INTRODUCTION

Armed conflict is a recurrent and destructive feature of international politics. Because citizens are eager to avoid it and policy makers are keen to anticipate it, war has long been studied by philosophers. Today, war is a central concern of contemporary international-relations scholars. To understand the causes of war, scholars must first define war, then establish a universe of actors or conflicts in which both war and peace are possible. Next, they must collect data on the incidence of war in the entire universe of cases over a particular period of time, a random sample of relevant cases, a number of representative cases, or a set of cases relevant to independent variables in the theories they are testing. Finally, scholars must use this data to construct quantitative and qualitative tests of hypotheses about why actors fight instead of resolving their differences in other ways and, in particular, why actors initiate wars by launching the first attack.

Despite decades of work to improve the scientific study of war, much remains to be done. In particular, researchers face problems of selection bias in establishing the universe of cases from which they draw, matching the definition of war in the data they use to the definition in the hypotheses they are testing, and subjecting systemic theories such as structural realism to systemic tests. Thus contemporary studies of war may understate the frequency of war and misunderstand its causes.

DEFINING WAR

To determine the causes of war, one must define “war” clearly and distinguish it from other conditions. This is usually done by noting that war is a manifestation of the larger phenomenon of conflict and one of many policies actors can pursue. For example, the Roman philosopher Marcus Tullius Cicero (106-43 B.C.), argued that war is a type of dispute. According to him, “there are two ways of settling a dispute: first, by discussion; second, by physical force; and since the former is characteristic of man, the latter of the brute, we must resort to force only in case we may not avail ourselves of discussion” (1913, I:xi:34, p. 37). Similarly, the Chinese military classic, Sun-tzu ping-fa (403-221 B.C.), defines war as “armed contest” and “a vital matter of state.” Like Cicero, it characterizes war as a last resort: “to win a hundred victories in a hundred battles is not the highest excellence; the highest excellence is to subdue the enemy’s army without fighting at all” (1993, ch. 7, p. 129; ch. 3, p. 111). Centuries later, Prussian strategist Carl von Clausewitz (1780-1831) wrote in much the same vein. He defined war as “a branch of political activity… a continuation of political intercourse, with the addition of other
means.” According to Clausewitz, war is “an act of force to compel the enemy to do our will” (1976 VIII:6:B, p. 605; I:1:2, p. 75).

Contemporary political scientists continue to work in this tradition. Joshua S. Goldstein and Jon C. Pevehouse, for example, define conflict as a “difference in preferred outcomes in a bargaining situation,” and define war as the use of “violent actions” as “levers” to influence others to change their preferences and to prevent others from influencing one’s own. Other expressions of conflict and forms of leverage include trade regulations, diplomatic pressure, and economic sanctions (2008, pp. 153, 189-190). Similarly, Benjamin A. Most and Harvey Starr define war as “a particular type of outcome in the interaction of at least dyadic sets of specified varieties of actors in which at least one actor is willing and able to use some specified amount of military force for some specified period of time against some other, resisting actor and in which some specified minimal number of fatalities (greater than zero) occur” (1989, p. 73).

This two-fold definition of war -- as both the military manifestation of conflict and as one of many policies actors can pursue -- could be applied to the use of force among individuals, groups, and states. In practice, however, scholars distinguish among these types of violence. Armed conflicts among individuals are crimes. Armed conflicts among groups within a state are civil wars. Armed conflicts among states are interstate wars (Thomson 1996). International-relations scholars are, of course, especially concerned with interstate wars. They are also concerned with civil wars, which frequently have international causes, international participants, and international consequences (Brown 1996).

ESTABLISHING A UNIVERSE OF CASES

Historically, most scholars have studied war by identifying instances of armed conflict, then examining their causes. This approach is not sound. To explain the causes of war, one must explain both the presence and the absence of war. Thus, to determine the frequency with which war occurs and the conditions in which it breaks out, researchers must first either define a universe of actors among whom war is possible or a set of conflicts in which it is possible (King et al. 1994, Gerring 2001, Collier & Brady 2004, Goertz 2005). Since the 1970s, considerable data have been gathered on both states and conflicts. Because of the way these terms have been coded, however, researchers interested in the causes of war must use these data with caution. One option is to draw samples of potential combatants based on independent variables in deductive international-relations theories.

Identifying Potential Combatants

To identify the states that could participate in interstate wars or could be engulfed in a civil war, scholars must define what they mean by “state,” then operationalize the term in a way that can be measured. Today, the most widely-accepted definition of a state is the one proposed by the German sociologist Max Weber (1864-1920). According to Weber, a state is “a human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory” (Weber 1958, p. 78). But scholars disagree about what this definition means and, therefore, which actors to count as potential belligerents. Realists argue that the emphasis should be on the “monopoly of the use of… force” and, thus, that data should be gathered on all de facto states. Liberals and constructivists, by contrast, argue that the key term is “legitimacy.” According to them, to be a member of the interstate system, an actor must not simply have
empirical sovereignty; it must also be legally, or juridically, sovereign. Since the 1970s, data on interstate and civil war have been gathered based on the latter approach. This has important implications for scholarly research on the incidence and causes of war.

**Coding Criteria: Monopoly of Force vs. Legitimacy**

Some scholars (largely those of the realist persuasion) argue that the key to Weber’s definition of a state is the “monopoly of the use of … force.” (On realism and other international-relations theories, see Walt 1998). For realists, a state is an entity that has the last word on foreign and domestic policy in a territory. A state may not always be authoritative, but it is more authoritative than any other actor in a territory (Thomson & Krasner 1989, Krasner 1999). Should this cease to be the case, the state has died, whether through conquest, union, revolution, disintegration, or collapse (Adams 2000). Because actors with a monopoly of force over at least some territory are the ones most able to use force, in identifying potential combatants all such actors (all de facto states) should be considered, regardless of their legitimacy.

