

# PARADOXES OF WAR

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On the Art of National Self-Entrapment

Zeev Maoz

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Volume 8

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# **PARADOXES OF WAR**

## **On the Art of National Self-Entrapment**

**ZEEV MAOZ**

**Studies in International Conflict,  
Volume 3**

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*To Inbal and Omry,  
for asking tough questions*



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## *Preface*

This book emerged out of my difficulty in answering a question posed to me by my (then) seven-year-old daughter. In the spring of 1983 I received a letter from the Israeli army informing me that I was called for a tour of duty in Lebanon. My daughter, alarmed by the prospect, asked me what we were doing there, and why we did not go back to our old border. My first inclination was to run by her the official story about terrorist attacks and the need to defend our towns and villages in the north from repeated shelling and infiltration. But I immediately realized that it did not sound very convincing, even to a seven-year-old child. So my second scheme was to try to convince her by explaining that our leaders were pursuing a fairly stupid policy that was leading nowhere. Because they had been elected by a democratic process, there was little we could do other than protest and hope that next time the public would force the government to make smarter choices. This also did not sound terribly convincing.

Whatever answer I tried to devise, I found it difficult to make it stick. If the invasion of Lebanon had been a smart move, how come we were stuck in a deep mess? Why, within a year, had we lost 100 times more soldiers than we had lost in guerrilla operations emanating from Lebanon over the three preceding years combined? And if the invasion had been a mistake, how was it that the reasonably smart people who ran the government failed to realize it and take the appropriate measures to pull the army out of there? More important, why were so many usually intelligent people fooled by a deceptive rhetoric that sounded false and hypocritical even to a seven-year-old?

I am not sure that today I can provide a more convincing explanation of that war to my eight-year-old son, but this book represents a start. It is not a book about the 1982–1985 Lebanon war, though this war will be examined quite thoroughly in the coming pages. It is about those wars, or those aspects of war, that even the most knowledgeable adult will typically find it difficult to explain even to children. And one of the primary reasons for such difficulty, I believe, is that the kind of logic we employ in our everlasting efforts to comprehend the world around us is simply inadequate when it comes to explaining those puzzles.

*Paradoxes of War* addresses two questions: (1) Why do generally smart people drag their nations, sometimes knowingly, into traps of tremendously destructive proportions? (2) Why is it that nations that find themselves in messes of their own doing, and know it, make it difficult for themselves to escape the traps? The approach I adopt in this book is somewhat unconventional. It focuses on the perverse aspects of a perverse human activity, trying to explain why they are sometimes unavoidable rather than what kind of mistakes lead to their emergence. The paradoxes examined in the present study are not necessarily very frequent, but they do recur with some persistence. And when they do, their consequences are fairly severe. So the primary justification for a study of perversities is their significance, not their prevalence.

The book is organized around the various stages of war. The first part focuses on causes of war, particularly on those causes of war that are associated with schemes to prevent it. The second part focuses on the processes of war management, especially those aspects that lead to long and costly wars due to participants' wishes and plans to make them short and decisive. The third part examines those short- and long-term implications of war that turn the notion of war as an instrument of policy on its head. In each chapter I discuss a paradox of war cast as a causally induced contradiction between reasonable expectations and the outcomes of motivated behavior based on them. I attempt to provide alternative explanations to these paradoxes and to document them in wars that have taken place during the twentieth century.

I have made an effort to balance rigor and simplicity of presentation. The idea is to make the book accessible to a wide audience. Though the primary target readership of this study is the serious student of international politics, I believe that it will also be found interesting by a more general readership. Certainly the issues it addresses are of sufficient significance to appeal to concerned citizens who worry about what their governments, knowingly or unknowingly, might be doing to them. This represents what, I believe, is a reasonable blend of theory and history, scientific methods and jargon, and more traditional historical analysis. I have tried to keep more sophisticated analysis to a minimum. Only one chapter contains a brief mathematical appendix that proves a point made in the text. Uninitiated readers can skip this appendix without loss.

Several individuals have read parts of the text. Steven Brams, Dan Felsenthal, Chuck Gochman, and Avner Yaniv have made numerous comments on various chapters. Jack Levy labored through the entire manuscript and has given me exceptionally perceptive and detailed comments. I wish to thank all of them and hope to share the credit

for the insights while absolving them of any responsibility for errors and criticism. The final part of the writing was supported by a New York University Presidential Fellowship, for which I am grateful. I wish to thank Lisa Freeman of Unwin Hyman and Manus Midlarsky, the editor of the series, for placing their faith in this manuscript when it was still in the making and for their encouragement.

My family provided the support and psychological shelter that makes life, which at times seems paradoxical, somewhat more livable. Most important, I wish to thank my children, Inbal and Omry, for asking tough questions. My hope is that, when they grow up and have children of their own, they will have a much simpler time answering questions of the sort they keep asking me about war. I hope that, whether or not there exist more convincing answers to these questions at that time, the need for such answers will be far less pressing than it is at present.

—Zeev Maoz  
New York, December 1988



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# 1

## *On Paradoxes and Wars*

Were insurance companies to infer the risk propensity of the population from the behavior of most soldiers on the battlefield, they would reach the conclusion that this line of business has no chance of ever being profitable. Were military strategists to infer soldiers' willingness to take risks from their insurance policies, their conclusion would be unavoidable: With cautious people like these, it is impossible to run a decent war, let alone win one. Is it possible that the same person who one day carefully looks both ways before crossing the street will the next day never pause to look back while crossing enemy lines?

Yet, governments are capable of performing this magic. They do it all the time and they do it everywhere. Mobilizing a nation for war involves transforming people from cautious human beings who put their personal safety above many other values into fighting animals who put such vague values as honor, patriotism, and glory far above personal safety. When people are called to rally around the flag, even the most alienated and apolitical go without question. They go regardless of what they think of their own government, of their own economic and social condition, and, sometimes, without paying much attention to what the issues of the war are.

Communists had high hopes when World War I broke out. Because it was a war among the principal capitalist powers, they believed that the working classes in those states would realize that their class interests contradicted the propaganda of the regimes. They reasoned that the oppressed workers could not but rebel against their capitalist bosses instead of killing each other on the battlefield while the capitalists sat back and made more profits. The worldwide communist revolution seemed to be just around the corner. How wrong they were! Soon the oppressed Austro-Hungarian proletariat were fighting against the starved Russian peasants, while the German workers were killing their French comrades and being killed by the British coal miners. How the corrupt and decadent governments of the Austro-Hungarian monarchy and the Russian Czar were able to

ignite widespread nationalistic fervor that persisted for the four most bloody years in human history up to that point is still a mystery.

