Hauser Globalization Colloquium Fall 2009:
Interdisciplinary Approaches to International Law

Professor Ryan Goodman
Furman Hall 212
Wednesdays 2:00 pm-3:50 pm
(unless otherwise noted)

Schedule of Sessions (subject to modification)

September 2 - Professor Andrew Guzman, Boalt Hall, University of Berkeley
(co-author: Prof. Jody Freeman, Harvard Law School)
Topic: "Climate Change and U.S. Interests"
Discussants: Profs. Richard Stewart, NYU, and Ryan Goodman, NYU

September 16 - Professor Beth Simmons, Harvard University & NYU Straus Institute
(co-author Prof. Allison Danner, Vanderbilt Univ. School of Law)
Topic: "Credible Commitments and the International Criminal Court"
Discussants: Profs. Jose Alvarez, NYU, and Ryan Goodman, NYU

September 30 - Professor Oona Hathaway, Yale Law School
Topic: "Presidential Power over International Law: Restoring the Balance"
Discussants: Profs. Stephen Holmes, NYU, and Ryan Goodman, NYU

October 7 - Professors Eyal Benvenisti, Tel Aviv University Faculty of Law; NYU, and George Downs, NYU
Topic: "Will National Court Cooperation Promote Global Accountability? The Judicial Review of International Organizations"
Discussants: Profs. Beth Simmons, Harvard Univ. & NYU Straus Institute, and Ryan Goodman, NYU

Friday, October 16 - Professor Gary Bass, Princeton University ***(FH 214, 2-3:50 PM)***
Topic: "Freedom's Battle: The Origins of Humanitarian Intervention"
Discussants: Profs. David Golove, NYU, and Ryan Goodman, NYU

October 21 - Professor Kathryn Sikkink, University of Minnesota
(co-author: Hunjoon Kim, Univ. of Minnesota)
Topic:"Explaining the Deterrence Effect of Human Rights Prosecutions"
Discussants: Profs. Philip Alston, NYU, and Ryan Goodman, NYU

October 28 - Professor Paul Slovic, University of Oregon
Topic: "Can International Law Stop Genocide When Our Moral Intuitions Fail Us?"
Discussants: Discussants: Dr. Bruce Jones, NYU and Ryan Goodman, NYU

Friday, November 13 - Professor James Morrow, University of Michigan ***(FH 214, 2-3:50 PM)***
Topic: "The Laws of War as an International Institution"- *The session will focus on Chapters 1, 3 & 4. For interested readers, Chapters 3' and 4' have also been made available.*
Discussants: Profs. Matthew Evangelista, Cornell Univ., Nina Tannenwald, Brown Univ., and Ryan Goodman, NYU

November 18 - Professor Robert Keohane, Princeton University
co-authors: Profs. Allen Buchanan, Duke Univ., and Tony Cole, Univ. of Warwick
Topic: "Justice in the Diffusion of Innovation."
Discussants: Profs. Robert Howse, NYU, and Ryan Goodman, NYU

Chapter 1

Introduction

During the night of June 19, 1945, aircraft from the Eighth Air Force of the United States conducted a incendiary bombing raid on the city of Fukuoka, Japan. The bombing destroyed 22% of the buildings in the city of 323,000.

At noon on August 15, 1945, Emperor Hirohito of Japan broadcast to his nation that Japan would surrender to the combined forces of the Allied Powers. After listening to the broadcast, a group of Japanese officers at Fukuoka led by Colonel Yoshinao Sato, Chief of the Intelligence and Air Defense Sections of the Western Army headquarters, took seventeen captured U.S. airmen to Aburayama outside of the city. There they executed the airmen by beheading them with samurai swords. First Lieutenant Hiroji Nakayama, who was accompanied by a young lady from the Intelligence Section, made certain that he and the other Japanese did not decapitate their victims as such was considered insulting to the victims in Japanese tradition. They acted under the provisions of Japan's Enemy Airmen Act of 1942, which classified air raids on Japan itself as violations of international law punishable by the death penalty or prison terms of at least ten years. Colonel Sato later testified that this Act sought to prevent further air raids on Japan "...by giving stern disposition to enemy airmen and also to give fears to the American mothers...thereby starting an anti-war movement in America."

On December 29, 1948, Colonel Sato and 24 other Japanese officers were found guilty of the murder of these prisoners of war and others; seven other defendants were acquitted. Sato and eight other officers were sentenced to death by the Commission. Upon review, General Douglas MacArthur commuted the death sentences on July 9, 1950, instead sentencing Sato to "hard labor

for the term of his natural life."

Atrocity breeds outrage, charges of war crimes, and revenge. How can outrage at wartime atrocities be directed into a system of law that controls such actions? During the twentieth century, international humanitarian law was developed to regulate conduct during wartime. The record of success of such treaties is mixed. The chemical weapons treaties have generally been followed, limitations on targeting civilians have generally failed, and regulations for the handling of prisoners of war has worked in some cases and failed in others. Why have some of the laws of war succeeded and others failed?

This question leads directly to the more general question of how international law operates. States have created a large body of international law to regulate their interactions. This legalization of international affairs is a distinctive property of the international system beginning in the twentieth century. As this body of law expands, understanding how it operates is critical for understanding all of international politics in the contemporary world. That understanding should also help us comprehend why this growth of legalization has occurred.

These questions of international law also address one of the great questions of international relations: does the normative structure of the international system matter? Principles of right and wrong have always been applied to international politics. The existence of such standards, however, does not mean that they have any real impact on behavior. Scholars of international relations have debated this question throughout the twentieth century, with real implications for the international politics of their times. The realists and idealists faced off during the interwar period ([Carr, 1946 #454]); the British School (e.g [Bull, 1977 #428]) challenged the dominance of American realism (e.g. [Morgenthau, 1978 #429]) after the Second World War; now the constructivists (e.g. [Wendt, 1999 #430]) oppose the neorealists (e.g. [Waltz, 1979 #432]). The proliferation of "isms" in

international relations theory demonstrates the lack of consensus on the role and effect of normative standards. If these norms matter, the world can be changed through moral force; if not, the law of the jungle rules.

In the broadest scope, I also address a profound question about politics. International law works only to the extent that the parties can enforce its provisions and procedures on themselves. Political institutions, including international law, must be self-enforcing. Actors follow the rules and principles of a political system because they believe it is in their interest to do so. Successful political institutions are "machines that run on their own." Given that we believe that effective political institutions are necessary to protect the values we hold most dear, how can such institutions be sustained over time?

This is an ambitious list of questions, and I do not purport to give final answers to any of them. I do hope that this book will help the reader understand better why the laws of war have restrained violence during war in some situations but not others, how international law works, what is the role of norms in international politics, and how political institutions are self-enforcing.

The Abstract Argument in Brief

Any political institution must persist to have an effect on behavior. As the product of human action, political institutions can always be changed if sufficient actors agree on how to change them. Institutions that are changed constantly by the actors to produce particular results have no independent effect on those outcomes. But many political institutions do persist and so may have an independent impact on outcomes. Such persistence can occur only if no set of actors has both the ability and the desire to change existing institutions. It is possible that institutions change even if no

actors seeks change; I claim only that institutional persistence requires the willingness to live within that institutional environment.

Drawing on game theory, we can then think about political institutions as equilibria of some game ([Schotter, 1981 #433], [Calvert, 1995 #451; Calvert, 1994 #452; Shepsle, 1986 #450], {Greif, 2006 #514}). An equilibrium in game theory is a configuration of behavior where no actor wishes to change his or her behavior given the actions of the other actors. Equilibria are patterns of behavior that can persist, making the concept of equilibrium a useful way to think about how political institutions persist and operate. Institutionalized behavior must be an equilibrium of the game underlying the social situation.

I elaborate this view by defining an institution to be *a constellation of equilibria that address related strategic problems* rather than an individual equilibrium. The different but related strategic problems must all be addressed to create a stable institution. Each equilibrium depends on the others because each problem in isolation assumes an answer to the other problems. Different sets of actors play in each of these different but related games so must take those other equilibria as given in the strategic settings they face. For example, an effective trial system of criminal law requires addressing the related problems of conducting a trial as a contest between the prosecuting and defense attorneys, a political issue of disciplining prosecutors so they pursue only appropriate cases, the relationship between the defendant and his attorney to ensure proper representation, and the issue of providing judges with incentives and training to act on behalf of the law as opposed to other interests, and perhaps more as well. Because each actor plays in only some of these games, she takes the equilibrium behavior in the others for granted. All the equilibria depend upon one another; in some systems, bribing the judge is the best defense strategy while in others it would only hurt the interests of the defendant.

An equilibrium in game theory requires two things. First, the actors' behaviors are *mutual best replies*. No actor believes he can improve his position by changing his plan of action. Second, the actors share a *common conjecture* that one another will play according to the equilibrium. The shared understanding of a common conjecture is necessary for the players to understand that their equilibrium strategies are indeed the best actions for themselves. Because the outcomes of social situations depend on the possible choices of more than one actor, each needs some stable expectations about each other's actions to understand how to act in her own interest. Political institutions require a shared understanding to allow the actors to anticipate one another's actions and then act within that institution. Without such an understanding, there is no reason to believe that the behavior will persist.

Abstract principles knit together the common conjectures of the equilibria within an institution. These principles explain why the actors should hold these common conjectures. They, like the common conjectures, must also be shared across all actors. These principles also aid the players in modifying the institution as conditions change.

International law is the codification of the common conjecture underlying certain institutionalized behaviors in world politics. Common conjectures need to be shared across all the players to support equilibrium behavior. Although such a shared understanding can arise simply through a history of interactions, public negotiation and agreement of the principles of that shared understanding could help confirm both what the understanding is and who holds it. International law embodied in multilateral treaties negotiated as public documents which are then formally ratified by states helps to establish a common conjecture. Treaty law aids states by helping them anticipate one another's behavior more fully.

A shared understanding alone is insufficient to ensure that the parties will comply with the

principles embodied in that understanding. Actors still have to be willing to act in accord with those principles. Here mutual best replies reenter the picture. Those shared understandings that do not produce a self-enforcing pattern of behavior will fail in practice. Not only do we need to know the legal specifics of international law, we also need to understand the motivations and incentives of the parties under that law. Law could fail under two conditions then: one, when a party explicitly rejects that law, signaling that it does not share the common conjecture embodied in the law; or two, when the law fails to induce the parties to comply with its provisions. Legal principles must be married to practical politics for international law to succeed.

The laws of war are the most dramatic example of this argument about political institutions and equilibrium. Because the parties are already at war, they have no recourse to a higher sanction to enforce legal obligations on one another. Laws of war can be effective in limiting violence during wartime when the warring states understand what the limits are and act to live within those limits. Further, the laws of war create obligations and rights for individual soldiers as well as states, in large part because these laws address the related strategic problems of violence on the battlefield, strategic competition between states at war, and how states control their soldiers as their agents. As we will see, when states comply is a complicated question. Although the ideas of mutual best replies and common conjecture seem simple, the combination of shared understanding and restraint through self-interest can fail in many ways. This book seeks to illuminate those difficulties by examining the strategic logic of the laws of war and the historical record of their successes and failures in the wars of the twentieth century.

Institutions and Norms in International Relations Theory and International Law

As I mentioned earlier, scholars of international relations have long argued whether standards of right and wrong play a role in international politics. The current version of this long-running debate matches the neorealists and the constructivists. Both camps agree that international politics is an anarchy; actors cannot appeal to a higher authority to enforce agreements and resolve their conflicts. Neorealists argue that anarchy forces states to distrust one another and rely on their own capabilities to defend their interests. Calculations of power and interest trump principles of right and wrong. Constructivists contend that shared understandings shape international politics and allow states to transcend the effects of anarchy. In the memorable epigram of Alexander Wendt ([Wendt, 1992 #453]), "anarchy is what states make of it."