Other scholars (largely liberals and constructivists) argue that “legitimacy” is the key to Weber’s definition. For them, a state must have more than a monopoly of force over territory. A state must have legitimacy. For some scholars, this means a state must be chosen or at least accepted by its subjects, either because it confers benefits to them or because its principles accord with theirs (Chopra & Weiss 1992). For other scholars, this means a state must be recognized by its peers (Fazal 2007). Regardless of their definitions of legitimacy these scholars argue that, in identifying potential combatants, a distinction must be drawn between actors that simply have de facto (empirical) sovereignty and those that have both de facto sovereignty and de jure (juridical) sovereignty (on empirical versus juridical sovereignty, see Jackson & Rosberg 1982). In dividing potential combatants into different groups based on their attributes, liberal and constructivist scholars echo Quincy Wright’s (1942) argument that “war is a violent contact of distinct but similar entities.” Specifically, war is “a state of law and a form of conflict involving a high degree of legal equality, of hostility, and of violence in the relations of organized human groups.” Thus “a battle between two primitive tribes, and hostilities between two modern nations would [both] be war,” but armed conflict between a modern nation and a primitive tribe would not be (1983, pp. 5, 7).

Whether empirical or juridical criteria are used to define potential combatants has important implications for the type of data scholars gather and the conclusions they are likely to reach about the frequency and causes of war. For an example of the two approaches, consider the situation in Rhodesia from 1965, when the whites-only government of Ian Smith declared independence from the United Kingdom, to 1979, when the regime was toppled by a guerrilla movement and the state of Zimbabwe was recognized by other states and allowed to join the United Nations (Epps 2001, p. 259). To determine whether to count Rhodesia as a state from 1965 to 1979, and the fighting that killed approximately 25,000 persons a civil war (Frankel 1984), realists would want to know whether the Smith government had a monopoly of force over at least some territory. If so, it was a state, and the conflict should be counted as a civil war. Liberals and constructivists would code the case differently. Regardless of the government’s empirical status, its juridical situation was clear: the majority of its citizens and most other states refused to recognize it. Thus Rhodesia was not a state, and the conflict in Rhodesia should not be counted as a civil war. Furthermore, because Rhodesia was not a state, international involvement in the war would not have made it an interstate conflict.
Interestingly, the international-legal approach to statehood is empirical, not juridical. In deciding whether they have jurisdiction over a case, one of the first questions courts consider is whether the parties are states. In doing so, they refer to the Convention on the Rights and Duties of States (1933), which articulates four criteria for statehood: “a) a permanent population; b) a defined territory; c) government; and d) capacity to enter into relations with the other states.” According to the Convention, “[t]he political existence of the state is independent of recognition by the other states” (art. 1, 3). All entities that meet these criteria have a right to “international legal equality vis-à-vis other states” (Janis 2003, p. 187).

Weber was clear in explaining the central role of force in his conception of the state. He defined “a political group” as a group in which “the enforcement of its order is carried out continually within a given territorial area by the application and threat of physical force on the part of an administrative staff.” By contrast, he defined a state as a political group “whose administrative staff successfully upholds a claim to the monopoly of the legitimate use of physical force in the enforcement of its order” (1947, p. 154). Thus, in inter-group violence in which no participant, including an ostensible government, monopolizes the legitimate use of force over any territory, the participants are all non-state political actors. By contrast, in an armed conflict in which one actor monopolizes the legitimate use of force over some territory while its authority over other regions is contested by insurgents, the actor with control of some territory is a state, and the other actors are non-state political actors (Huntington 1962, Kalyvas 2006). Finally, in fighting among actors that monopolize the legitimate use of force over distinct territories, the actors are states, and their conflict is an interstate war.

To determine whether entities are political actors and, in particular, whether they are states, Weber would consider their ability to use and monopolize force within a territory. According to him, “it is possible to define the “political” character of a corporate group only in terms of the means peculiar to it, the use of force” (1947, pp. 154-155). Because both political groups and states try to legitimate their use of force in various ways and because people submit to them for various reasons (1947, pp. 126-130, 132, 156), what distinguishes states from non-state actors is not their legitimacy. It is their monopoly of the use of force. States may obtain this monopoly in various ways. One may be legitimate in a legal-rational sense, while another may be sovereign simply because its citizens fear it and find it expedient to submit. Both are states.

As political methodologist John Gerring explains, in investigating causation, “[w]e must … make sure that our chosen population makes sense – is relevant to the inference. The sample must include (or be representative of) cases that we would normally expect the proposition to explain” (2001, p. 174). Because states monopolize the use of force within a territory, they are the actors most capable of using force against their subjects and neighbors. Thus, to measure the frequency of interstate and civil war and to understand their causes, researchers should gather data on de facto (Weberian) states. It would also be beneficial to gather data on non-state actors that use force but do not monopolize the use of force in a territory.
Data on Potential Combatants

Since the 1970s, the practice in international relations has been to identify states based on a combination of *de facto* and *de jure* criteria. The most commonly-used data have been gathered by the Correlates of War (COW) project for the period from 1816 to 1997. To operationalize the concept of the state, COW established the following rules:

1. Prior to 1920, the entity must have population greater than 500,000 and have had diplomatic missions at or above the rank of *charge d’affaires* with Britain and France.

2. After 1920, the entity must be a member of the United Nations or League of Nations, or have population greater than 500,000 and receive diplomatic missions from two major powers (Singer & Small 1972, pp. 20-21, Sarkees 2000, p. 128).