And it is not the only puzzle about the conduct of war. There are many such puzzles. Not all are paradoxes in the sense I will use here. Many can be explained with the help of a little imagination, and, once explained, they cease to be puzzling. But many aspects of war seem counterintuitive even after a good explanation has been given. Worse, even if we understand why a seemingly illogical event happens, we cannot prevent its recurrence if the circumstances leading to it arise again, no matter how hard we may try.

This book explores two issues that carry major theoretical and empirical implications: (1) Why do reasonable people sometimes lead their nations into self-made traps of tremendously destructive proportions? (2) Why is it that nations that find themselves in a mess of their own doing—and know it—sometimes deepen their troubles, making it harder to escape the trap? The stories told here are about processes that take place before the outbreak of wars, during their courses, and following their termination. They have one thing in common: all are unintended consequences of intentional human action; they happen despite the will of those involved and because all involved wish to prevent them. But even as unintended consequences, wars are not necessarily the outgrowth of human stupidity, malice, or cognitive fallibility. Some of the most disastrous wars may stem from the application of rational logic or from choices that, on the face of it, seem quite reasonable. Yet, those wars turn out to be the precise opposite of what their participants expected them to be. Worse, this contradiction between expectations and outcomes is a consequence of those “reasonable” choices. And the awareness that one is in trouble does not make escape from war easier; in fact, it may make escape even more difficult.

This chapter sets the stage for a story of perverse aspects of a perverse social behavior. The next section discusses some general approaches to the study of war and places the present approach next to other schools of thought on the topic. The following section discusses the notion of paradox, defining and illustrating it in a social and philosophical context. The methodology of the study is then reviewed, and, finally, the plan of the book is discussed.

## **The Study of War**

The systematic study of war goes back to ancient China, with the perceptive observations of Sun Tzu in the sixth century B.C. (see Sun Tzu, 1983). Research on the deadly art (or science) is also noted for

historical continuity. I have no intention of providing a survey of the writings on this phenomenon;<sup>1</sup> rather, my intention is to characterize the various stages of war and briefly discuss several key approaches to the study of war. These approaches do not cover the full spectrum of perspectives on war, but they are relevant because they bear some relationship to the present approach.

Before continuing, a definition of the term *war* is in order. The dictionary definition of *war* is that of a series of sustained combats between the armies of two or more states that involve large-scale violence and result in numerous fatalities. Typically, wars extend for prolonged periods of time, but that is not a general rule. The key characteristics of wars are mass participation, sustained combat, and extensive bloodshed.<sup>2</sup> What distinguishes war from other forms of interstate violence is that it is large scale in terms of the number of people participating and being killed in its violent confrontations. The line separating war from other forms of organized violence seems to be one of magnitude. This gets a concrete meaning in Singer and Small's (1972) definition. But there is also an issue of intensity. The battles that make up a war are intense in that they are separated by relatively short intervals.<sup>3</sup>

While bloodshed is their most important characteristic, wars start long before the spilling of the first drop of blood, and they end long after the guns quiet down (Maoz, 1982a). Even when actual hostilities are intense but brief, wars are dynamic processes. They are dynamic not only because troops move on the battlefield in complex maneuvers, but also because of the political processes that accompany the violence and the interplay of politics and military considerations.

### *The Stages of War*

The process of war is usually taken to consist of three stages, only one of which entails pure fighting. These stages are as follows:

- (1) *The initiation stage:* This stage consists of political and diplomatic maneuvers that set the stage for the actual outbreak of military hostilities. The stage ends with the first large-scale confrontation of the war. Because this stage precedes actual fighting, it is here where scholars usually look for the causes of wars. In this context we will be looking at both remote causes of war, such as arms races and deterrence policies, and immediate causes of war, such as international crises.<sup>4</sup>
- (2) *The management stage:* This stage features maneuver and manipulation of sustained violence. The focus of studies of war management is on how strategy is used (or misused) in the service of politics. For this stage I will examine paradoxical aspects in

#### 4 *Paradoxes of War*

one of the most ancient arts known to humankind: military strategy. Politics of war management are important because they typically involve struggles and trade-offs between political goals and military considerations, often expressed in terms of civil-military disputes. Politics in this context may become a struggle over the limits to be placed on military activity. Generals wish the politicians to define for them clearly the war aims and then let them do their job without interference. However, just as generals prepare for war in times of peace, politics and diplomacy do not lay dormant in times of war.<sup>5</sup> This interplay between military considerations and political ones while the guns are active is what war management is all about.

- (3) *The termination stage:* This stage covers the processes by which wars end and the traces they leave on the participants far beyond the termination of hostilities. Just as there are underlying and immediate causes of war, there are short-range and long-range consequences of war. When the guns are silenced it is time for those who are engaged in peaceful endeavors to take over. It is time for the winners to start plucking the fruits of victory, and for the losers to start healing and recovering from their defeat. Theories of war termination deal with how nations decide it is time to stop fighting and how they go about actually ending a war. Explanations of the political and economic consequences of war explore the effects that war has on the societies that participated in it. Analysis of these issues will focus on the paradoxical consequences of war.

Obviously, these stages are interrelated: the factors causing nations to resort to arms also affect the opening move in war. The nature of the opening move has a profound effect on how the war is managed. The management of war shapes its outcome. The end of war defines to a large extent the destiny of the nations that took part in it. However, I shall try to demonstrate throughout the study that this causal chain is anything but straightforward.

#### *Approaches to the Study of War*

War has been studied from every possible angle, hence any classification of the various approaches to war becomes an exercise in reductionism. It must be stated that the approaches discussed in the present section only scratch the surface. They were selected primarily because they are related to the approach used in the present book and provide a more general context within which we can place the paradoxes of war, not because they are more important than other approaches that are not discussed herein.

## The Strategic Approach

Strategy is the art of using military force to accomplish political ends.<sup>6</sup> The strategic approach is one of the oldest and most influential approaches in the study of war in terms of its impact on the practice of war through the ages. The continuity of this approach is significant not only because certain ideas about when, why, and how military force is to be employed seem to have passed the test of time, but also because it has developed a consistent logic of its own and a set of almost universal principles and lawlike maxims. Technology has changed a great deal from the times of Sun Tzu or Thucydides, yet such principles as force economy, envelopment and pincer movement, the importance of surprise and deception, and the advantages and disadvantages of warfare in external lines predate such eternal books as the Bible. Even seemingly novel principles of strategy that many believe are unique to the nuclear age, such as deterrence, are actually very ancient (Luttwak, 1976; Harkabi, 1983).<sup>7</sup>

Traditional strategic approaches assume that the strategist takes over when political elites have decided to take the military route in pursuing their goals. The strategist's tasks are to accomplish the military objectives that will assure politicians the best terms at the bargaining table and to do so at the minimum possible human and material cost. Since the advent of nuclear weapons, the function of the strategic approach has expanded to include the prevention of war through military maneuver, the deployment of armed forces and military hardware, and the development of weapon systems, without actually firing a single shot. This expansion of strategy was influenced to a large extent by the ideas of people from outside the armed forces of the state. Most of the civilian strategists were academics from a variety of disciplines.<sup>8</sup>

The strategic approach is not distinguished by methodological sophistication. It is difficult to find a coherent scientific logic in the array of premises, prescriptions, and lawlike maxims that have developed over the years. It is not clear how they were established, what kind of evidence they rely upon, and what the limits are of generalizability of principles such as the significance of surprise and the advantage of offense versus defense in the conduct of war. In spite of this—perhaps because of this—many of its maxims sound terribly persuasive. Yet, many of these maxims fall apart when examined closely via a systematic logic that differs from the straightforward commonsense logic that characterizes strategic analyses of international politics.