Neorealists begin with the assumption of anarchy as the character of international politics. John Mearsheimer ([Mearsheimer, 2001 #438], Ch. 2) in the most recent statement of neorealism describes its assumptions as: one, the international system is an anarchy; there is no "government over governments;" two, great powers possess some offensive capability; three, states cannot be certain of others' intentions; four, survival is the primary goal of states; and five, great powers are rational, strategic actors. He claims that these assumptions lead to a world where states fear one another and must follow the dictates of power politics to survive.[1] The anarchic system means that a state's power alone is the ultimate guarantor of its continued existence. In some cases, threatened states may be aided by others who benefit by providing that aid, most commonly through defeating the power that threatens them as well as the state to whose aid they come. That is, the balance of power operates as a mechanism that block a state seeking dominance through the self-interest of states that balance against their common threat. As neorealists stress, the balance of power does not work automatically, and states cannot assume that others will come to their aid when they are threatened by an aggressor. Consequently, some states seek to increase their power, even through

war if necessary, creating a new threat to the security of other states. In all these decisions, states choose on the basis of a calculation of power and interest. They balance against a threatening state because they have the power to do so and the interest in stopping its expansion. They build arms to secure their state against external threats. They "pass the buck" when they think can successfully divert the threat to another state. Neorealists place no value on normative commitments to defend others, as in a system of collective security. If one state fights to save another, it does so because it is in its interest to do so. To quote Mearsheimer, "Realists...believe that institutions [defined by Mearsheimer as "a set of rules that stipulate the ways in which states should cooperate and compete with each other" [Mearsheimer, 1995 #436], 8] cannot get states to stop behaving as short-term power maximizers. ([Mearsheimer, 1995 #435], 82)"

Realists then believe that the necessities of international competition force states to act the way they do. States that deviate from the demands of such competition pay a price, which in the extreme could be their elimination from the system. Realists do not see any credible alternative to the international system that they describe (even if they disagree about precisely its consequences). As Mearsheimer puts it, "No amount of cooperation can eliminate the dominating logic of security competition. Genuine peace, or a world in which states do not compete for power, is not likely as long as the state system remains anarchic.([Mearsheimer, 2001 #438], 53)"

Constructivists believe that norms and identities shape international politics to the extent that they constitute power and determine interests. They link the two concepts of norm and identity; norms are "collective expectations for the proper behavior for a given identity ([Jepperson, 1996 #437], 54)," while identities are "images of individuality and distinctiveness held and projected by an actor and formed through relations with 'significant others.' [Jepperson, 1996 #437], 59" I focus here on identity as social role because that concept of identity naturally links to norms and it is more

widely used by constructivists in international relations.[2] Social roles prescribe norms of conduct for the given role, and actors share an understanding of who holds what role for a given situation. The shared understanding of which role is active when is essential because actors have multiple identities. A simple illustration may help. I hold several identities; one is the father of my children, another is a university professor who teaches undergraduate students. Both of these social roles prescribes norms of acceptable and unacceptable behavior, and I and others know when I am supposed to be acting in which role by the current social setting. Acts that are appropriate for one identity, say, inviting my children to sit in my lap while we talk, are completely inappropriate for the other. Returning to international relations, constructivists describe how the identities of states and the norms attached to them have and could change over time. Wendt ([Wendt, 1999 #430]) criticizes the realists as assuming that the role of states as suspicious competitors cannot be changed; he argues that states could hold identities as enemies, rivals, or friends, all of which entail different norms of international relations, under anarchy.

Scholars of international law often separate along parallel lines focusing whether such legal obligation to that law restrains states. Realists, like Jack Goldsmith and Eric Posner ({Goldsmith, 2005 #528}), argue that international law and compliance with that law by states is a product of their interests; "It [international law] is not a check on state self-interest; it is a product of state self-interest." Their position is not that international law has no effect, rather the beneficial effects of international law in clarifying state positions and aiding states in reaching mutually beneficial agreements. Law exists because states see it as a way to advance their interests, and so it exerts no independent "pull" toward compliance. Most scholars of international law believe, however, that international law creates obligations which do bind state action, the parallel of the constructivist position that norms appropriate for an actor's identity help to constitute that actor's interests.

Thomas Franck ({Franck, 1990 #529}) argues that international law gains legitimacy and so the power to obligate states to comply with them through four mechanisms: one, determinacy–a clearly understood rule aids transparency in judging what obligations are and when they have been met; two, symbolic validation by states reinforces their acceptance of a legal standard and the values it codifies; three, coherence–a rule which is applied consistently in accord with the principles motivating it both reflects existing legitimacy of the rule among states and reinforces it; and four, adherence–the extent to which law is both supported by secondary rules that explain how to apply it and embedded within a larger structure of law to which it adheres. Franck does not argue that the compliance pull of international law is absolute, only that it is exists and strengthens with the legitimacy of that law as measured by his four mechanisms. States then comply in this view both because they identify the norms encased in legitimate law as proper and because they wish to affirm their identity as a lawful state with the privileges and obligations that come with that status.

The intersubjective nature of identities and the norms they entail is essential for them to operate as social structure. Actors cannot choose their identity freely for a given situation because otherwise, identities and norms would not shape actors' choices. I have a large collection of baseball caps from the days when I attended games in many different cities, where the caps allowed me to assume the identity of a fan of the home team regardless of my true loyalties. If identities were like baseball caps, then actors could change them freely at their convenience and identities would not constrain actors in the same way that I could avoid any unpleasant consequences that might follow from being a fan of the visiting team in the midst of hometown fans who had been drinking by wearing a cap of the home team.[3] Because identities are social phenomena–other actors recognize an actor's identity for a given situation and impose its obligations upon that actor, an actor is not free to choose whatever identity suits its purposes of the moment. This is not to say that identities do not

change; indeed, the whole point of constructivism is to explore how identities and their norms are socially constructed. Rather, the intersubjective nature of identities and norms does not allow an actor to change them freely, and so they shape and limit what it can do. Furthermore, understanding identities and norms becomes critical for understanding how international politics works because these institutions shape everything about it.

The Game-Theoretic Critique of Realism and Constructivism

I have briefly laid out the game-theoretic approach to political institutions. If institutions both create institutional equilibrium–that is, behavior given the institution–and equilibrium institutions–the existing institutions are not changed because no set of actors both wants to change them and can do so, then political institutions depend on the two elements of equilibrium in game theory. First, the behavior under the institution forms a collection of mutual best replies, calculations of self-interest where no actor wishes to change his or her strategy given the strategies of the other players. Second, the players share a common conjecture that they are playing that equilibrium of the game. The common conjecture is critical when a game has multiple equilibria because then the players' best replies–the moves that are best for him or her–depend on which equilibrium the players understand that they are playing. The common conjecture that allow the players to understand which actions are in their interest; this shared understanding of how one another will act allows all players to determine what actions are in their own interest. Institutions then are a marriage of self-interest and a shared understanding where both are essential and neither piece provides a complete picture on its own.

Game theory's fundamental critique of realism and constructivism is that both are incomplete; each presents one side of the coin of political institutions. Realists correctly point to the

importance of calculations of self-interest, while constructivists give pride of place to shared understandings. But neither of these essential factors of political institutions can operate without the other. They are fused together in the logic of political institutions.

The focus on just one of these two key constituents of political institutions explains the sterility of debates between realists and constructivists. Each side argues that its chosen factor provides an explanation of the phenomena in question, with the end result that the two talk past each other. For example, realists and constructivists have debated whether the normative structure of Medieval Europe meant that the character of international politics was fundamentally different from that of the state system that began in early modern Europe. John Ruggie ([Ruggie, 1983 #444]) began the debate in his review of Waltz's *Theory of International Politics* by arguing that the medieval system of rule through lord-vassal relations generated a fundamentally different system than the modern international system defined by sovereignty and private property. Markus Fischer ([Fischer, 1992 #443]) responded for the realists by pointing out that medieval lords frequently broke the rules of their system and that because their military power was the ultimate arbiter, their politics were those of actors in an anarchy. Rodney Hall and Friedrich Kratochwil ([Hall, 1993 #441], 491) responded, summarizing their criticism with the terse comment, "we do not find Fischer's argument convincing or even suggestive." Benno Teschke ([Teschke, 1998 #439], 333) summarized the whole debate; "If Fischer is faulted for drawing on a one-sided literature stressing interests and structures, it is not clear why we should fare better with an equally one-sided literature stressing subjectivities [i.e. Hall and Kratochwil's constructivism]...." Because each side has one-half of the answer, both can quite correctly point out that their half provides an account of the politics of medieval Europe while also pointing out the weaknesses of the other side's account. Consequently, they talk past one another.[4]

The specific problem in this debate about medieval Europe reflects the underlying problems posed for both realism and constructivism by a game-theoretic understanding of political institutions. The realists' claim that shared understandings as institutions cannot lead actors to overcome the problems of anarchy can be read as a claim that any game that satisfies their assumptions must have a single Nash equilibrium. This is an exceptionally strong claim. Otherwise, behavior in any game of the world the realists describe would depend in part on which equilibrium the players were actually playing. The common conjecture as an institution then could allow them to mitigate the effects of anarchy by directing them to compete in ways that limit that competition. A more generous reading of the position of the realists is not that their view of the international system necessarily entails a unique equilibrium, only that all equilibria of such games are "competitive" in nature; equilibria with cooperative behavior cannot exist. But even then, there are differences among realists about how "competitive" the system is; Charles Glaser ([Glaser, 1992 #447; Glaser, 1995 #446]), for one, believes that states can overcome some of the effects of anarchy through cooperation. Norms then could channel interstate competition in less conflictual directions and so mitigate anarchy. The key point here is that games with multiple equilibria mean the actors have different ways to compete or cooperate and their common conjecture about which equilibrium they are playing is essential to determining how they act, even though all continue to pursue their self-interest as they understand it within that equilibrium.

The game-theoretic critique of constructivism concerns the range of behavior that norms and identities can induce. Can norms and identities induce any pattern of behavior, or put another way, if you socially construct it, will they come? Constructivists do not address this point directly, although the precedence they give to norms and identities over interests suggest that any pattern of behavior could be supported by the proper set of norms and identities. A game-theoretic view of

norms and identities clearly limits the set of behaviors that could occur; even if a game has multiple equilibria, most combinations of strategies are not equilibria of that game (except for highly unusual games). Self-interest limits the possibilities of what norms and identities can induce actors to do. States may be able to play out the consequences of anarchy in different ways with important consequences for international politics, but they cannot make whatever they wish out of it.

A game-theoretic approach may also help us deal with two issues in determining how norms operate. Constructivists commonly analyze the nature of norms and identities, explaining how they constitute international politics and why the system is different under different norms. Demonstrating that norms matter faces two related problems of empirical judgment. *Circularity* arises when norms and identities are inferred from observed behavior and then used to explain that behavior. Because norms and identities are unobservable, we do not have evidence of them beyond how actors behave, including their public justifications as actions. Constructivists heavily rely on justifications of actions to reveal identity, norms, and when actors consider them legitimate (cf. [Kratochwil, 1989 #448]). I do not deny that justifications can be useful, but they must be considered to be strategic acts to be interpreted properly. Game theory can help us think through the complexities of how principles of proper behavior could be used by actors in their public justifications and so reveal how such acts reflect whether such principles are held.