Entities that meet these criteria are considered to be members of the interstate system and are listed in the COW Interstate System data (Correlates of War 2009). According to J. David Singer and Melvin Small, who initiated the COW Project, the rationale for using these coding rules was that:

Whether or not a national political entity qualifies as a member of the interstate system should be a function of two factors. First, was it large enough in population or other resources to play a moderately active role in world politics, to be a player more than a pawn, and to generate more signal than noise in the system? …Second, was the entity sufficiently unencumbered by legal, military, economic, or political constraints to exercise a fair degree of sovereignty and independence? (1972, pp. 19-20)

Thus the COW Interstate System is a sub-system of states deemed active or important by COW coders. It does not include all of the states in the international-political system.

The COW project gathers systematic data on war participation only for members of the COW Interstate System. The data are compiled into three lists: interstate war, extra-state war, and intra-state or civil war (Correlates of War 2009). To be included in the interstate war list, a war must have been among at least two members of the COW Interstate System. By contrast, extra-state war is armed conflict in which one of the participants is recognized and at least one of the major participants is not recognized (Singer & Small 1972, Small & Singer 1982, Sarkees 2000). Finally, intra-state war is violence within a COW interstate system member. The unit of analysis in these data sets is the state year. In other words, each year from 1816 to 1997 that an entity was a COW system member is a single case.

The COW Interstate System and war data have been criticized on many fronts. For the purposes of understanding the causes of war, the primary problems are coding bias and selection bias. First, COW’s coding rules have been applied more leniently to small European states than to their large non-European counterparts (Gleditsch & Ward 1999, Adams 2003). Second, COW only collects war data for members of the COW Interstate System. COW does not collect data on armed conflicts among unrecognized *de facto* states, such as the 1825-1828 war between Argentina and Brazil, or on civil wars within non-recognized *de facto* states such as Rhodesia from 1965 to 1979 (Gleditsch 2004). According to Karen Ruth Adams, who has developed data on *de facto* states in Europe and the Middle East from 1816 to 1994, ninety-nine *de facto* states
comprising 37 percent of state years and 55 percent of conquests are missing from the COW data (2003, pp. 1, 25, 33).

The effects of these biases are pervasive, for two reasons. First, in testing theories about the causes of war, most international relations scholars use only COW’s interstate data. Yet COW’s list of extra-state wars includes “colonial” wars such as wars of conquest between de jure (largely European) states and de facto or empirically sovereign (largely non-European) states (Sarkees 2000, p. 128). Although the extra-state list is incomplete because it does not include wars among de facto states that were not COW system members, when considered with the interstate data, it provides a more accurate picture of the war participation of system members. Second, in developing alternative data on war, researchers use the COW Interstate System list to identify their universe of cases. Given COW’s coding rules and the preeminent place of the COW Interstate System and war data in international-relations research, it is hard to escape the conclusion that contemporary data on war have been gathered and continue to be analyzed in ways that echo the ancient distinction between civilized and barbarian peoples (Buzan & Little 2000). This is worrisome, both because it is ethnocentric and because it poses obstacles to the scientific study of war (Clausewitz 1976, I:1, pp. 76, 88). To understand why conflict erupts, or fails to erupt, into war, scholars must test their theories by examining the entire universe of cases over a particular period of time, a random sample of relevant cases, or a number of representative cases. By systematically excluding wars among and upon small states and states that lack recognition, scholars introduce an element of bias into their research. Because small states are more vulnerable to attack, and because states use non-recognition (such as the European doctrine of terra nullus) to designate their enemies (Krasner 1999; Epps 2001, p. 25; Wendt 2003, p. 513), contemporary studies of war may understate its frequency and misunderstand its causes (Lemke 2002, ch. 7). Scholars have begun to recognize this problem and are working to develop more comprehensive data, both by relaxing COW’s recognition criteria (Gleditsch & Ward 1999, Fazal 2007) and by developing data on de facto states (Adams 2003, Bremer & Ghosn 2003, Lemke 2008).

**Identifying Potential Wars**

Given the definition of war discussed above, a second approach to explaining war is to identify the universe of conflicts worldwide or in a particular region over a particular period of time, determine which of these conflicts were expressed in war, and explain why some conflicts became militarized while others did not. Although significant efforts to gather data on conflict have been made over the last several decades, most of these data are not appropriate for answering the question of why actors fight instead of resolving their differences in other ways. The problem is that these data sets use militarization as part of their definition of conflict. As a result, they do not enable researchers to compare actors that fight to actors that do not. Moreover, because either the COW Interstate System list or similar recognition criteria were used to identify the universe of states for which conflict data was developed, these data also exhibit selection bias.

At present, there are three primary data sets in which the dependent variable is conflict. These are the Correlates of War data on militarized international disputes (MID), Michael Brecher’s and Jonathan Wilkenfeld’s data on international crises, and Paul F. Diehl’s and Gary
Goertz’s data on rivalries. In 1999, the MID data were “widely used by the scholarly community … and … clearly surpasse[d] all other international conflict data sets combined” (Paul F. Diehl et al. as quoted by Ghosn et al., 2004, p. 134).

