear era, the first world would be one in which each side relied on vulnerable weapons that were aimed at similar forces and each side understood the situation. In this case, the incentives to strike first would be very high—so high that status-quo powers as well as aggressors would be sorely tempted to pre-empt. And since the forces could be used to change the status quo as well as to preserve it, there would be no way for both sides to increase their security simultaneously. Now the familiar logic of deterrence leads both sides to see the dangers in this world. Indeed, the new understanding of this situation was one reason why vulnerable bombers and missiles were replaced. Ironically, the 1950's would have been more hazardous if the decision makers had been aware of the dangers of their posture and had therefore felt greater pressure to strike first. This situation could be recreated if both sides were to rely on MIRVed ICBM's.

In the second world, the security dilemma operates because offensive and defensive postures cannot be distinguished; but it does not operate as strongly as in the first world because the defense has the advantage, and so an increment in one side's strength increases its security more than it decreases the other's. So, if both sides have reasonable subjective security requirements, are of roughly equal power, and the variables discussed earlier are favorable, it is quite likely that status-quo states can adopt compatible security policies. Although a state will not be able to judge the other's intentions from the kinds of weapons it procures, the level of arms spending will give important evidence. Of course a state that seeks a high level of arms might be not an aggressor but merely an insecure state, which if conciliated will reduce its arms, and if confronted will reply in kind. To assume that the apparently excessive level of arms indicates aggressiveness could therefore lead to a response that would deepen the dilemma and create needless conflict. But empathy and skillful statesmanship can reduce this danger. Furthermore, the advantageous position of the defense means that a status-quo state can often maintain a high degree of security with a level of arms lower than that of its expected adversary. Such a state demonstrates that it lacks the ability or desire to alter the status quo, at least at the present time. The strength of the defense also allows states to

react slowly and with restraint when they fear that others are menacing them. So, although status-quo powers will to some extent be threatening to others, that extent will be limited.

This world is the one that comes closest to matching most periods in history. Attacking is usually harder than defending because of the strength of fortifications and obstacles. But purely defensive postures are rarely possible because fortifications are usually supplemented by armies and mobile guns which can support an attack. In the nuclear era, this world would be one in which both sides relied on relatively invulnerable ICBM's and believed that limited nuclear war was impossible. Assuming no MIRV's, it would take more than one attacking missile to destroy one of the adversary's. Pre-emption is therefore unattractive. If both sides have large inventories, they can ignore all but drastic increases on the other side. A world of either ICBM's or SLBM's in which both sides adopted the "Schlesinger Doctrine" would probably fit in this category too. The means of preserving the status quo would also be the means of changing it, as we discussed earlier. And the defense usually would have the advantage, because compellence is more difficult than deterrence. Although a state might succeed in changing the status quo on issues that matter much more to it than to others, status-quo powers could deter major provocations under most circumstances.

In the third world there may be no security dilemma, but there are security problems. Because states can procure defensive systems that do not threaten others, the dilemma need not operate. But because the offense has the advantage, aggression is possible, and perhaps easy. If the offense has enough of an advantage, even a status-quo state may take the initiative rather than risk being attacked and defeated. If the offense has less of an advantage, stability and cooperation are likely because the status-quo states will procure defensive forces. They need not react to others who are similarly armed, but can wait for the warning they would receive if others started to deploy offensive weapons. But each state will have to watch the others carefully, and there is room for false suspicions. The costliness of the defense and the allure of the offense can lead to unnecessary mistrust, hostility, and war, unless some of the variables discussed earlier are operating to restrain defection.

A hypothetical nuclear world that would fit this description would be one in which both sides relied on SLBM's, but in which ASW techniques were very effective. Offense and defense would be different, but

the former would have the advantage. This situation is not likely to occur; but if it did, a status-quo state could show its lack of desire to exploit the other by refraining from threatening its submarines. The desire to have more protecting you than merely the other side's fear of retaliation is a strong one, however, and a state that knows that it would not expand even if its cities were safe is likely to believe that the other would not feel threatened by its ASW program. It is easy to see how such a world could become unstable, and how spirals of tensions and conflict could develop.

The fourth world is doubly safe. The differentiation between offensive and defensive systems permits a way out of the security dilemma; the advantage of the defense disposes of the problems discussed in the previous paragraphs. There is no reason for a status-quo power to be tempted to procure offensive forces, and aggressors give notice of their intentions by the posture they adopt. Indeed, if the advantage of the defense is great enough, there are no security problems. The loss of the ultimate form of the power to alter the status quo would allow greater scope for the exercise of nonmilitary means and probably would tend to freeze the distribution of values.

This world would have existed in the first decade of the 20th century if the decision makers had understood the available technology. In that case, the European powers would have followed different policies both in the long run and in the summer of 1914. Even Germany, facing powerful enemies on both sides, could have made herself secure by developing strong defenses. France could also have made her frontier almost impregnable. Furthermore, when crises arose, no one would have had incentives to strike first. There would have been no competitive mobilization races reducing the time available for negotiations.

In the nuclear era, this world would be one in which the superpowers relied on SLBM's, ASW technology was not up to its task, and limited nuclear options were not taken seriously. We have discussed this situation earlier; here we need only add that, even if our analysis is correct and even if the policies and postures of both sides were to move in this direction, the problem of violence below the nuclear threshold would remain. On issues other than defense of the homeland, there would still be security dilemmas and security problems. But the world would nevertheless be safer than it has usually been.