Circularity would be less of an issue if actors always complied with the norms for the relevant identity. *Inappropriate behavior* poses the problem of judging whether norms influence behavior. Realists commonly critique constructivist arguments by pointing out cases where the actors do not follow the prescripts of the putative norms (cf. [Krasner, 1999 #457]'s critique of sovereignty). Exceptions exist to sovereignty, feudal lords violated their oaths sometimes, and one still hears occasionally of male professors inviting their female students to sit on their laps. As

constructivists point out correctly, the existence of some violations of norms does not mean that norms have no effect. However, disentangling the puzzle posed by inappropriate behavior forces us to spell out when actors will see such violations as being in their interest. One of the central goals of this book is to explain when the laws of war have been violated and when they have been observed. That explanation requires both the shared understanding of the norms of such conduct and the calculations of state interest in the light of those norms.

Game theory does not solve either problem; it gives us a tool to model norms and identities formally and then derive how actors should behave if they held them. The precision of the analytic tools of game theory can help us cut through these problems to arrive at clear tests of when actors should observe norms and when not. These tools also allow us to ask what would happen under alternate sets of norms by examining the full set of equilibria of the game in question. In the words of Robert Powell ([Powell, 1999 #449], 29), "formal models provide a kind of accounting mechanism that enables us to think through some issues more carefully than ordinary-language models can." By thinking about norms and identities as being reflected in the common conjecture of the game in question, we have a way to model how actors would act if they held a particular set of norms and identities, addressing the circularity problem, and then derive how they should act, addressing when inappropriate behavior occurs. Game theory then can provide us with a tool for thinking about how norms can operate as political institutions, and now I turn to discuss the game-theoretic approach to political institutions in detail.

Political Institutions as Equilibria

Political institutions serve as the "rules of the game" for political actors ([North, 1990

#455]). They embody the collection of considerations beyond the control of an individual–norms, organizations, and formal processes and rules for instance–that impinge on his or her choice of action. Political action depends both on what an actor wants to accomplish and the institutional setting that he or she faces. In democracies, the formal rules of drafting and passing legislation affect how members of a legislature pursue their policy goals; the rules of electoral competition affect how parties and candidates seek office. Because such rules are codified, their consequences for politics are clearer than the effects of international institutions. In this section, I use domestic political institutions to illustrate the logic of all political institutions precisely because those examples are easier to grasp. This book seeks in part to show to show how international law can operate as an institution. The parallel between domestic and international institutions can clarify how international institutions work.

Political institutions are designed to make political life and economic exchange regular and predictable ([North, 1990 #455]). Actors may wish that one another will act in a particular way when they create an institution, but they will act in accord with the incentives that the institution produces. Because the actors themselves fill the roles in the institution, only they can make the institution work. The question is what is in each actor's best interest, given the incentives that the institution creates and the actions of the other actors.

Actors also choose institutions based on the effects of those institutions. Political institutions exist at the sufferance of the actors that make up and support those institutions. If all actors believe that they would be better off with other institutions, we must ask why they do not adopt those institutions in place of the current ones. Political institutions do change; we must also ask then why they generally do not change.

These two questions form the twin themes of this section. Shepsle ([Shepsle, 1986 #450])

described them as the parallel questions of institutional equilibrium and equilibrium institutions. Given the existing constellation of institutions, what will actors do? Then given a choice among the different behaviors that competing institutions could produce, which set of institutions do the actors choose?

Institutional Equilibria

Institutions describe rules that actors are to follow, the roles that the actors fill, and prescribe a series of punishments if an actor fails to follow the rules. For example, the Constitution of the United States describes a set of powers for the President and who is eligible to hold the office and how one becomes President. It also describes a series of measures, such as impeachment, that others can take if the President violates the terms of his office. A successful institution relies on the actors themselves following and enforcing the rules and roles of the institution. In the summer of 1974, Richard Nixon resigned the Presidency of the United States in the face of pressures to remove him from office through constitutional procedures. He could have called on the 82nd Airborne Division to fly to Washington and arrest the Congress. Indeed, such a step would have been the natural next step in many countries. In this case however, the commander of the 82nd Airborne would have almost certainly refused to follow such an order. There is evidence that other government officials reminded military officers and each other of their constitutional obligations in case of "unusual" orders from then-President Nixon.

The political institutions of the United States worked in this case. Because other actors followed their roles and the rules of the system, there was no point in Nixon attempting to deviate from the constitutional limits of his powers even in light of the collapse of his administration. This case sheds light on the idea of institutional equilibrium; what incentives does an institution produce

for actors, and what stable collections of behavior do those incentives produce? Successful institutions induce stable behavior and incentives that support that behavior. Unsuccessful institutions fail to provide the incentives needed to check defections from the prescribed order.

Equilibrium Institutions

Institutions are meant to persist over time; their value lies in their persistence. However, actors are free to change institutions at any time. Because institutions affect outcomes, some actors may always wish to change institutions. A successful institution must ward off these demands for change. Actors opposed to a change must have the ability to defend existing institutions for those institutions to persist. Sustenance of an institution then must also be an equilibrium.

One way to begin thinking about the problem of equilibrium institution is to consider the parallel question of their origin. The "constitutional convention" model is an approach to the origin of institutions. Actors band together to form new institutions because such institutions are in the interest of all or at least better than the current situation. The constitution they agree on is ideally directed not at the immediate issues of the day but on creating institutions that will solve their common long-term problems. For example, the Constitution of the United States created a federal system that would eliminate the interstate rivalry of the Confederation while retaining important powers in the states. It also created a division of powers that prevented domination of the federal government by any one branch of government.

Such agreements to form institutions are necessarily incomplete. Future contingencies cannot be known perfectly in advance, so institutions must be flexible enough to deal with new developments. For example, the GATT system changed over time in response to its own successes. As tariff barriers have been reduced, non-tariff barriers grew in their place. The Uruguay Round of

GATT negotiations began to adapt existing GATT institutions to deal with non-tariff barriers. Institutions are incomplete contracts; they provide ways to reconcile the divergent interests of actors but do not specify what the precise outcome must be.

The above reasons suggest that institutions must be flexible enough to deal with changing conditions but not so flexible that they are overturned by the slightest opposition. Think of an institution as a dynamic contract among the actors. The way the institution functions changes over time as conditions change. Even institutions that are created by conscious design often change dramatically over time. The Treaty of Westphalia established the basic conditions of sovereignty in 1648. The central idea was that each prince could determine the religion of his own territory. This compromise ended religion as a primary motivation for war. But as religion faded as a central issue in world politics, the institution of sovereignty also changed. There may have been more change in the idea of sovereignty in the 150 years from 1648 to 1798 than was introduced by the Treaty of Westphalia itself ([Krasner, 1993 #459]). Sovereignty evolved to deal with new problems between states, leaders, and their subjects.

This flexibility provides one reason why institutions can persist. The choice is not simply between continuing the current system and replacing it with a completely new system. Revision is also possible. Many successful institutions contain the elements of such revisions automatically within themselves. The Constitution of the United States has been reinterpreted by each generation to deal with the problems facing that generation. Provided such revisions do not overturn the existing institutions, they form an important source of stability.

Institutions also gain stability because the actors must propose an alternative, not merely eliminate the current system. Institutions, like all of politics, produce winners and losers. The losers typically wish to change the system if it does not provide an opportunity for them to become

winners. One of the strengths of democracy is that it always provides an opportunity for losers to become winners ([Miller, 1983 #458]). But the current winners are likely to resist such changes. The winners and losers must agree on a new system and face a difficult problem of distribution. They hope the new system will persist, which raises the stakes in the negotiations over a new set of institutions ([Fearon, 1998 #423]).

Institutions further gain stability because actors invest their political skills and futures based on a set of institutions. Actors develop capabilities that will help them succeed within the existing institutions. For example, some firms develop extensive ties with government bureaucrats in systems where corruption is commonplace. It is part of the cost of business, and effective bribery gives a firm a competitive advantage. Understandably, such firms are likely to resist changes that would clean up corrupt systems. They would lose their carefully nurtured competitive advantage.

Successful institutions then are like capital investment.[5] Firms do not always replace their capital stock whenever an improvement in technology is available. New capital is expensive, and old capital is still productive. Replacement disrupts production, imposing a real cost on a firm. Capital is replaced when the improvement is large enough to justify the financial cost and the disruption of production. Similarly, institutions are disrupted during the process of renegotiation. Actors lose the institution-specific skills and abilities that they have developed over time. A more efficient set of institutions will not always be adopted if the gain over the present institutions is not large enough to justify the costs of disruption.

The game theoretic approach subsumes the questions of institutional equilibrium and equilibrium institutions ([Schotter, 1981 #433; Calvert, 1994 #452; Calvert, 1995 #451]). If an institution is thought of as the equilibrium of a game, then it answers both questions. The behavior in the equilibrium is self-enforcing, so the question of institutional equilibrium is met. We can

examine all possible equilibria to determine why actors might choose a particular equilibrium over others, the question of equilibrium institutions.

Institutions help actors understand and predict one another's behavior. Put another way, they embody the common conjecture necessary for the players to play an equilibrium in game theory. When strategies are common knowledge, then all players know that their actions are best replies. The institution has regularized their behavior and produced predictability that would not be present without it.

At the same time, power and interest are still central to understanding behavior under institutions. The actors still continue to pursue their self-interest; they play best replies. But the institution directs them to play a particular combination of best replies.

The game theoretic approach makes two particular points for international relations theory. Contrary to received wisdom, there is no difference between the explanation of domestic and international institutions. Neorealists postulate that international politics is anarchy and domestic politics is hierarchy. The counterclaim common to the constructivists is that the anarchy of international politics is more orderly than the neorealists believe (e.g. [Bull, 1977 #428]). My point is the exact opposite; domestic politics is also anarchy. The actors can only use each other to enforce domestic institutions; they cannot appeal to some outside power to enforce defections from the accepted order. All political institutions are tenuous, and their permanence is always something that must be explained. If institutions persist and succeed in enforcing their principles and rules, it is because the actors can enforce them on one another. International relations theory can learn much about international institutions from the study of domestic institutions.

Second, multiple institutional arrangements are always possible. The questions that drive men and women to form political order do not have single solutions. The games that underlie these

problems have multiple equilibria. Alternative political institutions are always possible, and such changes make some actors better off and others worse off. Further, the exact consequences of new institutional arrangements is unclear. Perhaps change is for the better and perhaps not.

This last point is the necessary consequence of multiple equilibria in games. Multiple institutions are possible in most social settings, with resulting different behaviors. This point should be obvious if we think of domestic institutions. There are many different forms of government. Some work better than others, and some people are better off in one than another. This point is more difficult to see in international institutions because they do not vary cross-sectionally as governments do. But they do vary over time, demonstrating that a variety of international institutions is possible. But then how do actors choose among the possible institutions?

Returning to the question of international law as a political institution in international politics, this view also helps to clarify the role of international law in international politics. Realists often argue that law is epiphenomenal because the powerful can shape the law to serve their interests. Undoubtably, the powerful do have the ability to shape the law, but law still constrains how the powerful pursue their interests because it persists and is not constantly changed to suit the interest of the moment. In the terms of this institutional argument, the selection of equilibrium to be played is influenced by power because the institution must be in equilibrium within the set of institutions. Once established however, the equilibrium/institution shapes how the actors pursue their interests; to do otherwise is not in that actor's interest given the equilibrium being played.

There are many reasons why institutions can be in equilibrium. Not all are; failure of institutions is not unusual in politics. Institutions succeed if they produce the right incentives for actors to function and the actors do not wish to shift to a new system.