All three of these data sets use militarization as an indicator of conflict. For COW, a MID is “a sequence of militarized incidents, each of which can be said to be potentially an outgrowth of, or a response to, one or more previous incidents” (Jones et al. 1996, p. 174). According to Ghosn et al., “from 1993–2001 … the modal action for the incidents is the ‘attack,’ with ‘show of force’ and ‘border violations’ next. The modal action for the disputes is a ‘clash,’ with ‘attack’ a close second” (2004, p. 149). Similarly, for Brecher and Wilkenfeld, an international crisis is “a change in type and/or an increase in intensity of disruptive, that is, hostile verbal or physical interactions between two or more states, with a heightened probability of military hostilities.” Some crises “erupt in a nonwar setting. …[S]tilt others occur during a war” (1997, pp. 5-6). Finally, for Diehl and Goertz, “rivalries are conflicts that governments conduct using the military means of foreign policy” (2000, p. 28).

Given their coding rules, these data sets are useful for understanding why armed conflicts, once initiated, escalate or fail to escalate. But because they do not include data on both conflicts that are militarized and those that are not, they cannot be used to test hypotheses about why some conflicts manifest in war. As Diehl and Goertz explain,

There are clearly some limitations to our conceptual approach. Most obviously, we have confined our analysis to militarized relationships. Accordingly, we may miss significant competitions that involve some measures of threat or security risk for the participants, but never or rarely manifest themselves in direct military confrontations… Thus, we will be limited in answering the questions of how, when, and why rivalries become militarized (2000, p. 28).

Quantitative researchers are not alone in selecting cases based on the presence of armed conflict. Scholars conducting qualitative analyses often do this as well. For example, each contributor to Making Sense of International Relations Theory was asked to apply a theory to the 1999 war in Kosovo (Sterling-Folker, ed., 2006). As an illustration of the unique logic of each theory, the book is very useful. As a test of the theories’ ability to explain war, it is not. Most of the contributors discussed only the war in Kosovo; they did not examine comparable cases that did not manifest in violence.

Because war is an expression of conflict, it is worth trying to find other ways to code conflict. The most promising efforts in this vein are efforts to code either all dyads of states or all “politically-relevant dyads” (PRDs). Here, researchers inventory the international system for potential war participants, then examine the incidence of conflict among either all possible pairs or all likely pairs (Most & Starr 1989, Bremer 1992, Russett & Oneal 2000). Either way, each dyad is conceived as a potential site of conflict. When this approach is used in tandem with a definition of conflict that does not include militarization, it solves the problem of selection on the dependent variable and makes it possible to assess the effects of various conditions on the outbreak of war. Here the challenge is to ensure that factors related to the occurrence of war (such as power) are not used to determine which dyads are examined (Goertz 2005, ch. 8). David Kinsella’s and Bruce Russett’s data populated by PRDs defined by “strong verbal hostility” was an important step in examining the “dogs that didn’t bark” (2002, pp. 5, 11; on
earlier efforts, see Goldstein 1992). More remains to be done, both because Kinsella’s and Russett’s data cover a short period of time (1950 to 1992) and because, as is the norm in international-relations research, they used the COW Interstate System list to determine the dyads for which they collected data. Because non-recognition and war are likely to be correlated, in identifying dyads researchers should consider all de facto states.

**Developing More Representative Data**

Regardless of whether researchers are interested in understanding why potential combatants participate in war or why conflicts erupt into war, it will be necessary to inventory the empirically-sovereign states of the world over the last two centuries. Given the difficulty of obtaining data to code the political systems, war participation, and other attributes and activities of the large number of states missing from the COW system, once the universe of de facto states has been identified, researchers could draw random samples of states and conflicts, then concentrate on collecting missing data only for the states and conflicts in the samples. To minimize data collection costs and facilitate hypothesis testing by a variety of researchers, COW could combine efforts with other quantitative data projects, as well as qualitative researchers, to determine the size and other attributes of the samples. Once drawn, researchers could focus their data collection, coding, and hypothesis testing on these samples. This approach could be used to develop data on both interstate and civil war. (On the under-utilization of sampling in international relations, see King & Zeng 2001).

**Making the Most of Existing Data**

Because membership in the COW Interstate System is open only to empirically-sovereign actors with certain international profiles (“moderately active roles”) and levels of relative power (“players more than pawns”), scholars can use the data with confidence only when they intend to study such states, and only such states (Levy 1983, Copeland 2001). Thus, at the least, scholars who use COW system membership to define their universe of cases should acknowledge that their findings may change when more comprehensive data become available. But because the COW coding rules suffer not only from selection bias but also coding bias and aggregation bias - in that they measure diplomatic recognition differently before and after 1920 and combine factors (population and diplomatic recognition) that are likely to separately affect the behavior of the units (Gleditsch & Ward 1999) -- this is not an optimal strategy. Until data on all de facto states worldwide from 1816 to the present are gathered, the best strategy for using the COW data, as well as other data sets that use the COW Interstate System to define their universe of cases, is to identify likely combatants and conflicts using concepts from international-relations theories. Specifically, instead of using induction to identify the universe of potential conflicts and combatants, scholars should use deduction to identify potential conflicts and combatants relevant to the theoretical propositions they wish to test.

Qualitative researchers have long used this approach. First articulated by the Greek philosopher, Aristotle (384-322 BC), then taken up by the Persian philosopher and medical scholar Abu Ali Sina Balkhi (also known as Avicenna, 980-1037) and the Scottish philosopher John Stuart Mill (1806-1873), the logic is to observe actors and phenomena in a variety of controlled situations (Ragin 1987; Gerring 2001, pp. 9-10; Mill 2002; Goodman 2003, p. 155). Strategies include what Mill called the “method of difference” (selecting cases that have different outcomes and are similar on specified variables except one) and the “method of
agreement” (selecting cases that have the same outcome and differ on specified variables except one). Of these, the method of difference (now often called the “most-similar method” to capture the similar values of the independent variables) is most useful because, as explained above, in examining causation one must consider both the presence and the absence of a phenomenon (Gerring 2001, p. 212-214; Gerring 2008).