The strategic approach is characterized by its reliance on informal rational logic and by its assumption that states are unitary rational

actors that are out to maximize their national interest, often defined in terms of various elements of power. Military actions are the instruments of politics, and they may be resorted to as an extension of diplomacy, as a substitute for diplomacy, or in conjunction with diplomacy. Common criticisms of strategic approaches focus on the validity of the underlying assumptions of unitary rational actors (e.g., Allison, 1971; Green, 1964; Jervis, 1976; Jervis et al., 1985). Only recently have scholars started to assess the internal logic of the approach more closely, and what they have found is enough to raise some eyebrows. Luttwak's (1987) recent work is one of the more important examples. The present study attempts a similar examination of strategic logic, not by offering alternative assumptions to those that strategists have—explicitly or implicitly—espoused, but by accepting the traditional assumptions and exploring their implications in a new way.

The paradoxical study of strategy is significant, especially in a nuclear context, because this domain is replete with counterintuitive realities and with persistent contradictions. Nations spend billions of dollars on weapons whose sole *raison d'être* is that they are not to be used. States threaten each other that they will respond to an attack by destroying both attacker and defender. All the thinking in nuclear strategy goes into explaining the unthinkable. Most of the evidence we have of the process and outcome of a nuclear war is of a purely speculative and theoretical nature. Yet, strategic paradoxes have characterized wars that *have* taken place. It would be a mistake not to learn from those wars that have been fought about those wars we do not want to have to fight. And it is the continuity of strategic thinking that attests to the relevance of such an exercise.

### The Decision-Making Approach

The decision-making approach examines the initiation, management, and termination of war as a series of problem-solving sessions involving groups of leaders. The study that launched the decision-making approach in world politics was a study of war initiation decisions (Abel, 1941). This approach traces the various fortunes or misfortunes of war to specific decisions. It attempts to examine what factors affect decisions to initiate, escalate, or terminate wars and to what extent decision-related pitfalls cause disasters.

Decision-making theorists view wars as having specific causes: conscious or unconscious, smart or stupid choices of national elites to solve their problems through armed conflict. This approach assumes that the sources of war are to be found within states, or, more precisely, within the individual or collective calculations of national

leaders. Wars are human-made products; hence, their origins must be traceable to the men and women who choose that path.<sup>9</sup> It follows that the decision-making approach sees wars as avoidable phenomena. Because wars are consequences of national choices, finding ways to shape or affect these choices is not an insurmountable task. Policies such as deterrence and arms races are designed to do just that.

The decision-making approach is divided into two schools of thought: the rational choice school and the cognitive school. The rational choice school emphasizes the calculated aspects of war initiation, war management, and war termination decisions. Its key contention is that nations resort to force when national leaders believe that this solution is superior to any other strategy available to the state. It also argues that states end war when the cost of fighting outweighs the political or military benefits associated with the continuation of the war.<sup>10</sup>

The cognitive approach stresses the nonrational or extrarational factors involved in war-related choices. It examines the biases, fallacies, and other errors of judgment and estimation involved in war decisions. This school attempts to show just the opposite of what rational choice theories seem to suggest: that war choices were not the best available, and that rational decisions could have averted war. According to this school's proponents, knowledge provides remedy to war. Teaching those who decide on peace- and war-related issues how to make good choices would make for a better world. This would not necessarily be a world without war, but one in which there are fewer wars, and most of those fought would not be the result of miscalculation and incompetence.<sup>11</sup>

As in the case of strategic approaches, decision-making analyses attempt to explain why wars break out, how they are run, and when they end in terms of a fairly straightforward link between national choices and international outcomes. The various schools within this approach differ in terms of the kind of factors or processes they identify as the most instrumental in the explanation. But the fundamental logic is what I will call—following Luttwak (1987)—linear logic. The present study is aimed at identifying and explaining breaks in this basic logic.

### **Systemic Approaches**

There is something appealing in the assumption that war is an outgrowth of forces that lie outside the immediate control of specific leaders; that the blame for war, and the destruction and misery that come with it, lies with the structure of the international system. Perhaps this is why the claim of “no choice” is often recited by politicians. In contrast to the “bottom-up” approach that sees war as

a culmination of national choices, the “top-down” systemic approach sees those national choices as unavoidable because they are made in a setting where structure and rules leave little room for individual states to maneuver.<sup>12</sup> The systemic approach attempts to identify the large picture in history, the broad chessboard of nations and the rules of play in that game. From the description of the nature of the game defined in terms of the configuration of actors (mostly in terms of capability distribution) and the set of rules that define the interaction among them, systemic theorists deduce propositions regarding conditions under which war is more or less likely.<sup>13</sup>

Systemic approaches create an impression that international reality is analogous to a classical Greek tragedy: our fate has been sealed by the gods; life is but a futile effort to fight our predetermined destiny; no matter how hard we try, what has been decided is what happens. The difference between a Greek tragedy and the tragedy of international politics is that in the latter play nobody really knows who is responsible. Just like the free market that guides the behavior of economic agents, international politics has its own hidden hand that guides the decisions of states. This hidden hand is the structure of the international system, often characterized by the number of major powers, their alignments, and the distribution of capabilities among them.

War plays an important role in systemic theories: it is both the big transformer of the international system and its major regulator. Most of the major changes in the structure of the international system over the past three centuries have been attributed to war: the inception of the modern state-system is the result of the Thirty Years’ War. The Treaty of Westphalia (1648) created for the first time a system of autonomous sovereign states. The system that emerged survived for nearly 200 years, despite attempts to transform it by Napoleon Bonaparte. Yet, it collapsed in the big bang of 1914. The replacement system survived exactly twenty years and crashed again in 1939. The bipolar system that emerged from the rubble of World War II is still surviving as these lines are being written. During the balance of power system, war was seen as a major mechanism for preserving the structure of the international system. States ganged up against individual states or against coalitions of states that attempted to transform the international system by becoming preponderant (Gilpin, 1981).