Law as an Institutional Equilibrium

This book examines the laws of war an international institution in light of the general argument about political institutions just presented. International law can be thought of as the codification of the common conjecture underlying the equilibrium that international actors are playing. It shapes the actors' expectations of how they will play the game and allows them to anticipate one another's actions and reactions. Law goes beyond norms of conduct by adding precision to the terms, a sense of legal obligation to the provisions, and the possibility of enforcement through domestic legal and political process. The treaties that embody the laws of war then strengthen and refine the norms of proper conduct during wartime that precede them. These treaties have been negotiated and then ratified by states that wish to make that law binding on themselves. Finally, such treaties are resistant to change, and so operate as equilibrium institutions; common conjectures of which equilibrium will be played are also resistant to change because as shared understandings no actor can change them acting alone.

Law adds precision to norms as the common conjecture requires precision about behavior in all possible cases. An equilibrium specifies what each actor will do in all possible situations, including those that should not occur under that equilibrium. The common conjecture then requires that the players share that understanding of how they will act even when some actor does not follow the prescribed behavior.[6] General normative principles, such as the protection of soldiers who have surrendered, lacks the precision of the Geneva Conventions concerning exactly how prisoners of war must be treated. Law in general moves beyond norms by adding precision; the law on homicide moves beyond the general norm of "Thou shall not kill" to explain the set of crimes which homicides may fall into, how to judge which of those crimes a particular killing is, including the

possibility of justifiable homicide, and how those crimes should be punished.

Law also creates obligation even when the parties do not fulfill their obligations. In international law, such obligations are formally binding when states ratify the relevant treaties. Common conjectures shape how an actor acts even if it does not agree with it. Because others will act in accord with the common conjecture, an actor is not free to disregard the consequences of its behavior which are spelled out in the common conjecture. In this sense, common conjectures create obligations for players even though they, like people under a system of law, are free to violate those obligations subject to the consequences that follow from such violations. Many students of international law argue that customary international law binds states even when they have not formally ratified it or even when it has not been negotiated into the form of a treaty. Customary international law can be seen as the common conjecture behind stable patterns of behavior that states have converged to over time without a formal treaty. Again, such law would have binding power on international actors to the extent that the system of behavior identified with that custom forms an equilibrium.

I focus, however, on formal treaties over customary law in this project. The dual process of formal negotiation followed by ratification means that the standards of the treaty and its acceptance by states are clearer than those in customary international law. The single public treaty produced through negotiation means that all states know what the standard is even if they do not accept it; ratification is public evidence that the ratifying state has accepted that standard. Formal treaties help to address the problem of circularity facing explanations based on norms that I discussed earlier. We have a text that explains the standard independent of the acts of the states in question, and we have a clear public signal of which states have accepted the obligations of that standard through ratification. I can then match behavior against the standards of a treaty to determine when states

have followed their standards in the laws of war.

Of course, behavior may differ from the standard because the parties do not wish to comply on their own and that standard does not produce sufficient incentives for the parties to comply. The formal model of the laws of war that I present in Chapter 3 provides a logical structure for thinking about incentives to comply. I use the ideas in that model with a general discussion of reciprocity to discuss the practical issues in compliance, leading to testable hypotheses about when states should comply and how bad their behavior is when they do not comply.

The formal model of the laws of war is likely to have many equilibria, and so the common conjecture is critical to how the players will play the game. The common conjecture details which strategies are unacceptable, meaning the players are free to use any other strategy as they fight the war. Either side has the option of using a banned strategy, with the consequence that all banned strategies will become available after such a violation of the underlying agreement. The common conjecture then specifies acceptable and unacceptable actions and the consequences of unacceptable acts. The model allows me to derive when sides are willing to break the convention, leading to hypotheses about when violations are more likely to occur. Compliance is more likely to occur when states do not believe they can gain by breaking the prewar convention. The success of the laws of war then depends on the strategic incentives warring parties have to honor them during wartime. As the reader will see, the full range of incentives both to honor and violate these laws is wide, and simple generalizations do not follow about compliance, violations, and atrocities.

Law then is more than just a collection of normative rules; it embodies a strategic logic of action. All law creates incentives for actors, shaping their actions. Successful law, particularly at the international level, requires a marriage of moral principles with strategic logic if actors are to follow those principles. Two examples, one from domestic law and another from sports, may help

clarify this point. The legal systems of the United States and Great Britain draw on a shared common-law tradition, but differences in their specific laws produce different behavior both in the legal system and within its shadow. For example, it is more difficult to prove libel in the United States than Britain, as British defendants need to prove that they had good reason to believe their statements were true, while American defendants need merely prove that they did not know their statements were false. Not only does this difference change what libel cases are pursued through the courts, it also changes how news organizations collect, document, and justify their stories as they are prime targets for libel suits. British courts, unlike American ones, also allow successful defendants to recover their legal costs from the plaintiff but do not allow the plaintiff's lawyers to collect contingency fees as payments for their services. These changes reduce the ability to bring suits for legal damages that involve novel legal theories, such as litigation against the tobacco industry in the United States was at one time, which is not likely to succeed on its first attempt.

Professional sports are regulated by rules which are enforced by neutral parties–referees, umpires and the like. Beyond the written rules of these games, professional sports often have unwritten conventions of behavior that can loom as large as the written, enforced rules. Professional hockey in North America is the only professional sport (outside of combat sports like boxing) were players who fight are not ejected from the game at hand. International hockey and hockey in Europe follows the lead of other professional sports, such as baseball and soccer, in ejecting players who fight during a game. North American hockey has codes of proper fighting where two players square off in fisticuffs with the fight ending once one player drops to the ice. Further, fights typically involve mutual consent between the fighting players with recognized signals to express an invitation to fight and the willingness to accept that invitation. These codes are not written down, although they are enforced at times by suspensions for players who transgress them greatly. Fighting is

common in North American hockey, and some players owe their position on their teams due to their willingness to fight. Fighting in international hockey is rare but unrestrained when it does occur. When Russian players first began to play in North America professionally, there were a number of fights where Russian players broke the unwritten codes of acceptable fighting, drawing suspensions. In international hockey, fighting is very rare but can be catastrophic when it occurs. The 1987 World Junior Championship game between Canada and the Soviet Union had to be ended in the middle of the third period when a massive brawl broke out involving all the players of both teams. The officials of the game had to turn off the lights in the arena to end the brawl. Law, like these unwritten conventions, induces strategic dynamics of its own. Actors are pursuing their self-interest as they understand it in the shadow of the law, and the law shapes what they perceive as their self-interest and so how they act. Self-interest and shared understandings of appropriate actions are not separable in such a system as they are necessarily knitted together.

The law can be written many ways with different consequences for how actors will act. The common conjecture, that shared understanding about how one is supposed to act, is how the actors know which equilibria they are playing. Common conjectures act as structure constraining individual choice because they are shared understandings, requiring assent across actors to be changed. At the same time, the common conjecture also acts like what constructivists call constitutive norms–norms that describe what entities are actors and what actions they are allowed. As we will see in the next chapter, a common conjecture can differentiate actors who are identical in the description of the game; it can make some actions acceptable for some actors but not others. Again, such roles operate as social structure because an actor cannot change these roles by itself. The players would be able to change these structures if they all agreed to shift to another equilibrium of the game. Rarely will all actors be willing to do so. Game theory then provides a way to think

about shared understandings of norms and identities as social structure.

The Essential Social Nature of Game Theory

This argument relies on a view of game theory different from that commonly held and taught. Game theorists have focused on the calculation of mutual best replies and the identification of equilibria because we have mathematical tools to do so. The logic of the enterprise is straightforward; write down a game that one believes represents the social situation of interest, find at least one equilibrium of that game, and then interpret the behavior in that equilibrium to explain behavior in the situation under examination. If there is a fit between the equilibrium and observed behavior, we then implicitly assume that the players/actors hold the common conjecture underlying that equilibrium. Although we do look for multiple equilibria sometimes, only rarely are multiple equilibria treated empirically either by looking for regularities in behavior that hold across all equilibria or considering conditional hypotheses of multiple patterns in the data. The latter would occur when the players play different equilibria across the cases and we cannot distinguish when the different equilibria are being played except by observing what the actors did in a given case. In all of these analyses, calculation of mutual best replies takes precedence over determining what is the common conjecture. It is this approach to analysis which has led many constructivists to assert that game theory is incapable of dealing with norms and identities because they believe that games must assume identities and interests as given.[7]

Thomas Schelling first proposed an alternate view of game theory's ability to explain social issues that gives precedence to common conjectures over best replies ([Schelling, 1960 #376], Ch. 6), although he did not use those words. Schelling addressed bargaining, arguing that simple

bargaining games had a continuum of equilibrium, so knowing which equilibrium was being played was far more important than understanding the logic of mutual best replies within that equilibrium. He argued that cultural features that made a particular equilibrium stand out from the others in the minds of the players would prove to be the real keys to predicting how players would play a game. Schelling's argument, like mine, gives pride of place to the common conjecture; it also, unlike my argument, makes the common conjecture more important than the strategic dynamics of mutual best replies. One reason for this is that Schelling chose situations such as bargaining or simple coordination where the strategic dynamics were trivial and gave rise to an infinite number of equilibria. Once we turn to a situation, like the restraint of violence during wartime, where the strategic dynamics are more complicated, those strategic dynamics restrict the set of equilibria and therefore the common conjectures which could act as institutions.

Like Schelling, I give common conjectures a central place in game theory. In this sense then, many have failed to grasp the social nature of game theory. It is truly a theory of interdependent decision; what the actors think about what one another will do is as central to their own calculations as their preferences over outcomes. Equilibrium in game theory is a social theory constructed around individual actors. Action by individuals isolated from the context of their interaction with the other players only makes sense in trivial games or those where the player has a dominant strategy.[8] Equilibrium concerns stable shared expectations based in calculations of self-interest. The shared expectations then shape how the players understand their interests and how they can advance those interests. In that way, shared understandings can operate as institutions. The burden of this book is to demonstrate that this argument can be used profitably to understand an important, real phenomena–the laws of war.

The Plan of the Book

Several years ago, a satire on the field of international relations, entitled "A Medieval Sociology of International Relations" circulated widely through email.[9] The elite scholars at the Ivy League universities were the nobles whose only skill was the ability to engage one another in paradigmatic combat; the mass of scholars doing quantitative work were the peasants working hard to assemble their data and publish their results in the slight hope that they might survive the rigors and whims of academia, and the formal theorists were the clergy with their arcane language and impenetrable theories. Although I am one of the high officials of the church of formal theory in international relations, I hope that this book will talk to all three classes in the medieval world of the study of international relations. For the nobles, I offer them sweeping arguments about the role of norms in the international system that might end their eternal paradigmatic wars. For the peasants, I too have toiled in the fields of data collection as I test the conclusions of my arguments against a data set of compliance with the laws of war during the 20th century. For the clergy, I hope I offer them enough formal theory that they will not declare me a heretic for my deviations from the Holy Theory.

This introductory chapter has laid out the broad argument. Chapter 2 discusses common conjectures in game theory and how they can be used to represent norms and identities as those concepts are understood in international relations. I discuss theory behind common conjectures in the abstract, but most of the chapter examines a variety of different equilibria of iterated Prisoners' Dilemma to show what the common conjecture does in each of those equilibria and how the shared understanding in that common conjecture works like norms and identities. Iterated Prisoners' Dilemma is particularly useful for this discussion because it has wide ranges of types of equilibria

with very different behavior; it is also useful as a model of reciprocity. My discussion of the types of equilibria possible in iterated Prisoners' Dilemma then allows me to show the range of possible forms of reciprocity and how they vary. Reciprocity under noise–the inability to fully ascertain what the other side has done–is important for understanding the laws of war in practice.