A “most similar” approach to the causes of war would be to draw a subset of states from the COW data that differ in war participation (percentage of state years involved in war) and are similar in terms of empirical sovereignty, diplomatic recognition, population, and power, but differ in terms of a variable of interest, such as regime type, then examine whether regimes of certain types participate in war more often than regimes of other types. This approach would mitigate the selection bias in the COW data. Moreover, by defining a large but controlled group of cases, it would allow proponents and critics of particular theories (in this case, democratic peace theory), as well as both quantitative and qualitative researchers, to meet on the neutral ground of a sizeable sample of state-years or dyad-years, instead of focusing on a few “critical” cases (Collier, Mahoney, & Seawright 2004; George & Bennett 2005 pp. 51-54; Kinsella 2005). Even so, until all possible combatants (all de facto states for interstate war and all non-state political actors for civil war) are included in the sample from which cases are drawn, researchers will be able to draw only contingent conclusions about the causes of war -- for example, that hypotheses about the pacifying effects of democracy are (or are not) supported for states of similar diplomatic status, size, and power. As explained below, such conclusions are contingent not only on possible selection bias but also on the systemic nature of international politics, which makes it difficult to draw meaningful conclusions from tests of single hypotheses.

MEASURING WAR

Once a universe, random sample, representative group, or controlled set of potential conflicts or belligerents has been identified, researchers must define and measure the events that count as war. This is best done in two ways, reflecting the two-fold definition of war discussed above. First, the definition of war as a manifestation of the larger phenomenon of conflict can be operationalized in terms of fighting (offensive and defensive military operations) among two or more state or non-state actors that results in some minimum number of battle deaths per year. Second, the definition of war as one of many policies actors can pursue can be operationalized in terms of attack (offensive military operations by one actor against an actor that had not previously attacked it). Both fighting and attack can be expressed in absolute terms (number of events) and in rates (events per unit of analysis) at various units of analysis (system-year, dyad-year, and state-year). Measuring war in terms of fighting and measuring it in terms of attack test different hypotheses about the causes of war and provide different pictures of its effects.

War as Fighting

Historically, scholars have most often used fighting among at least two states as the indicator of war, and in deciding which armed conflicts to include in their data, they have used battle-death thresholds. This approach to measuring war provides a picture of the incidence or frequency of war at various units of analysis. Most often discussed are the system-year (number of wars per year), dyad-year (number of dyads at war per year), and state year (number of states at war per year). It can also be useful to express the incidence of war in terms of the system-era under consideration (percentage of years with war, percentage of dyads at war, percentage of states at
Measuring war as fighting is most appropriate for testing hypotheses about why actors participate in war.

To be included in the COW Inter-State War data (war among diplomatically-recognized states with populations over 500,000), an armed conflict “must have sustained combat involving regular armed forces on both sides and 1,000 battle fatalities among all of the system members involved.” The most recent COW data (Version 3.0) covers the period from 1816 to 1997 and identifies a total of 80 interstate wars. Using a slightly different threshold of 1,000 battle deaths per year, COW has identified 108 extra-state wars (armed conflicts between COW system members and non-system members) over this period. Finally, using the threshold of a total of 1,000 battle deaths, COW counts 212 civil wars among system members from 1816-1997 (Sarkees 2000, pp. 128-130, 134-143).

In 1999, Kristian Skrede Gleditsch and Michael D. Ward used more relaxed diplomatic criteria (whether a state “is considered a distinct entity by local actors or the state it is dependent on”), as well as more explicit consideration of empirical sovereignty (whether it “has a relatively autonomous administration over some territory”), lower population thresholds (of 250,000), and more consistent application of coding rules to develop an alternative list of states since 1816 (1999, p. 398). Although this list contains five percent more of the de facto states in Europe and the Middle East identified by Adams than does COW, it continues to lack 32 percent of the de facto state years in those regions from 1816-1994 (Adams 2003, p. 10). Nevertheless, when Gleditsch used this list of states to revise COW’s lists of interstate, extra-state, and civil wars from 1816 to 2002, he identified 38 additional interstate wars (a total of 118, of which five occurred after COW’s end point of 1997), 27 fewer extra-state wars (a total of 81), and 25 more civil wars (a total of 237) (2004, p. 242).

Figure 1 depicts the historical trends in interstate and civil war identified by K.S. Gleditsch. To summarize, every year from 1816 to 2002, there was at least one interstate or civil war. Specifically, interstate war occurred in 140 (75 percent) of the 186 years under consideration, and civil war occurred in 175 (94 percent) of years. Most wars have been civil conflicts. Since World War II, the ratio of civil to interstate violence has grown.

Gleditsch’s data for 1997-2002 are based on Nils Petter Gleditsch et al.’s Armed Conflict Dataset of the Uppsala Conflict Data Program (UCDP) and the International Peace Research Institute, Oslo (PRIO). The UCDP/PRIO data defines armed conflict as “a contested incompatibility that concerns government or territory or both.” Unlike COW, it uses a threshold of 25 battle deaths per year (N.P. Gleditsch 2002, pp. 618-619; Taubes 2007). The most recent UCDP/PRIO data (Version 4-2008) covers the period from 1946 through 2007. Since World War II, this data set identifies “236 conflicts … in 150 locations, including 124 conflicts in 80 locations after 1988” (Harbom et al. 2008, p. 697).
Figure 1

Incidence of Interstate and Civil Wars, 1816-2002

From 1990 to the end of 2007, K.S. Gleditsch and UCDP/PRIO identify seven interstate wars with more than 1,000 battle deaths per year. These wars are listed in Table 1.