The systems approach will not be examined closely in this book for two principal reasons. First, the focus on paradoxes and the specific definition of the term require a choice-oriented perspective. There are serious questions about the latitude of choice that system theories allow to ordinary people. It is not clear that systemic structures leave much room for maneuver, and hence it is not clear that what I characterize as paradoxes of war constitute a puzzle from a systemic perspective.<sup>14</sup>

Second, some aspects of systems theory enter the explanation of various paradoxes as structural constraints on the choices of national leaders. System-level ideas are represented by what will repeatedly be alluded to as “rules of the game,” which determine what is permissible or prohibited in a given interaction that forms a paradox of war. Yet, I will show that, even then, choice rather than structure makes for the paradox.

These approaches view the dynamics of wars as straightforward consequences of some design, be it human-made or system-determined. The trick is to discover that design. Even the cognitive approach, which looks for human fallibility, ineptitude, and shortsightedness, attempts to trace those generalizable human errors that make people believe that they can get something out of war. Common to all three approaches is a functionalist attitude toward war. War is seen to serve a purpose. Whether that purpose is good or bad, justified or malevolent, it does not take place in a vacuum. Underlying war is a set of reasons, a set of aims that war seems to serve, a set of expectations that give rise to the wish (or perceived necessity) to engage in large-scale violence.

In contrast, the paradoxical logic searches for the breaks in those notions that focus on the straightforward connection between causes and outcomes. When this connection does not seem to be working, an aspect of war becomes a candidate for paradoxical analysis. Zinnes (1980b) recommends research that starts out by delineating puzzles, that is, seemingly inexplicable aspects of international politics. In a way, this is what the paradoxical approach starts doing. But, in contrast to the next step in Zinnes’s strategy—the development of models that would render this puzzle comprehensible, which is what science is all about—the paradoxical approach keeps screening out the puzzles that turn out to have a reasonable explanation. It then focuses only on those puzzles that remain unexplained and attempts to show why ordinary explanations fail. To understand how this approach works and why I think it is a significant supplement to the more conventional methods of explaining war, we move on to an exploration of the notion of paradoxes.

## On Paradoxes

The term *paradox* has, in popular use, come to mean simply something seemingly puzzling or curious. This usage strips the term of its original meaning and of its scientific significance. It is important to discuss the term not only because we must use language correctly, but because paradoxes reflect an approach to human thought the importance of which has been recognized by most philosophers and

many scholars in other sciences and arts. The centrality of this concept to the present study requires detailed exploration of what paradoxes are, why they are important, and how they contribute to our understanding of the world around us and our ability to survive in it.

### *Definition and Classification of Paradoxes*

Logic is probably one of the greatest human assets. It allows us to impose reason and order to transform what we capture with our senses into understandable entities. This intangible process of perception and inference, guided by certain rules, is responsible for our ability to master our physical environment and to interact with our social environment. Logic is the foundation of language, of communication, and hence of science and art. Not surprisingly, logic is also the foundation of social knowledge and social activity.

*Webster's Dictionary* (1980: 1064) defines logic as "the science of correct reasoning; the science which deals with the criteria of valid thought." But logic is more than a science; it is an inherent trait of human thought. It is, as *Webster's* tells us, "the system of principles underlying any science or art." Logic is a set of principles by which perception is transformed into mental conclusions. These mental conclusions serve as bases for reaction. Logic is distinguished from reflex in that it represents a set of rules that mediates between perception of a stimulus and reaction to it. This mental mediation introduces uncertainty into the relation between stimulus and reaction. Reflexive behavior is not mediated by rules of perception. It is a physical reaction to a stimulus that an organism performs without either choosing to do so or understanding why it reacts in a certain way.

A logical system is composed of premises and inference rules. Premises are statements of accepted beliefs about a certain domain that are not subject to inquiry, and their validity cannot or need not be established. Rules of inference specify how conclusions can be drawn from these premises. These rules also specify how inferences can be verified or falsified through observation or reasoning. A logical system must satisfy certain principles in order to be considered valid by logicians. One such principle is that of internal consistency. A logical system is internally consistent if none of its elements (premises or inferences based on them) is incompatible with any other element. A contradiction between two principles threatens the validity of the logical system as a whole. Such contradictions create major problems because the implications of the system as a whole tend to become indeterminate to such a degree that it is impossible to tell which inference is a reasonable consequence of the premises and which is

not. Breaks in the internal consistency of a logical system are typically seen as paradoxes.

The dictionary definition of paradox is “a contradictory or absurd statement that nonetheless may be true” (Webster’s, 1980: 1298). More formally, logicians view paradoxes as “contradictions between two equally valid principles of a logical system” (Brams, 1976: 2), “an embracing of clashing ideas” (Slaatte, 1982: 1), or as “an apparently unacceptable conclusion derived by apparently acceptable reasoning from apparently acceptable premises” (Sainsbury, 1988: 1).<sup>15</sup>

Paradoxes come in all shapes and colors; it is therefore instructive to classify them. Quine (1965) identified three types of paradoxes:

- (1) *Falsidical paradoxes*: These are contradictions between principles of a logical system, the proof of which contains a hidden fallacy. Once the fallacy is uncovered, the paradox disappears.
- (2) *Veridical paradoxes*: These involve a surprising conclusion reached by correct reasoning, but the (correct) proof contains a hidden element; once the hidden element is revealed, the surprise fades and so, usually, does the contradiction.
- (3) *Antinomies*: These are true contradictions that cannot be resolved within the logical systems that give rise to them, no matter how we twist and turn the proof.

Some examples might help at this point. The first example is a famous paradox called the Barber of Seville. The story is about a small village in Seville in which there lives a barber who shaves all and only those who do not shave themselves. Who shaves the barber? If the barber is being shaved by someone other than himself, then he does not shave *all* those who do not shave themselves, and if he does shave himself, then he cannot be shaving *only* those who do not shave themselves. How do we solve this logical knot? The answer is simple. This statement is false. There cannot exist such a barber. Either way we twist this statement, it cannot be proven true (Sainsbury, 1988: 2). The false element in the barber’s paradox is that we are led—even for a moment—to believe that such a barber can exist in the first place. This is a case of falsidical paradox.

The second example is a story about an island with two villages. The first village is one whose residents are all truth telling: they never tell a lie. The other village is the liars’ village. None of its residents ever tells a single piece of truth. These two villages have good relations with each other; residents of one village are constantly visiting the other village. Hence, at any given point in time, there are some liars in the truth-telling village and some truth-telling people in the liars’ village. How would an outside visitor know in

which village she is? If she comes to the truth-telling village she might meet a resident or a visiting liar. She does not know whether to expect truthful answers to her questions or false ones. The same applies if she is in the liars' village. Since we are not told about the volume of visits, a sampling of the population may not solve the problem; anyway, it seems too much effort for this little problem. It turns out that this seemingly insoluble problem has a stunningly simple solution. All the visitor must do is ask the first person she meets in the village, Do you live here? If the answer is yes, she is in the truth-telling village; if the answer is no, she is in the liars' village. This must be the case no matter if she meets a resident of the village or a visitor from the other village. (I let the reader work out the proof.)