Chapter 3 offers a model of the laws of war based on a strategic model of war. The laws of war are represented as a prewar agreement not to use certain strategies during wartime. The sides enforce their deal through the threat to remove these restrictions on strategies if either violates their agreement. In general, there is a wide range of prewar agreements that could be enforced, so the common conjecture about which agreement is in force is critical to any restriction of violence during wartime. I discuss the laws of war generally and the strategic problems underlying them. Noise introduced by violations by individuals is critical to the practical implementation of the laws of war. I pull together the discussion of the laws of war both in the abstract and in practice to arrive at a set of hypotheses about how and when they are violated. Chapter 3 appears in dual form; the first Chapter 3 presents the argument in words with little mathematics, while Chapter 3' immediately afterward provides the formal details of the model.

Chapter 4 tests these hypotheses against a data set of compliance with the laws of war during the 20th century. I examine the effects of legal obligation through ratification of the relevant treaties, the political system of the country in question, and the relative power of the warring sides among the variables tested. The results support reciprocity generally and specifically the key role of variations in noise across issues in determining compliance. Legal obligations have little effect on their own; instead, law enters the picture by restraining states that would be unrestrained if they were not obligated and by clarifying what acts are violations, making reciprocity more effective as a tool of enforcement. I also examine the question of the timing of violations during a war and test for

audience costs for first violations. As with Chapter 3, Chapter 4 appears in dual form, the first presenting the results of the statistical analyses in graphical form to make them accessible to all readers, the second presenting the details of the analyses common presented in quantitative international relations.

Chapter 5 tests the hypotheses about compliance by examining the issue of prisoners of war in detail. My focus is on the World Wars where there was substantial variation in how states treated prisoners. Reciprocity emerges as important and reinforced by legal commitments, and reciprocity on the battlefield becomes an important source of enforcement. Ratification of the relevant treaties operates as a signal of intent during wartime. I also consider cultural explanations for treatment of prisoners of war and explain why I reject them in favor of reciprocity. The case material in this chapter complements and deepens the statistical tests in Chapter 4.

Chapter 6 briefly discussions three issues in the laws of war that have received more attention in the international relations literature: aerial bombing, chemical weapons, and submarine warfare. I do not analyze these issues in as great detail as I do prisoners of war, mainly seeking case support for the results of the statistical analysis and countering explanations for compliance that others have proposed.

These chapters explain how the laws of war work once in place; they seek to explain how they operate and how we can know that such norms have actual effects of behavior. Chapter 7 turns to the question of how norms change over time, again using the laws of war as the subject. Often discussion of norms jump immediately to the question of how they change over time. Realists argue that norms and identities do not matter because they reflect power and are changed to suit the ends of the powerful; constructivists assert that they matter and ask how they develop over time. I recognize these questions as important, but a demonstration that norms and identities actually shape action

comes first. Having shown how the laws of war matter, I draw on theories of where common conjectures come from to analyze how norms and identities change. I use results from evolutionary game theory to outline a theory of the rational evolution of institutions, applying that theory to both the laws of war and the concept of sovereignty.

Chapter 8 concludes the book by showing the importance of the laws of war as an element of structure in the international system. I show the critical role of agreements on how to fight in undergirding the ways actors channel their conflicts. I use the laws of war in ancient Greece and medieval Europe to illustrate this argument. Finally, I turn to current issues in the laws of war, discussing the criminalization of such laws and terrorism as violations of those laws.

Endnotes to Chapter 1

1. I say "claim" because it is not clear to me that any of the conclusions of realism follow from these assumptions alone; they require additional unstated assumptions about international politics. As Mearsheimer points out, other realists claim that these shared assumptions lead to a world of defensive realism, not his own offensive realism. This discrepancy suggests that the logic of at least one set of realists is incorrect or, more likely, that both sets of logic are incomplete because they assume more about the character of state competition than just these five assumptions.

2. I do not consider intrinsic identities of individual actors if they are not recognized to entail norms of behavior. I also collapse Wendt's four types of identities–personal or corporate, type, role, and collective ([Wendt, 1999 #430], 224-233)–into one because they all share the two key elements I discuss: norms linked to each identity and a shared understanding of which actor has what identity in what situation.

3. Having attended Dodger-Giant games in Candlestick Park, I have seen the threat of violence present in the fans of the bucolic sport of baseball.

4. Further, it is not helpful that both sides judge the validity of their argument by its ability to provide a historical account of generalized facts of the period. At no time did I ever have a clear idea how we might separate their arguments with evidence. To be fair, the available evidence on medieval Europe may make rigorous tests of arguments impossible, but we should at least get a clear idea of what evidence could separate the two views of medieval politics.

5. I would like to thank Barry Weingast for this analogy.

6. In the interest of a clean presentation, I do not discuss varieties of equilibria where the players can hold discordant beliefs about what would happen off the equilibrium path.

7. An example of such arguments can be found in Jepperson et al. ([Jepperson, 1996 #437], pp. 41,

43, 59) although they do qualify their criticism in important ways.

8. A player has a dominant strategy if its payoff is always higher than that produced by its other strategies against all strategy combinations of the other players.

9. It can be found at http://www.gotterdammerung.org/humor/medieval-ir.html. I thank Randy Siverson for directing me to this site.

Chapter 3

The Laws of War in Their Strategic Context

Chapter 2 made the general argument that the common conjecture of an equilibrium embodies a norm, and so norms can be profitably studied using game-theoretic models. Such study requires finding the full range of equilibria of a game representing the process generally, evidence about the common conjecture in the situation under study, and then performing independent empirical tests of hypotheses on behavior under that equilibrium. As I noted in the last chapter, few applications of game theory to international politics perform all three steps; it is common to find an equilibrium which matches reality to some degree. Multiple equilibria are rarely explored, and the common conjecture is typically assumed to exist given a fit between the model and observed behavior.[1] In this sense, game theory models have rarely exploited the approach I describe for explaining norms.

This chapter begins the process of the three steps above. The central focus of the chapter is a model of the laws of war which has a very large number of equilibria. The common conjecture then is critical to understanding how states will fight according to the model. The model represents war between two states as a strategic contest. The warring parties fight a series of battles that shift the balance of forces between them. In a battle, each side chooses a strategy for that battle from a known and fixed set, and the combination of their strategies determines the outcome of the battle. This outcome shifts the balance of forces in favor of the winner and imposes costs on both sides. Before any battle, either side can surrender to end the war with the other side gaining the stakes of the war. The costs of fighting battles for a side decrease as the military balance favors it. A side losing the battles then may quit to avoid the further

accumulation of costs if the war continues. In the extreme, a side that has completely defeated its opponent on the battlefield suffers no costs and can impose a final settlement. The model places no limit on which battle strategies the players may employ. The laws of war can be represented by a prewar agreement not to use certain strategies during the war. We can then examine when both sides will live up to that agreement and what conditions make its failure more likely. If viable agreements exist, then it is likely that a large set of such exist because small changes in the set of unacceptable strategies should not change the stability of the prewar limits on strategies. In this sense then, the laws of war are the common conjecture about which battle strategies are acceptable and which not and so can operate as norms which shape how states fight wars. These norms operate not by compelling states to follow their dictates, but by shaping the strategic incentives they have during wartime. When a large set of possible norms exist, the specifics of which norm actors accept and perhaps abide by is critical to understanding how they will act. The model of the laws of war then leads to testable hypotheses that characterize whatever norm is actually in place. These hypotheses form the basis of the empirical chapters that follow this one.

The second step of the process examines the treaties that address conduct on particular issues in the laws of war to determine the standard in those treaties. The treaty explains where the line is drawn between acceptable and unacceptable conduct. Ratification of the relevant treaty standard is a public signal by a state that it plans to honor that standard during wartime. Such public signals are critical to the creation of common knowledge underlying the common conjecture of the equilibrium that the states are playing. This step of the analysis occurs in the empirical work of Chapters 4 through 6 where the standards of each treaty form the coding rules for state compliance with them and whether a state is legally bound through ratification is tested to see if that status explains state compliance.

Chapters 4 through 6 performs the third step of testing the conclusions of the model and the inference of the common conjecture against the historical record. Chapter 4 reports the results of large-n statistical analysis of the patterns of compliance including tests of timing of first violations. Chapter 5 compliments the statistical analysis with a close analysis of the treatment of prisoners of war during the World Wars. POWs are a particularly useful issue to study because there is wide variation in conduct toward enemy soldiers taken prisoner even by the same state in some wars. This issue has demonstrates the range of strategic responses during wartime and how law can shape those responses or fail. This close study shows how reciprocity works in practice on the individual level as well as the state level. Chapter 6 presents brief analyses of four other issues in the laws of war–chemical weapons, submarine warfare, aerial bombardment, and the treatment of civilians–that have received more attention in the literature to date. I include these issues to show the differences between my explanation and those in the literature and explain why my explanation accounts for the record better. This discussion also fills out the picture of how the laws of war work in practice across a number of issues.

This chapter then seeks to explain the laws of war as a strategic process where the norms of those laws influence how states and individuals pursue their goals. I begin by discussing briefly what the laws of war are and their historical evolution in the 20th century. I then discuss the strategic issues raised by the laws of war; specifically, I explore the reasons why states might not observe those laws and the practical difficulties of implementing them when a state wishes to comply with them. Both deliberate state violations and individual violations against state policy are key issues here. The model needs to represent these issues to capture the strategic dynamics of compliance during wartime. I then present the formal model of the laws of war primarily through an informal description of the model and the character of its equilibria. I show the range

of equilibria and how the common conjecture varies across those equilibria. I tie that model to a simple model of violations by individuals on the battlefield to show the interrelationship between state and individual actions. I also use the model to make some simple claims about when states should be willing to make such agreements about appropriate conduct during war. These results then form the start of a theory of institutional design of the laws of war which I will draw on in Chapter 7 when I discuss change in norms over time. I end the chapter summarizing the implications of the model that I test in the following chapters.

The Laws of War

The laws of war, or more properly international humanitarian law, are the body of treaty law that seeks to regulate conduct during wartime. It is traditionally separated into two parts, *jus ad bellum*, when it is lawful to use force and begin the state of war, and *jus ad bello*, lawful use of force during wartime. My interest is in the latter because I wish to focus when states can enforce such agreements on one another. Additionally, law during wartime is generally thought to be applied more often and is accepted more widely than law regulating when war can occur. The Hague and Geneva Conventions are the main sources of this law of war, although I also examine how other related treaties have worked during wartime. [Detter, 2000 #283] and [Levie, 1986 #480] provide good discussions of this law within their analysis of the complete range of law of war. [Best, 1980 #482] gives an excellent discussion of the issues raised by the restriction of violence during wartime. [Roberts, 2000 #484] is a source for the key portions of the treaties in this area, with the website of the International Committee of the Red Cross (ICRC) providing the full texts.

Strategic Problems Facing the Laws of War

Effective limits on violence during wartime face a variety of problems of implementation. States and their agents may break the rules for a wide range of motivations, ranging from seeking an advantage on the battlefield to a lack of control over subordinates. This section lays out the range of such motivations and provides examples of each from history.