Missing from Table 1 is the 2001 war in Afghanistan. According to the Uppsala Conflict Data Program (2009), the Taliban was ousted “by an opposition alliance supported by an US-led multinational coalition” -- in other words through a civil, not interstate, war. After 2003, the war in Iraq is also coded as a civil war, despite the Iraqi government’s lack of empirical sovereignty and the major involvement of the United States.

Table 1

Interstate Wars with more than 1,000 Battle Deaths per year, 1990-2007

Source: K.S. Gleditsch (2004, Table A, p. 250)

<table>
<thead>
<tr>
<th>War Name</th>
<th>Time Span</th>
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<tr>
<td>Gulf War</td>
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<tr>
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<td>1992-1993</td>
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<td>Yugoslavia</td>
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In 2007, according to the UCDP/PRIO data, there were no interstate conflicts. There were, however, 34 civil wars. Of these, five were internationalized -- “in Afghanistan, in Iraq, in the US conflict against Al-Qaeda, in India (Nagaland) and in Somalia.” Four of the 34 armed conflicts had more than 1,000 battle deaths per year (Iraq, Afghanistan, Sri Lanka, and Somalia). This was the smallest number of wars with more than 1,000 battle deaths since 1957, when there were three (Harbom et al. 2008, p. 697).

In terms of the effects of war defined as fighting among two or more states, 20th-century wars alone killed approximately 140 million people, both civilians and combatants. Most of these deaths (65 to 75 million) occurred in World War II (Leitenberg 2006), which was a turning point in three ways. First, it was the single deadliest conflict in history. Second, due to aerial bombardment and other technological changes, the percentage of civilian deaths rose dramatically, from 5 percent in World War I to 50 percent in the war as a whole, and 99 percent
in Hamburg, Dresden, Hiroshima, and Nagasaki (Barash & Webel 2008, pp. 18; O'Brien 2009). Third, since World War II, civil wars have accounted for the vast majority of casualties. The most deadly were the conflicts in Vietnam, China, and Afghanistan, which together killed more than three million people (Lacina 2006, pp. 277-278). Thus, as N.P. Gleditsch explains, “[w]e are dealing with low-probability events, but potentially extremely hazardous ones” (as quoted by Taubes 2007).

**War as Attack**

To test hypotheses about why states initiate war, the dependent variable of war (fighting among two or more actors) must be disaggregated. This can be done by coding declarations of war, displays of force, or attack. Of these, attack is the most useful for testing hypotheses about the causes of war because it involves the actual use of force against another actor.

The COW Interstate War and MID data sets designate a state as an initiator if it is the first to “make an explicit threat, display, or use of force.” For example, “in MID 61 (Cuban Missile Crisis) the United States is coded as the initiator of the dispute because on January 28, 1962 (and continuing) through until December of that year), it engaged in a show of planes against Cuba and the Soviet Union.” From 1826-2001, the states initiating the most MIDs were Israel (382 or 14 percent of incidents), the United States (278 or 10 percent), and Turkey (172 or 6 percent) (Ghosn et al 2004, pp. 139, 144, 151).

Because COW does not distinguish threats and displays of force from attacks, it is not appropriate to use COW data to test hypotheses about the incidence of attack. To assess the effects of the offense-defense-deterrence balance of military technology on state propensity to strike first (Quester 1977, Jervis 1978, Van Evera 1999), Adams collected data on attacks by great powers and nuclear states from 1800-1997. She coded a state as attacking if it “conducted offensive operations against military or nonmilitary assets in the territory of a … state that had not previously attacked it.” From 1800-1997, Adams found 31 great-power attacks on other great powers and 105 great-power attacks on non-great powers. As a result of these attacks, 13 great powers were conquered (involuntarily lost their monopoly of force over all of their territory to an external rival). Using multivariate event-history analysis, Adams found that great powers were 12 times more likely to attack other great powers when offense was dominant (probability 0.156) than when defense was dominant (probability 0.013) and were more than 13 times more likely to attack one another when defense was dominant than when deterrence was dominant (probability 0.001). Great power attacks on non-great powers were less affected by prevailing military technologies, decreasing by less than a factor of three across each type of era (Adams 2003/04, pp. 67-70, 76).

By limiting the analysis to attacks by great powers and nuclear states and by including all attacks by great powers on de facto states, regardless of their juridical status, Adams eliminated as much selection bias as possible. But because non-great powers can be attacked by one another as well as by great powers, her data and findings, like those discussed above, are insufficient to understand system-wide rates and causes of attack.
Ancient discourses on the causes of war were motivated by a desire to understand particular wars. From the experience of the particular, general explanations were offered. Contemporary scholars are also motivated to understand war because of their experience with particular wars. But instead of taking the inductive approach of inventorying the causes of particular wars, then attempting to find general rules, it is necessary to approach the problem deductively, developing theories about the environment in which states operate, deriving hypotheses about the incidence of war and attack, and using quantitative and qualitative methods to test these hypotheses. Two books by Kenneth N. Waltz were seminal in the transition from inductive to deductive approaches. Today, Waltz’s work remains at the center of the debate about the causes of war. Together with recent methodological work in political science, his work continues to point the way towards deeper understanding.

Categorizing Arguments by Image and Levels of Analysis

In *Man, the State, and War* (1959), Waltz demonstrated that, despite their variety, ancient and contemporary arguments about the causes of war could be divided into three groups based on their “image” or concept of international politics: those that explain war with reference to human nature or the attributes of particular leaders (individual image); those that attribute war to the nature of states or the attributes of particular states (state image); and those that consider the context within which states operate (international image). By categorizing causal arguments in this way, Waltz laid the foundation for new studies of – and debates about -- the causes of war.