This is a veridical paradox. The paradox is susceptible to solution using a principle that I shall call *double flip*. This principle converts the seeming contradiction contained in the paradox into a solution by creating a contradiction to the contradiction. It allows one, therefore, to solve an apparent logical contradiction within the same logical system in which it was shown to exist.

The third example is probably the most famous paradox in philosophy. It is called the Liar's Paradox (no relation to the story about the villages). Suppose a statement is either true or false. What is the following statement: What I am saying now is a lie. If the statement is a lie, then it must be true, in which case it cannot be a lie; if it is true, then it must be a lie, in which case it cannot be true.<sup>16</sup> Though philosophers have grappled with this paradox for centuries, no satisfactory solution has been found. Therefore, this is perhaps the classical example of an antinomy: it is impossible to tell whether the statement is true or false within a system that assumes that a statement must be either true or false.

Another example of a philosophical antinomy is the paradox of existence. Let us assume that there is no such thing as the Loch Ness monster. In order to prove the truth of this assumption, we must know how to establish the fact that a Loch Ness monster does not exist, so we must be able to specify the features of something that we are told to assume does not exist. But how can we do so if that something does not exist? In order to specify what does not exist, we have to assume that something exists in order to show that there is no such thing, which is a contradiction (Toms, 1972: 7).<sup>17</sup>

All these examples are semantic. The feature of vicious circularity renders them frustrating or amusing, depending on how seriously one gets involved in efforts to solve them. The paradoxes I will be concerned with in this book may be less frustrating or amusing than the examples given above, because they have a feature that the semantic paradoxes do not have. This is what Kainz (1988: 44) calls *demonstrability*: they can be

shown by some criteria of observation to exist. Because these paradoxes are demonstrable, they cease to become stimulants for thought; they become real-life problems. If they can be shown to have analogues in the conduct of war, and if their existence can be a cause of tangible cost of life, equipment, territory, and so forth, then they are problems that require serious consideration. Their implications must be assessed in both the theory and practice of war.

I apply the notion of paradoxes to a behavioral context. This implies a relationship between thought and action. Hence, the notion of paradox must deal with this relationship. While I have no intention of competing with all the learned and wise people who have devoted their lives to the study of paradoxes or to defining the term, I wish to offer a definition of my own. This definition, I believe, preserves much of the various meanings of the term I have discussed above, while adjusting the concept to a behavioral domain that concerns a relationship between thought and action.

My definition of a paradox is as follows: *a causally induced contradiction between expectations and the consequences of behavior resulting from them.* The definition refers to processes that contain a sequence of three elements: expectations, behavior, and consequences. Thus, a behavioral paradox exists when reasonable expectations produce behavior that results in outcomes that are not only different from those expected, but are their precise opposite (Boise, 1977: 2). The notion of causality is meant to stress that the contradictory consequences are a result of this causal chain: had it not been for these expectations, the contradictory consequences would not have arisen.

One may argue that this contradiction between expectations and the consequences of motivated behavior is due to something fundamentally wrong about the expectations. When one develops stupid, unrealistic, or otherwise illogical expectations about the consequences of certain courses of action, contradictions naturally arise, but this can hardly be seen as a paradox. Expectations emanate from theories, that is, from an organized, logically consistent set of premises we have about the world around us. These expectations motivate a certain course of action designed to serve a given set of goals. A paradox arises not when these expectations are flawed or otherwise illogical, for if that were the case, paradoxes could be easily resolved. All it would require is to realize that there is something wrong with the expectations or with the link between expectations and actions, and revise the setup accordingly. What makes paradoxes central to the understanding of behavior is that they are hard to resolve because the setup of expectations-behavior is perfectly reasonable. The premises may be fundamentally valid, and the behavior may be a logical extension of those premises. Yet precisely because the whole

setup is reasonable, the unexpected occurs. And because the whole structure of expectations and consequent behavior is reasonable, paradoxes are hard to resolve; changing expectations will not do.

### *Significance of Paradoxes*

Leinfellner (1986: 135) notes that paradoxes are “unsolvable problems for rational logicians.” They create cracks in our normal way of reasoning, in what I call linear logic. The principal features of linear logic are its straightforwardness, its parsimony, and its simplicity. Linear logic is *straightforward* in that its rules of inference are strict and precise. What is allowed or disallowed in the process of inference is clear and unambiguous. Therefore, two people who share the same premises and are aware of the rules of deduction should have no difficulty transforming the same facts into identical conclusions. Moreover, there should be no contradiction between the conclusions derived from the same premises and the same facts if different people use the same rules of inference.

*Parsimony* is a ratio between the number of premises a logical system contains and the number of inferences that can be deduced from them. The more inferences that can be drawn from a small number of premises, the more parsimonious the system.

*Simplicity* refers to the ease with which one can understand certain principles and use them. A logical system may be straightforward and parsimonious, but it might be difficult to understand and even more difficult to apply. For example, systemic theories of international politics are both straightforward and parsimonious but are of very little use to political leaders because they are based on factors that are nonmanipulable politically. One can understand the principles of balance-of-power systems in world politics, but one cannot affect the distribution of capabilities in the international system upon which the balance is based.

Paradoxes are not just interesting philosophical problems; they represent a significant challenge to linear logic because

- (1) . . . they arise from implicitly given, hidden dilemmas in the presuppositions and foundations of [theoretical] systems; (2) most of them are immune to rational methods for solving the contradictory statements they generate; (3) because of the contradictions they generate, they make the whole system worthless and are thus a threat to the whole system; (4) in paradoxes, the opposing views are always somehow related or interconnected. (Leinfellner, 1986: 135–136)

Linear logic is probably the smartest invention of humankind because it gave birth to all other inventions. Hence, cracks in that system

threaten the order it generates. Popper (1968: 315–324) claims that science—in contrast to dialectics—cannot put up with contradictions. Paradoxes hamper progress not only because they divert attention from knowledge accumulation via the linear logic of straightforward extrapolation, but also because they block it as long as they are not solved. They create indeterminacies and uncertainties that prevent clear-cut conclusions. But, by the same token, paradoxes are significant in that they set limits to our ability to generalize. In other words, they delimit the applicability of a set of conclusions reached by linear logic.