Deliberation Violation as State Policy

On September 22, 1980, the armed forces of Iraq attacked Iran after a period of prolonged tension across their common border. Iraqi forces occupied border regions including the city of Khorramshahr and laid siege to Abadan. Iran, however, fought back and began to mobilize its larger population into its army. The Iranians often used primitive tactics, relying on the fervor of their volunteer Basij militia. Their numbers turned the tide, pushed Iraq's army back across the border and carried the war into Iraq, despite heavy casualties. Iraq began to use chemical weapons, primarily mustard gas delivered by aerial bombing and artillery, to halt the Iranians. Iran had charged that Iraq used chemical weapons within the first two months of the war, but the first cases of use documented by outside experts came on March 13, 1984. Iraq sought to compensate for its weakening position on the battlefield, although it denied using chemical weapons publicly. One Iraqi general put the matter succinctly, "We have not used chemical weapons so far and I swear by God's Word I have not seen any such weapons. But if I had to finish off the enemy, and if I am allowed to use them, I will not hesitate to do so." (Robinson, J. P. a. J. G. (May 1984), "Chemical Warfare in the Iraq-Iran War 1980-1988". SIPRI Fact Sheet).

Iran retaliated with its own use of chemical weapons later in the war, although Iraq's use of these weapons was much more extensive. Both countries were party of the 1925 Geneva Protocol banning the use of chemical weapons.

Deliberate state violations pose the most direct challenge to the laws of war. A government which deliberately and systematically violates its legal obligations flouts the shared commitment to limit violence of those laws. Further, its open action demonstrates that any retaliatory response is insufficient to deter that action. In some cases such as Iraq's use of chemical weapons, the violations reflect a strategic calculation of military advantage. In other cases, these violations reflect a rejection of the norms and principles underlying the law. Japan did not ratify the 1929 Geneva Convention on prisoners of war, a rejection which presaged its mistreatment of POWs during World War II. Deliberate state violations also include the worst and most extensive violations of the laws of war. Although they are the type of violation that come to mind easily, other types of violations also pose challenges for the limitation of violence through international law.

Opportunistic Defection

Hail, Britannia! Britannia waives the rules,

Britons never, never, never shall be fools!

-ditty composed by a wag after the sinking of the *General Belgrano*

On April 7, 1982, Great Britain declared a "maritime exclusion zone (MEZ)" of 200 miles around the Falkland Islands in response to the Argentine invasion of those islands on April 2 of that year. Argentine warships and naval auxiliaries within that zone were liable to attack

from British forces beginning on April 12. After the range of ships liable to attack in this zone was extended by the end of that month, Britain had effectively declared a blockade of the islands. Such blockades are regulated by the relevant treaties concerning conduct on the high seas.[2]

On May 1, the British submarine *HMS Conqueror*, under orders to intercept and sink the Argentine cruiser *General Belgrano* if it should enter the MEZ, sighted its target and began to trail it. A debate now ensued among the British admirals in commands of the task force off the the Falklands. The *Belgrano* was the second most powerful warship that Argentina had, after the aircraft carrier *25 de Mayo*. As such it posed a serious threat to the British task force off the islands. The British Government had already declared that the *25 de Mayo* was liable to attack even outside of the MEZ given the threat it posed to British naval forces in the vicinity. Further, the Argentine Navy appeared to be maneuvering both these ships to converge on the British task force and attack in a pincers movement. However, the *Belgrano* still lay outside the MEZ, and it might succeed in eluding the *Conqueror* before entering the MEZ. The decision to target the *Belgrano* outside the MEZ was taken to the Cabinet, and Prime Minister Thatcher approved of a change in the rules of engagement, making all Argentine ships liable to attack even outside the MEZ. Captain Wreford Brown of the *Conqueror* received the orders changing the rules of engagement at 1330 on May 2 and torpedoed the *Belgrano* around 1600. It sank within a hour with a loss of 321 Argentine sailors. Unknown to the British, Captain Lombardo of the *Belgrano* had orders to stay out of the MEZ.

Afterwards, many felt that the British had not exactly played fair; the *Belgrano* had been sunk when it had reason to believe it was safe from attack. But this attack does not appear to be a violation of Britain's treaty obligations in that those treaties do not obligate member states to create zones where enemy ships will be safe from attack. Given the threat posed by the *Belgrano*

to the British task force, Howard Levie argues that the attack on it was not a violation of the laws of war ([Coll, 1985 #1], 66).

This attack does raise the question of states violating the laws of war to gain an advantage on the battlefield. One main threat to compliance with the laws of war are such opportunistic defections. States may believe that they are better off not living up to their obligations because they are more likely to win the war by doing so. Opportunistic defection occurs when a state's forces violate the laws of war because the temporary advantage of doing so is great. Such violations are not part of a deliberate policy to breach the rules, but rather the submission to the temptation to seize the immediate gain. Opportunistic defections threaten general compliance with the laws of war when the victim retaliates, particularly when it triggers a spiral of retaliation. They also undermine the confidence the opposing side has that the violator will honor its legal obligations as the fighting continues.

Perfidy

The TV show "Saturday Night Live" once ran a satire on World War II documentaries on "The Walker Brigade", complete with an over-the-top imitation by Bill Murray of Sir Richard Burton as narrator. "The Walker Brigade" was supposed to be a collection of wounded and crippled soldiers so named because many of them required the aid of walkers. They would attack the Germans counting on the protections under the Hague Conventions to prevent the Germans from firing on them in battle. As one might imagine, the Germans in the sketch did not respect their protected status, and "The Walker Brigade" slipped into the mythical pages of history.

Perfidy, the use of the protections of the laws of war to gain an unfair advantage on the

battlefield, strikes at the principle of discrimination between protected sites and people and legitimate military targets. The laws of war recognize the use of camouflage, ruses, and ambush as legal forms of deception during wartime. However, the use of protected status, such as the Red Cross symbol for medical sites, vehicles, and personnel, to cover military activities is forbidden as an unfair deception of the enemy. Nevertheless, perfidy occurs in most wars in some form. Cultural sites are used to shelter military assets from attack, like the jet airplanes that Iraq parked next to its archeological sites during the first Gulf War. Uniforms of the enemy disguise surreptitious acts, such as German infiltrators who sought to misdirect U.S. troops during the Battle of the Bulge. Japanese soldiers during World War II would sometimes pretend to signal an intent to surrender such as a white flag to lure U.S. soldiers into the open where they could be killed ({Linderman, 1997 #94}, 152). Perfidy abuses the rules to protect military targets from enemy attack and to secure an advantageous position from which to attack the enemy.

Acts of perfidy corrode the willingness of the other side to respect the lines of discrimination between military targets on one hand and protected people and sites on the other. They often trigger responses by the other side that violate the principles of discrimination as well. Perfidy by one side puts soldiers of the other at risk, leading the latter to violate the laws of war to protect themselves. Indeed, U.S. medics during World War II armed themselves–a violation of their protected status–after repeated German attacks on them ({Linderman, 1997 #94}, 132-136). U.S. soldiers and marines ignored white flags and stopped taking Japanese prisoners in response to Japanese perfidy. In extreme cases, these responses and the acts that trigger them cause the complete breakdown of discrimination between military targets and protected people and sites, making the latter effectively the former.

Self-interested Interpretation of the Rules

In 1602, the Duke of Savoy sent an army to conquer the Free City of Geneva. They attempted to scale the city walls and were repelled only through some legendary responses by alert Genevans, most notably Madame Cheynel who dumped her kettle full of vegetable soup on the heads of the Savoyards. An annual festival in Geneva remembers this event, which I suspect is popular with the Swiss because they figured out a way to make chocolate, in the form of little chocolate soup pots filled with marzipan vegetables which the children smash before eating, a central part of the commemoration.[3] One element of the story that the Genevans do not deny but do not commemorate in their festival was the trial and execution in one day of 13 Savoyards they took prisoner in the assault. There are pictures in the Museum of Art and History in Geneva depicting the hangings of the prisoners and the display of their severed heads on fenceposts outside the city afterwards. To this day, the Genevans claim that those executed did not deserve prisoner of war status because the Duke of Savoy had not declared war on Geneva before the attack, and so the men they took prisoner were criminals and not entitled to prisoner of war status. Unlawful combatants 400 years before the Bush administration, if you will.

Effective rules require a shared understanding of how they apply to specific cases, both so that actors can take account of those rules and the consequences of breaking them and so that others know how to respond. More detailed and specific rules help to produce such a shared understanding by clarifying what the rules mean. Increasingly detailed treaties lay out proper conduct in many areas of the laws of war precisely to reduce the range of possible interpretations of what is appropriate conduct. No treaty and no law can anticipate all possible situations, however. In domestic law, the creation of a common interpretation of laws is one of the central roles of courts, in addition to reaching judgments. In international law, the practice of states and

international law professionals play some of the same role. Nevertheless, those interpretations never fully anticipate all possible cases and leave scope for interpretation by actors.

Self-interested interpretation of the law–the effort to justify acts in the "grey areas" of the law--pose two related problems for an effective system of law of war. The most famous example of a self-interested interpretation was the German claim that their first use of chemical weapons against the British and French armies at the Second Battle of Ypres in 1915 did not violate the Hague Convention of 1899. The gas was released from cylinders, rather than projectiles as explicitly banned, leading to the claim that they had not violated the treaty. First, self-interested interpretations provide an opportunity for actors to push the boundaries of acceptable conduct, as the Germans did with poison gas. When such actions trigger a response in kind or worse, both sides may find themselves in a spiral downwards.[4] Second, self-interested interpretations induce skepticism in the other side, straining the commitment of both sides to the agreed standard. Both the British and French began using chemical weapons once they had developed the capability to do so, using at first cylinders as the Germans had. The explicit prohibition on gas shells was breached first by France in February of 1916.

The Problems of Agency and Noise

The laws of war create obligations and rights for individuals as well as states. The classic case of "Name, Rank, and Serial Number," the only three pieces of information that a soldier taken prisoner is obligated to provide to his captors, exemplifies the individual soldier's rights and responsibilities. This dual nature of obligations under the laws of war produced two related strategic problems. Agency is the first. How does the state control its agents–here soldiers–to do

as it wishes? As we will see in Chapter 5 on prisoners of war, state policy to observe the Geneva conventions means little if the men at the front generally kill enemy soldiers when they attempt to surrender. Noise, the second problem, arises because states must judge the compliance of the opponent from what they do. When pressed by the United States and its allies early in 1942, Japan stated publicly that it would comply with the 1929 Geneva Convention on prisoners of war *mutatis mutandis* even though it had neither signed nor ratified the treaty. In practice, they did not come close to complying with that treaty. Because POW camps are behind enemy lines and the willingness to take prisoners can only be judged from what happens on the battlefield, the United States and its allies could not verify the Japanese statement directly. They had to judge Japanese conduct from what they could see. As described in Chapter 2, reciprocal strategies of enforcement rely on the ability of the parties to judge when one another has violated their agreement. Noise–the difficulty of judging what exactly the other side is doing–complicated reciprocal enforcement by muddying the lines when an actor should retaliate to enforce an agreement.

The problem of agency compounds the problem of noise. When soldiers commit violations on the battlefield, the other side must judge whether such violations are deliberate policy or the result individuals acting against the policy of their government. If individual violations are widespread, it may be impossible to distinguish these two possibilities. That distinction matters because they could require different responses. Violations as a matter of state policy call for a response in policy, even if such is unlikely to induce compliance from the violating government. Individual violations call for efforts to convince the other side to get its soldiers to live up to their legal obligations and commitments through training and discipline.

Noise complicates reciprocal enforcement. How should a state respond to a pattern of

violations by the other side. As discussed in Chapter 2, there is a tradeoff between two risks. The first is the risk of overreaction. Large responses in kind may be misinterpreted as violations on their own lacking the justification of a response. Further reciprocal reactions could create a spiral of retaliation which neither side wants or sought. The second risk is a failure of deterrence through the lack of a response. A warring party whose received no response when its soldiers committed violations might make no effort to control their future bad behavior. This is not to say that reciprocal enforcement can never work under noise, only that its use cannot be fully effective. In some cases, the dynamics of the battlefield will lead to a collapse of a legal standard in action.