The debate about whether the various causal categories should be seen as competing “images” or complementary “levels of analysis” has been especially important. According to Waltz, each of these views has its place. To understand the aggregate recurrence of war, one must use the international image. Only the absence of an international sovereign can explain the variety of individuals and states that have participated in war: “wars occur because there is nothing to prevent them.” By contrast, to understand the incidence of particular wars (why one state attacks another), it is necessary to consider individual and state-level factors, as well as the permissive international environment. Like the French philosopher Jean-Jacques Rousseau (1712-1778), Waltz argues that international anarchy simply lays the fire; leaders and states choose when to light it (1959, pp. 184-185, 230-238; Rousseau 1917).

Although Waltz has written in both of these veins, the most prevalent criticism of his work is that it is too simplistic (Keohane ed. 1986). Thus, many contemporary scholars have moved away from Waltz’s three-fold division to identify additional levels of analysis (Buzan 1995). Moreover, most scholars conceive of Waltz’s individual, state, and international categories not as separate “images” of international politics but as complementary “levels of analysis” from which one must draw both to develop satisfying explanations of particular episodes of war and peace and to explain their overall incidence (Elman 1996, Keohane & Nye 2000, James 2002). Among the individual and state attributes that have received the most attention are the “operational codes” of leaders (Walker 2003); leaders’ beliefs about the need to strike first (Snyder 1984, Van Evera 1984); geographical proximity (Starr 2005); nationalism (Mearsheimer 1990, Snyder 1993); and democratic versus authoritarian institutions and cultures (Maoz & Russett 1993, Russett & Oneal 2000).
Finally, scholars take issue with Waltz’s characterization of the international image in terms of international anarchy, pointing to additional environmental factors that affect the likelihood of war. For realists, these intervening variables include the international distribution of power (polarity) and prevailing military technology (the offense-defense-deterrence balance). By contrast, liberals focus on international institutions and interdependence (Keohane & Nye 2000), while constructivists emphasize international norms (Wendt 1999). Today, one of the primary debates in international relations is about how these factors fit together and whether they provide complementary or competing explanations for war (Keohane & Waltz 2000-2001). Waltz’s answer to this question can be found in his systemic theory of international politics.

**Developing Systemic Theories**

In the first half of *Theory of International Politics* (1979), Waltz demonstrated that explanations for war that refer entirely to the actions and attributes of individuals and states are based on a “reductionist” or inductive approach, when what is needed -- because all manner of individuals and states have historically been associated with both war and peace -- is a deductive, “systemic” theory of international politics. In the second half of the book, Waltz constructed such a theory. He referred to this theory as “balance of power theory.” It is also called neo- or structural-realism.

In developing structural-realist theory, Waltz began by contrasting two concepts of theory. First, there is the inductive approach of cataloging law-like regularities and combining them into models that replicate reality, as model airplanes resemble real ones. Then there is the deductive approach of isolating, abstracting, aggregating, and idealizing experience to explain laws. Only the latter type of theory explains; the former describes (1979, ch. 1). Because Waltz’s goal was to explain international-political outcomes, he took the deductive approach.

Specifically, because international outcomes frequently exhibit equifinality (in that war involves a wide variety of people and states) and unintended consequences (in that leaders and states that seek to avoid war are often caught up in it), Waltz developed a deductive, systemic theory (p. 58). Instead of examining “the properties and interconnections of variables,” Waltz considered “the way in which they are organized” (pp. 39, 69-78). To do so, he first isolated the international-political system from other international realms. Then he abstracted from the variety of units within it and the variety of their relations to focus on *de facto* states interacting in an anarchic realm characterized both by lack of restraint on states and by a “security dilemma” in which relative power is, at once, the best guarantor of security and likely to make one a target (Waltz 1979, pp. 91-92, 102-104, 186-187; on the security dilemma, see Herz 1950, Jervis 1978, Booth & Wheeler 2008; on commitment problems related to anarchy, see Powell 2006). Next Waltz aggregated state capabilities into the intervening variable of the distribution of power or polarity (ch. 5). Finally, he articulated expected outcomes within the realm using idealized concepts such as the balance of power, emulation, and socialization (chs. 6-8).

According to Waltz, although “war begins in the minds and emotions of men, as all acts do” (1959, p. 9) the permissive cause of war is international anarchy. Since there is no world government to prevent states from using force, states may pursue policies of war in their efforts to survive and pursue any other goals they may have (1959, pp. 232-233; 1979, p. 91). Moreover, even if states do not seek war, they may find themselves embroiled in one, either
because they are attacked or because they are threatened by actions taken by other states to secure themselves.

Although interstate war is, therefore, always possible, the incidence and particular causes of war are affected by intervening variables related to international anarchy. In particular, war is more likely where power is unbalanced, for example in unipolar systems and between states of greater and lesser power. It is also more likely when the security dilemma is tighter than when it is looser. Among the factors related to international anarchy that affect the severity of the security dilemma are multipolarity (which increases uncertainty) and the dominance of offensive military technologies (which provide incentives to strike first). By contrast, bipolarity and deterrence-dominance reduce the likelihood of war (Waltz 1979, pp. 168-172, 186-188).

According to structural realists, international anarchy is not only the permissive cause of interstate war; it is also the permissive cause of civil war. Because there is no international sovereign to protect states from domestic dissent or make them treat their inhabitants fairly, domestic actors may use force to resist governmental directives, and governments may use force to compel them to comply. When a government is weak relative to domestic dissidents, it may lose some of its territory through secession or lose the monopoly of force over all of its territory through revolution, disintegration, or collapse. When a government is strong, it is likely to prevail. Because the stakes are so high -- state death, on the one hand, and elimination of domestic dissent, on the other -- the actors in domestic political crises worry about and respond to others’ capabilities. Thus, like international actors, they can become entangled in the security dilemma and end up fighting wars no one wants (Posen 1993, Adams 2006).