The adverse effects that paradoxes have on progress in science and in human thought did not escape those who have dealt with the dialectic method, in which contradictions take on a prominent place. Hegel's dialectic triad allows for contradictions between thesis and antithesis, but the synthesis provides a solution for these contradictions that is broader than either the one proposed by the thesis or the one proposed by the antithesis. Yet the synthesis of today becomes the thesis of tomorrow and it encounters its own antithesis. Marx's application of dialectical logic to economics and politics also focuses on the internal contradictions that give rise to revolutions and to new social structures (Elster, 1985). A more modern treatment of the evolution of science also views this process in a seemingly dialectical fashion (Kuhn, 1970). Kuhn claims that science evolves in a wavelike fashion. Paradigms rise and fall only to be replaced by other paradigms that rise and fall.<sup>18</sup>

All of these are devices to resolve fundamental contradictions. Hegel's synthesis, Marx's social revolution and Kuhn's scientific revolution all represent radical solutions to paradoxical aspects of thought, social systems, and scientific progress. Paradoxes, according to this approach, are useful in that they stimulate new forces that attempt to resolve them. Initially, attempts to resolve such paradoxes are done from within the logical or social system in which paradoxes have emerged, using its own rules and principles. When this does not work, paradoxes are resolved by breaking the old system and establishing a new one. This kind of approach to solving paradoxes is what I will label the *Alexander method*, following Alexander the Great, king of Macedonia, who solved the famous Gordian knot problem by cutting it with his sword.

In some areas of science and politics it is possible to use this kind of approach to solve paradoxes. When this is possible, paradoxes can be seen as fundamental sources of social or intellectual change. However, if international politics are characterized by numerous paradoxes, and if those paradoxes are due to some fundamental features of the logic of the realm, it is not at all clear that we can break the system within which

contradictions arise and replace it with a different one. The significance of paradoxes in this realm may well be to alert us to fundamental problems in the system, but not to direct us to solutions.

### *Social Paradoxes*

It might be useful to discuss some social paradoxes and how they have affected knowledge in various fields of science.

### The Paradox of Voting

This paradox ranks probably among the most significant social paradoxes that are known to us. First discovered by the French mathematician Marquis de Condorcet in the eighteenth century, it was formally proved by Kenneth Arrow (1951). This paradox claims very simply that there is no democratic (i.e., majority-rule-based) procedure that can convert rational individual wills into a rational social will. Consider the following example. Three committee members must decide on a social policy. Suppose these people—Joe, Mark, and Alice—are rational. That means that each can rank the various proposals from best to worst, and that each has a preference order that is transitive. If Joe prefers proposal *a* over proposal *b* and proposal *b* over proposal *c*, transitivity means that he must prefer proposal *a* over proposal *c*. Now, suppose that the preference orders of the three individuals are as follows:

*Joe:* Views policy *a* as best, and prefers it over policy *b*. He also prefers policy *b* over policy *c* (hence, he prefers *a* over *c*).

*Mark:* Views policy *b* as best, policy *c* as second-best, and policy *a* as the worst (hence, he prefers *b* to *a*).

*Alice:* For her, *c* is the best policy, *a* is the second-best policy, and *b* is the worst (hence, she prefers *c* over *b*).

Arrow (1951) assumed certain things about the properties of a just scheme that is supposed to represent the social will. Two of these properties are of particular importance. The first is what he called *nondictatorship*. In our case this means that no one in that group can impose a certain preference on the others. Majority decides which shall be the social policy or how the three policies ought to be ranked by the group. The other property is what Arrow called *independence of irrelevant alternatives*. By that he meant that if one of the policies is taken out of the decision process, the choice among the remaining policies should not be affected by the absence of the first policy. The paradox of voting is simply that there exists no system that can satisfy simultaneously these seemingly innocuous requirements.

Here is how the paradox of voting works. Suppose that policy *c* is withdrawn from the decision process. The three committee members

must now choose between policies *a* and *b*. Since *c* is now an irrelevant alternative, both Joe and Alice prefer *a* over *b*. Only Mark prefers *b* over *a*. Thus, we can say that *a* is preferred to *b* by a majority. Now suppose that *a* is taken out of the race, and the choice is between *b* and *c*. In this case, Joe and Mark vote for *b* and only Alice votes for *c*. Thus, there is a majority in the committee that prefers policy *b* to *c*. Now suppose that *b* is taken out of the race and only *a* and *c* remain. Only Joe supports *a*, while both Mark and Alice prefer *c*. Hence, a majority in the committee prefers *c* to *a*. What we have here is a cycle: *a* is preferred to *b* and *b* is preferred to *c*, but *c* is preferred to *a* rather than what we would expect, given that all three people are rational and have transitive preferences.

This paradox presents a tremendous problem to normative theories of democracy because it states that no majority-rule system can aggregate rational individual preferences into a rational social preference.<sup>19</sup> One may question the importance of this paradox on the ground that it does not happen very often. Indeed, the probability of such a paradox has been shown to be very low when there are few proposals to be voted upon, no matter how many people exist in the voting body. However, as the number of proposals grows larger, the probability of the paradox increases substantially (Brams, 1976: 42–43). But this argument might miss the point. If we are interested in designing a democratic system that works, we want to make it immune to such a paradox, even if the chances of it arising are low.

### The Paradox of Prediction

Suppose you are presented with two boxes, *A* and *B*. You have two alternatives: to open box *B* only, or to open both boxes *A* and *B*. A superior being informs you that he has made predictions about your choice and has acted as follows: (1) He put \$1,000 in box *A*. (2) If he predicted that you would open only box *B*, he added \$1,000,000 to box *B*. (3) If he predicted that you would open both boxes, he has put nothing in box *B*. Now, you are, no doubt, out to gain as much as possible, and you seem to be in a good position to make some heavy money. But here is the catch. Not surprisingly, you figure that your best choice is to open both boxes; but to your amazement, you discover that all you get is a mere \$1,000. To understand why this is so, consider the matrix in Figure 1.1.

Since you do not know what the Predictor did, you ask yourself what is your best choice if he predicted that you would open only box *B* (and hence put a million dollars in it). In that case your best choice is to open both boxes; this will give you both the million in *B* and the thousand in *A*. Now, if you think that the Predictor predicted that you would open both boxes, you are still better off opening both boxes because this way you at least get the thousand in box *A*. Hence, no matter what you do you

		Predictor	
		Predicts A & B	Predicts B
You	Open A & B	1,000	1,001,000
	Open B	0	1,000,000

**Figure 1.1** The Paradox of Prediction

are better off opening both boxes. The Predictor knows that no matter what he does, you will do just that, hence, he will not put the million in box *B*. Now you are really stuck; since it is rational for you to open both boxes, the Predictor cannot but predict that you would, hence, you cannot but predict that he will not put money in box *B*. Even if you wanted to open only box *B*, now you have no choice but to open both boxes.<sup>20</sup>

The paradox of prediction shows that both you and the Predictor are done in, irrespective of what you do. Whether you are greedy or not, the Predictor is going to guess that you are. Therefore, even if you do not want to appear greedy, you have no choice but to behave as if you were greedy because this is the only way for you to avoid being the sucker. In the process, both you and the Predictor lose. This paradox also shows that even if it is in your interest not to behave greedily, there is no reason in the world the Predictor should believe you. And since you know that, your behavior actually confirms his expectations. The result is bad for both of you. It follows that whether or not you are aware of this paradox, there seems nothing in the world that can resolve it within the parameters set by the story. Solutions to this paradox require some changes in the rules or the setup of the problem in order to make it rational for you to choose box *B* and for the Predictor to believe that you will (Maoz and Felsenthal, 1987).