Inadvertent Violations

> Each commander must weigh, on the one hand, those necessities [of the military situation] and, on the other hand, the imperative demands of suffering humanity and so far as possible spare the places in which the wounded are gathered and the persons who are engaged in caring for them. Manifestly, it is not always possible during the course of an engagement to accord them the immunity which considerations of humanity dictate. Naturally, also, regrettable mistakes are inevitable, and hospitals are sometimes fired upon unintentionally. Their flags are not always visible, and not infrequently they are located near the lines and within the range of necessary military action. Belligerents are also under a strong temptation to employ the insignia of the Geneva convention for purposes for which it was not intended, and it may be assumed that sometimes the places over which it was hoisted or the persons bearing it were fired upon in the sincere belief that it was being improperly used, when in reality it was not. ([Garner, 1920 #259] v. 1,

504)

Accidents happen in wartime. Most weapons are not guided to their targets, and they hit whatever they land on. Mistaken targets often occur in the fog of war, meaning that even guided munitions hit things which should not be targeted. The combat environment is confused and confusing, and soldiers must often make split-second decisions with their lives on the line. Even when there is time to contemplate what should be targeted, the uncertainty of identification and the inaccuracy of weapons mean that protected sites and people will be hit. These inadvertent violations, these mistakes of targeting and delivery of munitions, rarely appear to be accidental to those on the receiving end. Even in the broader picture, at higher levels, mistakes happen.

Violations by Individuals

> One of my former commanders, a good friend, a mentor, instilled in me very early on that there's probably a minority of your soldiers - he used the number 10 percent- that can be criminals, that the only reason they manage to stay in line is because of the training and the discipline and the leadership that is provided by our institution.
> And if you don't provide them that, they'll walk away, and they'll revert back to that instinct of being criminals.
>
> Lt. General Ricardo S. Sanchez[5]

But there is another reason American commanders shy from using violence on civilians: the effects it has on their own men. Pittard, the American commander in Baquba, says

that he was careful not to give his men too much leeway in using nonlethal force. It wasn't just that he regarded harsh tactics as self-defeating. He feared his men could get out of control. "We were not into reprisals," Pittard says. "It's a fine line. If you are not careful, your discipline will break down."

New York Times Magazine, October 23, 2005[6]

Historically, war has been an opportunity for the armed man to use his armaments to take what he would like. Loot, rape, and murder have been the prerogatives of the soldier through most of history. It is only recently that this has changed in principle. It has not completely changed in practice. To the extent that the armed man is restrained and responsible for his actions, military discipline and training are responsible. Even the best disciplined armies today commit some violations of the laws of war, violations considered to be crimes. Armies use systems of military justice–courts-martial–to try and convict those soldiers whose transgressions go beyond the limits of acceptable military conduct. Even so, the ability of armies to control their own soldiers is limited. They depend on reports from other soldiers, who are often reluctant to report the misconduct of their comrades in arms. Those in charge may prefer to look the other way when those under their charge take liberties with the armed power granted to them. The question is when such violations by individual soldiers rise to the level where the system fails to restrain them.

An Informal Description of the Model

There are three interrelated strategic problems facing the enforcement of the laws of war

in practice. First, there is a question of compliance at the level of warring state-to-warring state policy. One or both sides may believe they can gain an advantage through violations. These violations could produce a military advantage on the battlefield or raise the costs of fighting to the other side in the hope of convincing it to surrender sooner. Second, there is the question of compliance on the battlefield across the soldiers of the warring parties. Agreement by states to follow the rules means little if their soldiers will not abide by that agreement. The cruel logic of battlefield–kill or be killed–produces an incentives even for those soldiers who wish to follow the rules to break them for their own protection. Third, there is the question of enforcement and discipline within each army. If the leadership wishes to follow the rules, they need a system to train their soldiers in the rules and proper conduct on the battlefield, to monitor violations by them, and discipline at least some who break the rules.

The solutions to these three problems are interrelated. State commitment to abide by international humanitarian law means little when the logic of the battlefield turns to violations for self-protection. Implementation of the laws of war requires training of soldiers and a system of military justice. Strategic expectations of how the other side will act influence whether soldiers and their leaders will follow treaty standards. Public commitment to treaties can screen out those states with little or no intention to follow the standards embodied in those treaties. Screening of those who will not comply is useful because states differ in whether they perceive an advantage in following a standard and what they believe that standard should be. They also provide common sets of standards that can help remedy self-interested interpretation through greater legal clarity and allow for precise training on the rights and responsibilities of soldiers.

Different issues in the laws of war pose different challenges to compliance. The parameters of the model–these factors that vary from issue to issue–reflect these different

challenges. Limiting the use of chemical weapons poses different issues than the protection of civilians. These different characteristics explain in part why compliance varies across these issues. Additionally, the precise characteristics of compliance with an issue vary with the warring parties because some see an advantage in violations or do not create effective systems of military discipline. These differences across actors account in part for why a system of universal treaty standards make sense. Such a system uses public acceptance of a standard through ratification to screen out those who will not comply.

I now turn to an informal description of each of the separate models with an emphasis on explaining how each represents the problems of compliance with the laws of war, the range of behavior by the actors in each, and why they do what they do. Each state is composed of a government or central military authority which makes the state-level decisions and a large number of soldiers that compose its army.[7] The combatants of each side are the agents capable of committing violations on their own discretion. For some issues, they will be individual soldiers; for others, they will be officers in a position to order violations. Ship captains in naval warfare are an example of the latter as they, instead of individual sailors, make the decisions whether to rescue enemy sailors from a sunk ship and whether to respect the rules for sinking unarmed merchant ships, two of the prime obligations of the laws of naval warfare. The three separate models address the three strategic problems described above. I seek to explain the parameters of each separate model and how they change across issues.

On the Battlefield

The laws of war mean little if soldiers do not carry out their responsibilities and respect the rights of others, both enemy soldiers and noncombatants. I model the battlefield as repeated

encounters by soldiers of the two sides. Each army has a large and equal number of soldiers who are paired up randomly in each round of the model. As the number of soldiers is large, no one of them expects to encounter their opponent from the current round in a future round (more accurately, the chance any two combatants meet again is insignificantly small). Each soldier has an encounter with a soldier from the other side in each round of the game. In an encounter, each soldier simultaneously decides whether to commit a violation or not. The consequences of a pair of combatants' choices depend on what both do. I assume that violations by both are worse for both than neither committing a violation (the payoff to non-violations is set to 0 and for joint violations to -1 for convenience). If one combatants commits a violation while the other does not, the first may benefit by such while the second suffers. The *temptation (T)* to violate is the possible benefit; *vulnerability (V)* is cost of suffering a violation without a response in kind. Not all combatants will act on the temptation to violate. I assume that there is a range of types of combatants for both sides, where each combatant's type reflects its personal inclination to act on the temptation to violate. The larger *T* is for an issue, the greater the number of combatants who are willing to commit unilateral violations. Even with temptation, some soldiers will not violate even if they anticipate no reaction from the other side; that is, there are types of combatants who will comply on their own. Issues where temptation to violate is larger would include treatment of civilians where individual soldiers benefit from looting and other crimes against civilians. This temptation would also cover the lack of care and discrimination in targeting that lead to collateral damage to civilian targets. It also covers unilateral violations by individuals such as the killing of soldiers attempting to surrender not provoked by a fear of perfidy. Vulnerability reflects soldiers' exposure to violations by the other side. When *V* is worse than the consequence of mutual violations *(-1)*, soldiers have an incentive to violate for self-protection if they believe

their opponent in this round will violate. Vulnerability is greater for issues like prisoners of war where soldiers themselves are at risk than issues such as protection of civilians where they are not. Temptation and vulnerability reflect the personal consequences to soldiers on the battlefield, not the larger strategic effect of these violations on the course of the war.

How combatants act depend on their vulnerability, the temptation to commit violations, and their anticipations of how combatants from the other side will act. When the other side is unlikely to violate, temptation determines what a combatant will do. Some types will commit violations, others will not, with the number of violations growing with temptation. When the other side is likely to commit violations, vulnerability drives the response to those violations. If vulnerability is low, soldiers of the other side may simply ignore the violations and not respond. More common, though, vulnerability leads to anticipatory violation in kind. These violations are not reciprocal punishments in the sense that they seek to respond to violations in previous rounds. They are violations that seek to limit damage to the individual soldier given the anticipation of violations from the other side. Strategic expectations of violations drive further violations when vulnerability is large enough.

Equilibrium requires that these strategic expectations and behavior match one another. Although individual soldiers may be fooled some of the time, they will learn how the enemy acts and what they must do in turn. When vulnerability is high, expectations of violations can be high, medium, or low. Low expectations can be sustained if only those tempted to violation on their own break the rules. High expectations of violations lead combatants to commit violations to protect themselves, which create the expectations needed to justify violations to limit damage to one's self. Medium expectations lead some but not all to violate, falling in between the other two. These are multiple equilibria of the battlefield game; there are multiple sets of expectations

and actions consistent with one another. Expectations of how the other side will act determine what unfolds on the battlefield, giving both sides an incentive to clarify those expectations before combat. If vulnerability is very large with sufficient temptation, expectations and behavior converge on all violating. The consequences of not protecting one's self are too large for any other set of expectations and behavior to be in equilibrium. When vulnerability is lower than the cost of mutual violations, violations either occur at low levels or there can be asymmetric situations where the soldiers of one side all comply while the other side commits a low level of violations. In this situation, soldiers prefer not responding to violations by the other side, with only those most susceptible to temptation committing violations. Again, the multiple equilibria in the case of low vulnerability provides a reason to clarify those expectations before war.

Military Discipline

States can attempt to limit the violations of their soldiers through military justice. Soldiers are the agents of each state with the central authorities their principal. Military discipline is a classic example of a principal-agent problem where the principal attempts to induce the agent to act on its behalf as it desires. Soldiers as agents have interests of their own that may lead them to act against the interest of the principal. Here we examine the case where the state would like to prevent violations in the face of the temptation for individual soldiers to commit them. The process takes place within the military of each warring party. Military authorities have access to both suspects and the likely witnesses if they choose to punish soldiers who commit violations. Detection of violations on the battlefield is a serious impediment to such enforcement. Military authorities set a level of costly monitoring, followed by decisions by the combatants whether to violate or not. Temptation again is soldiers' incentives to commit

violations with soldiers' varying in the willingness to commit violations by type as in the battlefield model. Afterwards, the state detects some of the violations based on their monitoring, which is not perfect. The state punished the violators it detected among its soldiers. The combatants then have incentives to violate from temptation and their type, with some types unwilling to commit violations no matter what. Monitoring and enforcement for the state is costly to create and to carry out. The state would like to minimize the number of violators in its army but also pays a cost for every soldier it disciplines. Discipline works most effectively when the number of suspected violators is low.

Whether the state enforces the rules depends on the cost of monitoring. When it is low, the state raises the risk of detection and punishment high enough to deter all violations. When the cost of detection is higher, the state is better off ignoring violations than punishing them. Combatants follow the incentives set by the system of monitoring. When it is lax, it fails to deter violations. Otherwise, the risk of being caught is high enough to deter all violations.

This model does not examine whether states can use discipline to induce soldiers to commit violations. In the battlefield model, this is an issue only when vulnerability is low. When vulnerability is high, combatants are willing to commit violations if they believe the other side will as well. A state that wanted its soldiers to commit violations would then seek to ensure expectations that violations would be committed in any war. Such a state then might very well take public actions, such as failing to ratify the relevant treaty, to establish those expectations before war broke out. It might also conduct military training to encourage violations in the hope of shaping the expectations of further violations in combat. This logic of creating the anticipation of violations could explain why those states that plan to commit violations do not ratify treaties. Ratification could create an anticipation that the standards will be followed, an expectation that

such a country does not want to produce.

