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Cooperation under the Security Dilemma**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 unarmed); (3) all chase rabbits (arms competition and high risk of war); and (4) stay at the original position while another chases a rabbit (being unarmed while others are armed). 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 status 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

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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 preemptively in the domestic politics of others in order to provide an ideological buffer zone. * * *

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 sought in areas empty of great powers, expansion tends to feed on itself in order to protect what is acquired * * *.

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 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 cer-

tain 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."¹ 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.²

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 working of several can be seen in terms of the Stag Hunt or repeated plays of the Prisoner's Dilemma.³ 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 [Figure 8.1]. 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.⁴ The game theory matrices for these two situations are given below, with the numbers in the boxes being the order of the actor's 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.⁵

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."⁶ 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

		STAG HUNT		PRISONER'S DILEMMA	
		A		A	
		COOPERATE	DEFECT	COOPERATE	DEFECT
COOPERATE	B	1	4	2	1
	DEFECT	4	3	4	3
		2	3	1	3

Figure 8.1. Stag Hunt and Prisoner's Dilemma

would not be endangered. The program's advocates disagreed: "If we let the Russians get the super first, catastrophe becomes all but certain."⁷⁷

When the costs of CD are tolerable, not only is security easier to attain but, what is even more important 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 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 Conti-

nent. 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.

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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. Two dimen-

sions 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 because 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). 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.

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Geography, Commitments, Beliefs, and Security through Expansion

*** 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.

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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 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.⁸ 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 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.⁹ There is no way for the state to increase its security without menacing, 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."¹⁰ 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.¹¹ 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 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. * * *

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. 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. * * * Third, most decision makers thought that the next European war would not cost much blood and treasure.¹² 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 preempt. 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,"¹³ 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.)¹⁴ 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?¹⁵ 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 incentives to strike. War might have broken out anyway, * * * 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.¹⁶ 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

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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 non-threatening military posture.¹⁷ 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 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.¹⁸ 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."¹⁹ 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.²⁰ 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.²¹ 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 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."²² 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. * * *

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 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 attack-

er'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. * * *

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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 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. * * *

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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

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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.

* * *

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 aggres-

sors. 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 countermeasures. It need not maintain a high level of defensive arms as long as its potential adversaries are adopting a peaceful posture. * * *

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* * * [I]f 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."²³ The fact that such treaties have been rare * * * 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.

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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.

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.

	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

Figure 8.2.

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 defen-

sive 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 ICBMs.

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. * * *

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 ICBMs and believed that limited nuclear war was impossible. * * *

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.

* * *

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.

* * *

NOTES

1. Quoted in Gerald Wheeler, *Prelude to Pearl Harbor* (Columbia: University of Missouri Press 1963), 167.
2. Quoted in Leonard Wainstein, "The Dreadnought Gap," in Robert Art and Kenneth Waltz, eds., *The Use of Force* (Boston: Little, Brown 1971), 155 * * *.
3. In another article, Jervis says: "International politics sometimes resembles what is called a Prisoner's Dilemma (PD). In this scenario, two men have been caught red-handed committing a minor crime. The district attorney knows that they are also guilty of a much more serious offense. He tells each of them separately that if he confesses and squeals on his buddy, he will go free and the former colleague will go to jail for thirty years. If both of them refuse to give any information, they will be prosecuted for the minor crime and be jailed for thirty days; if they both squeal, plea-bargaining will get them ten years. In other words, as long as each criminal cares only about himself, he will confess to the more serious crime no matter what he thinks his colleague will do. If he confesses and his buddy does not, he will get the best possible outcome (freedom); if he confesses and his buddy also does so, the outcome will not be good (ten years in jail), but it will be better than keeping silent and going to jail for thirty years. Since both can see this, both will confess. Paradoxically, if they had both been irrational and kept quiet, they would have gone to jail for only a month." (Robert Jervis, "A Political Science Perspective on the Balance of Power and the Concert," *American Historical Review* 97, no. 3 (June 1992): 720.)
4. Experimental evidence for this proposition is summarized in James Tedeschi, Barry Schlenker, and Thomas Bonoma, *Conflict, Power, and Games* (Chicago: Aldine 1973), 135-41.

5. 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.
6. Quoted in Bernard Brodie, *Strategy in the Missile Age* (Princeton: Princeton University Press 1959), 6.
7. Herbert York, *The Advisors: Oppenheimer, Teller, and the Superbomb* (San Francisco: Freeman, 1976), 56–60.
8. Thus, when Wolfers, [*Discord and Collaboration* (Baltimore: Johns Hopkins Press 1962),] 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.
9. Schelling, [*The Strategy of Conflict* (New York: Oxford University Press 1963),] chap. 9.
10. Quoted in Fritz Fischer, *War of Illusions* (New York: Norton 1975), 377, 461.
11. George Quester, *Offense and Defense in the International System* (New York: John Wiley 1977), 105–06; Sontag [*European Diplomatic History, 1871–1932* (New York: Appleton-Century-Crofts 1933)], 4–5.
12. 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.
13. Quoted in Martin Gilbert, *Winston S. Churchill, III, The Challenge of War, 1914–1916* (Boston: Houghton Mifflin 1971), 84.
14. 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.
15. Konrad Jarausch, "The Illusion of Limited War: Chancellor Bethmann Hollweg's Calculated Risk, July 1914," *Central European History*, II (March 1969), 50.
16. Brodie (fn. 6), 58.
17. President Roosevelt and the American delegates to the League of Nations Disarmament Conference maintained that the tank and mobile heavy artillery had re-established the dominance of the offensive, thus making disarmament more urgent (Boggs, [*Attempts to Define and Limit "Aggressive" Armament in Diplomacy and Strategy* (Columbia: University of Missouri Studies, XVI, No. 1, 1941)], 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.
18. 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.
19. Roderick Macleod and Denis Kelly, eds., *Time Unguarded: The Ironside Diaries, 1937–1940* (New York: McKay 1962), 173.
20. 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.
21. Macleod and Kelly (fn. 19), 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 Rus-