The Prisoner's Dilemma is probably the most influential and well-known social paradox. I will not discuss it here for two reasons. First, it will serve us later on in the book and hence will be discussed in a real-world context. Second, it is in many ways similar to the paradox of prediction. Indeed, Brams (1976: 203–209) treats this paradox as a Prisoner's Dilemma.

Now that I have shown what paradoxes are and how they can be used as key instruments in the study of social phenomena, I must specify how the study of war is merged with the paradoxical approach in the present study. This is done in the following section.

## Methodology

The methodology of the study consists of two stages. The first stage focuses on the demonstration of the paradoxes in the abstract. The second focuses on the use of case studies to demonstrate these paradoxes in a historical context.

### *The Theoretical Demonstration of Paradoxes of War*

All the paradoxes I have discussed thus far, and most of the paradoxes I will introduce later on, illustrate quite clearly some fundamental breaks in rational choice theory. This is a theory that essentially states that organisms have goals and that their behavior is designed to maximize their ability to accomplish those goals. It predicts (or prescribes, depending on whether we treat it as a descriptive theory or a normative one) that an organism will always choose the course of action that, on average, promises the accomplishment of the best bundle of goals within a given set of constraints.

To understand why paradoxes are important, we must understand why linear logic is so powerful. First, it is powerful because it has all the makings of a complete system. It has precise predictions, it is capable of applying relatively few principles to a wide variety of problems, and it is usable. Second, these features render it a standard for scientific reasoning, for public policy-making, and for military planning. The trick is to show that paradoxes exist within such a powerful system of logic, because if paradoxes are difficult to resolve there, then less rigorous types of logic will fail as well.

Rational choice portrays action in a complex environment as predicated on systematic criteria of reason, and therefore renders behavior comprehensible and predictable. The key principle of expected utility maximization is both a powerful tool of good choices and a powerful criterion for evaluation of actual choices. If we can show that certain phenomena are paradoxical within a framework that posits that behavior based on rational expectations yields seemingly "irrational" consequences, we have made a fairly convincing case for the existence of a genuine paradox of the antinomical variety. Paradoxes, seen as breaks in the rational logic that is applied routinely to national security problems, suggest that we may have to rethink many of the ideas and fixed notions we have about war. Such paradoxes suggest more than mere academic puzzles; they are real and painful problems that can be neither brushed under the rug nor easily resolved.

To make a convincing case for the existence of a paradox as a

causally induced contradiction between expectations and the consequences of motivated behavior, we must satisfy three conditions:

- (1) *Temporal sequence*: Expectations must precede observed behavior, and behavior must precede the contradictory consequences. Causality cannot be established if the story of the paradox does not contain a clear temporal order, no matter how puzzling and inexplicable the issue under analysis appears to be.
- (2) *Logical exclusiveness*: The demonstration of the paradox must establish that the “reasonable” expectations were the only cause of the observed behavior, and that the observed behavior was the only cause of the contradictory outcome. The demonstration must establish controls for all factors that might have caused a given behavior other than the particular expectations that motivated it. Further, we must be able to control for all factors that may have intervened between the actor’s behavior and the contradictory consequences. The only things that are allowed to vary in the demonstration of the paradox are those variables that are part of the logical system that is said to give rise to the contradiction. For example, in the paradox of voting the only thing that was allowed to vary at each stage of the game was the policy that was rendered irrelevant (that is, taken out of the race).
- (3) *Substantive meaningfulness*: Contradictions between expectations and the consequences of motivated behavior must have a meaningful logical explanation. We cannot be satisfied with showing that such contradictions exist; we must understand why they exist. This entails explication of the processes that give rise to these contradictions. Such explanations should be understandable even to those who are not well versed in the jargon and methodology of science, because they are the ones whose intuition makes up the conventional wisdom that the paradox seems to defy.

The theoretical analysis must establish that a given paradox exists in principle, not that it is common or prevalent in practice. Existence in principle suggests that a practical problem may exist in a real-world context with circumstances analogous to those established by theory. But beyond the demonstration of causality, we must show that this contradiction is a paradox, not merely a problem that can be fixed. This leads us to a fourth condition.

- (4) *Solvability through awareness*: If awareness of the contradiction between expectations and the consequences of behavior can cause us either to revise our expectations or to change our behavior in a manner that eliminates the contradiction, then the paradox cannot be termed an antinomy. At best it is a veridical paradox.

To show a real paradox, we must demonstrate that awareness of the contradiction cannot cause a change of setup that leads to its solution. Of course, at a certain level each paradox is solvable in the Alexander sense, that is, by demolishing the whole system that gave rise to the paradox. And awareness of a paradox can provide a major incentive for such an operation. But this is beside the point of demonstrating a paradox.

The theoretical analysis of paradoxes focuses on showing that they satisfy these four conditions. Only if the theoretical demonstration of a paradox proves satisfactory can we proceed to an empirical analysis of actual wars that are seen to reflect such paradoxes. The virtue of the theoretical analysis of paradoxes is that the setting can be specified in such a manner that a paradox in a pure sense is formed, and the proof of the paradox can satisfy all these criteria in an unambiguous manner. The theoretical demonstration of paradoxes may be done by reference to an international political problem, or it can be done by analogy. I will use both political setups and interpersonal ones such as bidding games or committee voting. And when attempting to satisfy the substantive meaningfulness requirement, I shall provide the connection to the war-related aspects of the paradoxes.

The substantive meaningfulness criterion serves to connect the logic of the abstract demonstration to the concrete circumstances of the political world. When the paradox is demonstrated through an example taken from a setting other than international politics, the relevance to the international political realm must be established. This requires a convincing argument for the appropriateness of the rules of the theoretical setup to international politics. It also requires making a convincing case that the kind of processes set in motion by actors' expectations in the abstract case are similar to those that might be operating in international politics. The substantive meaningfulness criterion establishes the parameters that have to be satisfied in the empirical analyses in order to illustrate the paradox convincingly.