**Testing Systemic Theories**

According to Waltz, to determine what a theory explains, one must state the theory, infer hypotheses from it using terms found in the theory, and subject them to “a number of distinct and demanding... experimental or observational tests” that employ the definitions found in the theory (1979, p. 13). In addition, one must have a clear idea of what the theory can and cannot explain:

What do I mean by explain? I mean explain in these senses: to say why the range of expected outcomes falls within certain limits; to say why patterns of behavior recur; to say why events repeat themselves, including events that none or few of the actors may like... A theory of international politics will, for example, explain why war recurs, and it will indicate some of the conditions that make war more or less likely; but it will not predict the outbreak of particular wars (p. 69).

Given Waltz’s persistent attention to the differences between systemic and reductionist theory, it is interesting that he did not compare the requirements for testing hypotheses derived from each. Nevertheless, given the systemic nature of structural realism, it is clear that hypotheses derived from the theory should not be tested in isolation from one another. Equifinality does not just indicate the need for a systemic theory to explain outcomes. It also means that when researchers apply and test a systemic theory they should expect to find that certain concepts from the theory (such as polarity) explain some outcomes, while other concepts (such as the security dilemma) explain other outcomes (Waltz 1959, p. 234; Waltz 1979, p. 123-128). Yet many of the scholars who have tested structural-realism theory over the past three decades have expressed dismay about the theory’s indeterminance and multiplicity of
explanations (Vasquez 1997, Vasquez 2000, James 2002, Weinstein 2007). To some extent this is a result of treating classical and structural realism as a single theory or research program. It also reflects misunderstanding of the difference between testing and applying theories (Waltz 1997). Above all, it reflects the failure to use a systemic approach in testing systemic theories. Although scholars in each of the major theoretical traditions -- realism, liberalism, Marxism, and constructivism -- characterize the system in different ways, in testing theories scholars generally take a reductionist approach, pitting one hypothesis against another instead of testing sets of hypotheses that make up larger causal frameworks (for summaries of various tests, see Vasquez 2000, James 2002).

In recent years, political methodologists have begun to write about the need for complex causal models or frameworks when a realm is characterized by causal heterogeneity (Collier, Seawright, & Brady 2004, p. 30). Like Waltz, they caution against the “analytic fallacy,” in which researchers fail to consider “higher-order configurations” that may affect outcomes in their field of study (C.F.A. Pantin as quoted by Waltz 1979, p. 64). According to Gerring:

A causal framework, like evolutionary theory, suggests a general model for explaining a wide variety of outcomes without naming either a specific cause or a specific outcome. Thus, when we say that a particular feature of an animal or plant can be explained by evolution, we are indicating a general mechanism by which a specific cause might be (given the requisite empirical work) identified. Other causal models, including general equilibrium theory, game theory, “realism” (in international relations), and systems theory are similar in this respect. They are not Xs (causes), but rather frameworks or mechanisms within which an X:Y relationship might be explained” (2001 p. 137).

When applied to particular questions such as the causes of war, Waltz’s systemic theory of international politics is a causal model or framework that explains outcomes in terms of de facto states interacting in an anarchic realm. According to this model, sometimes war occurs because there are no restraints on ambitious leaders or powerful states. Other times it occurs because of a security dilemma triggered by offense dominance, or misperceptions resulting from multipolarity. Because these explanations are related to one another in that they all derive from anarchy, they must be applied and evaluated in combination. None is necessary for war to occur. In the absence of an international sovereign, any one of them is sufficient.

**Evaluating the Effects of International Anarchy and Other Variables**

To understand the causes of war and peace, international-relations scholars must be cognizant of the need for systemic theory and the requirements for testing systemic models. In particular, in applying and testing structural-realist theory, scholars must consider both the ultimate cause of anarchy -- with its dual manifestation in the absence of restraints on strong and aggressive states and in the presence of the security dilemma -- and the intervening variables of polarity and military technology, which affect the tightness of the security dilemma. Moreover, scholars must not simply note correlations between these variables and war, but explore their causal connections. In unipolar systems, war should occur less because of uncertainty about relative power than because of lack of constraints on the unipole. Similarly, in deterrence-dominance eras, war should occur rarely among states possessing deterrent military technologies, regardless of their stated military doctrines. But given international anarchy, war is possible in all
technological eras and all distributions of power. States, especially strong states, may do as they like (Waltz 1979, pp. 92, 194; Jervis 1999, Betts 1999, Adams 2003/04).

Scholars must also more clearly articulate alternative deductive theories about the international system and about individual and state attributes (Wendt 1999, Russett & Oneal 2000, pp. 53-54). Those working at the systemic level should explain how the variables of their theories constitute a causal framework, and researchers should keep these claims in mind as they test the theories. Only then will it be possible to answer “the theoretically interesting and practically important question of what, in different systems, the proportionate weights of unit-level and systems-level factors may be” (Waltz 1979, p. 49).

Despite decades of research and writing, scholars still do not know whether the conflicts that escalate to war are primarily initiated by aggressive leaders and states, or sparked by security dilemmas. For now, one must simply conclude that war does, in fact, recur. Every year from 1816 to 2002, there was at least one interstate or civil war. Moreover, one must concede that, although states attack and fight in different ways and for different reasons, the various paths have in common the absence of an international sovereign to adjudicate disputes and regulate the use of force.

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Bio

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