### *Case Studies*

The case study approach has a variety of uses in research (Lijphart, 1971; Eckstein, 1975; George, 1979; George and McKeown, 1985), ranging from exploratory functions of a pilot study when the theory is not well specified to confirmatory functions of theory testing. The case studies conducted in this book serve none of these functions. Rather, their role is to illustrate the workings of these paradoxes in history. The major premise of this study is that paradoxes are the exception rather than the rule in war. This is a study of residual cases, not of modal ones. Most wars and most of the aspects of any given war are susceptible to explanations consistent with linear

logic. This is so even if a certain aspect of a given war seems puzzling at first glance. But there are some good reasons to believe that those residual aspects of war that resist a linear logic explanation form a pattern in the sense that they constitute real paradoxes.

Consequently, one of the key considerations in correct design of a case study methodology, that of unbiased case selection, is turned on its head in the present study. In other words, case selection is deliberately biased. In a sense, I have ransacked history to find those examples that seem to fit best the paradoxes to be illustrated. A given war becomes a candidate for analysis not if it seems a good representative of a more general class of cases, but only if it seems a bad representative of a general class but a good representative of the specific paradox I wish to demonstrate. My only defense of this peculiar method is that this is a peculiar study to begin with. Bearing in mind that war itself is the exception rather than the norm in international politics,<sup>21</sup> and that this study focuses on the residual cases of war, the issue of regularity seems a bit irrelevant. In fact, I know of no method for unbiased case selection in a study of the residuals of a residual category.

Two limitations have been imposed on case selection. First, the cases must be international wars according to the standard definition (Small and Singer, 1982): there must be at least one sovereign state on each side of the battlefield. Second, the wars must have occurred in the twentieth century. The reason for these limitations is twofold. Because international wars feature two or more governments fighting each other, and each monopolizes the use of force in its own state, it is easier to identify the key actors in each state and to examine the logic of war employed by each of the opposing sides. This allows assessment of the extent to which the paradoxes I have demonstrated in abstract terms shed some light on the historical case. In civil or colonial war, it is sometimes difficult to pinpoint the key actors and the main decisions. Therefore, demonstrations of paradoxes in such cases are open to criticism of the special case type, that is, that the irregular nature of the war is what gives rise to irregular aspects that are supposed to be paradoxical.

The focus on twentieth-century war is intended to show that these paradoxes have immediate relevance, that they are not a characteristic only of wars fought in other times and therefore nothing but interesting historical anecdotes.<sup>22</sup>

There are two basic problems with the case study approach. First, any historical method that illustrates paradoxes, as those were defined here, runs into serious problems when attempting to satisfy the logical exclusiveness criterion. Second, the strength of the case study method is its internal validity; however, its weakness is its generalizability. Even if we are successful in illustrating paradoxes in one or two cases, the question remains about how general these paradoxes are.

It is possible to lay out a theoretical structure that allows proof of a given paradox such that it satisfies the logical exclusiveness criterion, but it is virtually impossible to do that in historical research, certainly not in research that uses the case study method. To satisfy the logical exclusiveness criterion, we must control for all irrelevant factors that may affect the consequences of the “experiment” and vary only those aspects of the problem that are said to give rise to the paradoxical result. We must also show that in the absence of this manipulation, the paradox would not have occurred. Yet history does not afford us such flexibility. Suppose a given paradox identifies a set of expectations that cause a certain behavior, and that behavior leads to consequences that are the opposite of what was expected. Suppose further that the historical case verifies that sequence. We still have not satisfied the logical exclusiveness criterion, because we know what happened, but there is no way of telling what would have happened had expectations differed, or had behavior been different. Since we do not have a way of controlling for those external factors that might also have been responsible for that outcome, it is impossible to ascertain that it was strictly the expectation-behavior-outcome sequence that was responsible for the paradox.

The substantive meaningfulness criterion is helpful in this regard. It establishes a meaningful sequence of facts that explains the occurrence of a paradox, hence, it specifies a series of traces that can be picked up in historical research. The principal function of the substantive meaningfulness criterion is to form a series of expected events that ought to be found in the case under study so that it can be plausibly argued that what was suggested by theory may have taken place in practice. Here we follow the approach described by George and McKeown (1985: 29–34) as the “congruence procedure.” The idea is that a theoretical framework postulates a set of expected outcomes in one or more cases, and the fit between the expected and the actual outcomes serves as a basis for the assessment of the framework.

I have no intention of showing that a given paradoxical sequence that is specified in the abstract demonstration is the *only* plausible explanation of a certain historical process. There are probably other plausible interpretations of the wars that will be analyzed in this volume. My aim is to convince the reader that the interpretation of a given war as paradoxical is just that, a plausible depiction of history. In fact, one of the reasons I chose to account for these paradoxes in terms of two explanations, a rational explanation and a cognitive one, is that history is open to a wide variety of interpretations and in many cases it is impossible to single out a “best” one reliably, even with all relevant data at our fingertips. Showing that a paradoxical explanation of a given war cannot be ruled out as a plausible interpretation suggests sufficient reason for reconsidering some of the straightforward linear notions we have both

about this specific war and about other wars that might exhibit similar properties.

The generalizability problem is not that severe, for the very simple reason that the kind of generalization I am looking for is very limited. All I want to show through the case studies is that these paradoxes are not a figment of my imagination. The case studies are used in an attempt to establish that such paradoxes have occurred in the past (the not too distant past) and that they may happen again.

I do not claim that these paradoxes are frequent. In fact, this is a study of exceptions. Each of the paradoxes I will be discussing is quite infrequent, and when it is apparently frequent, I shall state so explicitly. The importance of these paradoxes is not that they recur all the time; it is that they have severe ramifications. This alone justifies an extensive study of the topic. This is also what makes the study of war significant. Hence, if I can show that quite a few of the drops of blood spilled in the course of war represent unintended consequences of motivated and seemingly reasonable behavior, then I may have contributed something to the understanding of a phenomenon of tremendous significance in international politics.

### *Explanatory Models*

Two models will be introduced to explain the various paradoxes of war. Both models are decision related. The rational model attempts to show that these paradoxes are the result of reasonable choices made by reasonable people. Contradictory consequences of such reasonable behavior arise largely because these choices are made within an interdependent system where the consequences of an actor's choices are based on the choices of other actors. Paradoxes arise because actors cannot control the rules of the game, the choices of other actors, or both. This explanation basically extends the theoretical demonstration of the paradoxes as a break in rational logic.

The cognitive model focuses on psychological factors that bias choices and render them suboptimal or otherwise imperfect. The implicit assumption of this model is that there is something wrong with the expectations-behavior system; otherwise it would not have given rise to paradoxical consequences. This model focuses on the biases and heuristics that cause suboptimal behavior that results in contradictory consequences.

The models are seemingly contradictory, yet I will try to show that they are not; in fact, they may complement one another quite nicely. My purpose is not to devise ways to discriminate among these explanations, or to determine which model "best" explains paradoxes of war. Rather, I will present the two explanations