State-to-State Compliance

The laws of war can also affect the course of fighting in a war. Chemical weapons have been used to gain an advantage on the battlefield, even if that advantage is fleeting. Broadly speaking, the acts that violate the laws of war have three consequences for the conduct of a war. A war can be thought of as a series of battles (Smith 1998, Wagner 2000), leading possibly to the total conquest of one side if it loses enough battles. These battles are not predictable, giving both sides some reason to continue fighting in the hope that it will win enough battles to win the war. These battles are costly to both sides, which provides an incentive to end the war by surrendering the stakes to the other side. Violations could increase a side's chance in winning a battle. Violations by the other side would reduce its chance of winning a battle. Violations also raise the costs of battles, both for the side suffering them and the side carrying them out. Raising the other side's costs of fighting might induce it to drop out of the war earlier than it would in the absence of those added costs. These three effects of violations–the greater chance of winning a battle, the higher costs the other side suffers, and the higher costs a side's violations impose on itself–are all parameters of this model. Some issues have little effect on which side wins battles or little effect on the violator's costs of war. Others raise the costs of fighting substantially, such as aerial bombing did during the Second World War, particularly when the other side retaliates in kind. Some issues in particular wars, such as submarine warfare during the World Wars, have asymmetric effects, helping one side win battles while providing little advantage on the battlefield to the other. The model has the two sides fight a series of battles until one side quits or wins by eliminating the other. Each side chooses how many of its soldiers will commit

violations during the current battle, with its chance of winning rising with the number of violations along with the costs of both sides.

When will states choose to violate in an effort to gain an advantage at war? A straightforward comparison determines this choice. A state compares the added costs it will suffer from its acts to the added chance of winning a battle. If this ratio exceeds the consequences of winning this battle to losing it, the cost will be too high for the benefit, and it will not commit violations. If the ratio is less than the difference between winning and losing today's battle, it will order all its soldiers to commit violations.

This logic is simple and straightforward, but it has an important implication for when states break the rules for the first time in a war. If this condition holds, there is no reason for a state to wait. It should commit violations from the first day of fighting. To wait costs the gain from violating the rules starting from the first day. If neither side is benefits from violations at the beginning of the war, both sides' incentive to break the rules increases the closer they come to victory. The difference between winning and losing today's battle influences the choice to violate because it is the gain from raising the chance of winning today's battle. This difference increases the closer a side comes to winning the war. The biggest difference comes when the other side is on the verge of quitting; it will surrender after one more loss. When a side must win many more battles to win the war, the difference in value between winning and losing this battle is small. If you win, you still have to win many more battles to prevail. The chance of doing so before the other side wins enough battle to force you to quit is not great no matter whether you win this battle. Pulling these points together, warring parties should commit violations from the beginning of a war. If they honor such limits early in the war, the side close to winning is more likely to commit a first violation than the side losing.

The logic above examine just the incentives of each party acting on its own in the absence of a prewar agreement not to violate. Violations by one side increase the costs to the other. Because the strategic logic of violations leads both sides to either not commit any violations or go to the further extent possible, their simultaneous decisions whether to violate in a given battle have the form of a 2-by-2 game. There are three variations on this game. It could be the case that both players prefer not to commit violations, the costs of such violations exceed their gain no matter what the opponent does. These situations do not require a deal for compliance. The second situation is asymmetric, one side prefers restraint while the other does not. The latter is unlikely to abide any prewar agreement because it gains from its violations and the other side is unwilling to retaliate in kind. The third case can pose the familiar strategic logic of Prisoners' Dilemma. Both sides gain from their own violations but lose more from the violations of its opponent. Both could gain from a deal not to commit violations which is enforced by an agreement to respond in kind in the next round to such violations. The most difficult state to sustain such an agreement occurs, as before, when one side is on the verge of victory. If it wins, it need not fear any retaliation from the losing side. The difference between winning and losing the current battle is greatest, increasing its incentive to break the agreement.

State-to-state compliance presents a clear reason for public treaties. They create the common conjecture that both sides will follow an agreement not to commit violations and that reciprocity will be used to enforce that agreement. Not all states prefer such restraint, believing that they can gain from violations.

Endnotes for Chapter 3

1. Economists are better at searching for multiple equilibria of their models, although they commonly do so in the hope of finding a unique equilibrium. Some of the best work applying game theory to international relations (e.g. [Fearon, 1994 #474]) does look for general properties of classes of equilibria. Such properties are true no matter what equilibrium the players play, and so do not depend upon norms in force.

2. For details of the Maritime Exclusion Zone and the sinking of the *General Belgrano*, see [Freedman, 1990 #254], pp. 248-269.

3. In case you did not guess, my children loved this aspect of the Escalade celebration, making us buy multiple chocolate pots.

4. I note in passing that the Genevans did not have to worry about the Savoyards retaliating against them for their execution of their prisoners.

5. Quoted in "The General Departs, With a Scandal to Ponder," *New York Times*, July 22, 2004. Accessed at http://www.nytimes.com/2004/07/22/international/middleeast/22sanc.html on July 22, 2004.

6. From "The Fall of the Warrior King," *The New York Times Magazine*, October 23, 2005. Accessed at http://www.nytimes.com/2005/10/23/magazine/23sassaman.html?pagewanted=all on October 24, 2005.

7. Assuming the number of soldiers is large also allows me to avoid the question of the elimination of soldiers from either military. Obviously, some soldiers die, are incapacitated, jailed for misbehavior, or captured in the course of fighting. But if they are replaced by others with the same distribution of types, their elimination from the game makes no difference to the

strategic logic of matching. It could if there was systematic selection, such as the elimination of types likely to commit violations because of temptation.

Chapter 4

Patterns of Compliance with the Laws of War during the 20th Century

This chapter begins the task of evaluating the evidence on how the laws of war work in practice. These treaties, I have argued, matter because their ratification by states creates a common conjecture that both sides will follow them if war should break out. The threat of reciprocity enforces this common conjecture of moral restraint. The possibility of strategic advantages from violations and the reality of noise produced by individual violations mean that these commitments will be broken by some parties in some wars. In response, the other side should respond in kind to these violations.

The key questions addressed in this chapter are

- What factors lead states to violate the laws of war regardless of the behavior of its opponent?

- When are states more likely to respond to such noncompliance with violations of their own?

- Does treaty ratification induce restraint on its own and reinforce reciprocity when restraint fails?

- Do opportunistic defections from treaty standards come early or late in wars?

The first question concerns which factors lead states to violate existing norms of proper conduct during wartime. Among the candidates are whether the state has accepted the legal standard publicly, the nature of its domestic system, and whether the specific issue-area gives more or less scope for violations by individual soldiers. The second question concerns the conditions of reciprocity between warring states and among soldiers on the battlefield. Here the candidate explanations include the clarity of the violations in question, the nature of the state's domestic system, and whether the sides are equal or not on the battlefield. The third question addresses the effects of legal commitments on state behavior. The final question arises from the formal model in the previous chapter; states that break agreements that they have publicly accepted to gain a strategic advantage should do so early in the war rather than late.

The analysis in this chapter is statistical and seeks to uncover general patterns in compliance and violations. The individual case or observation is a warring directed dyad for a particular issue-area of the laws of war. For instance, how France treated German prisoners of war during the First World War is one case. Because of the large number of cases covered–all interstate wars according to the Correlates of War project from the Boxer Rebellion in 1990 to the Gulf War in 1991, compliance is assessed in general terms across the entire war as opposed to listing specific atrocities. Further, I cannot conduct a detailed legal examination of each possible violation to determine its exact legal status. The next chapter examines the issue of prisoners of war during the World Wars in detail; as such it complements the results of this chapter. This chapter provides a broad analysis of the patterns of compliance; the next chapter discusses the detail of one particular set of cases. The combination of the two chapters then provide us with a range of tests of the argument that should give us confidence that the results have both external validity–that we can be confident that the argument will hold for cases beyond

those examined–and internal validity–that we can be confident that the results do reflect what happened in the cases that we examined.

I have divided this chapter, like the previous one, into two parts; one written for a general audience and another aimed at the academic political science audience. This chapter presents the central results of the statistical analysis using graphics to show the estimated effects and tables to show patterns in the data. It covers all the main results of the statistical analysis presented in detail in the companion Chapter 4', which provides a complete description of the statistical estimations and tests of the theory. This chapter allows those readers who do not wish to review the full statistical analysis to understand the patterns and their importance uncovered by those techniques. I have striven to use graphics that should make those effects and the conclusions that follow from them clear even to the reader lacking in technical training. This chapter also provides the central discussion of the significance of these results and their implications for the theory presented in the preceding chapters.

I begin by describing the data set on compliance with the laws of war. I then discussing the factors that could influence compliance and reciprocity that will be examined in statistical work. This discussion expands on the hypotheses deduced from the model in the previous chapter to consider elements that lie outside the model. I present descriptive statistics of the data set to show the basic patterns of compliance. I follow this with the graphical presentation of the main multivariate statistical analysis of compliance presented fully in the companion chapter that follows. I examine discordant and outlying cases to see whether they are consistent with the expectations of the model. I turn to presenting the results of when first violations occur and the timing of responses to those first violations. I conclude this chapter by summarizing the results.

General Description of the Data Collection

I have collected data on compliance with the laws of war. The time period covered is the 20th Century because the formal body of international law of war begins with the Hague Convention of 1899 and grows with the Geneva Conventions and other treaties regulating conduct between warring parties. The basic unit is the directed warring dyad-issue area; that is, what did each warring party do to each of its enemies on each particular issue in the laws of war. The question is what leads to compliance, with reciprocity as one mechanism leading to compliance.[1] A fuller discussion of the coding can be found in {Morrow, 2006 #466}.

This coding effort relied on many research assistants, whom I acknowledge in the preface. My primary assistant in this effort, Hyeran Jo, worked closely with me during the coding of the cases to ensure consistency across them to the point of being an equal participant in the process. In recognition of her work on the data collection, I discuss our procedures using "we" than "I" here and in the companion chapter.

First, we take all Correlates of War interstate wars from the Boxer Rebellion to the Gulf War (1991, not the sequel). Each multilateral war is broken into all warring dyads by pairing off each member of each side with every member of the other side. Additional research determined whether military action occurred between the members of each of the possible warring dyads. When neither state in the dyad engaged in military action against the other, the dyad is dropped as it is not a warring dyad. For example, World War I expands to a full set of 44 dyads matching each of the 11 states that were members of the Allies with the 4 states of the Central Powers. From this set, dyads such as United States-Bulgaria are dropped because they did not actually fight one another.

The set of dyads is reduced further by consolidating states that fight under unified command into one actor. States that fight under united command have a single leader or leadership group that has the power to order subordinate units to comply. In this sense, states that fight under unified command do not have separate policies, and this process eliminates overcounting of observations that are not independent of one another. Additional research determined when such unified command existed. For example, all dyads in World War I between Portugal and the various Central Powers are absorbed into the corresponding dyads with Great Britain because Portuguese forces fought under British command.[2] This consolidation also eliminates some cases where it may be difficult to determine if the two states in question actually fought, such as United States-Hungary during the Second World War, as one of them fights under the command of another state which clearly fought the other member of the directed dyad.

The period of fighting for a particular warring dyads may differ from the general dates of the war, and so each is dated from the beginning of military action until fighting ends by agreement.[3] For example, the Netherlands and Germany fight one another from May 10, 1940 to May 14, 1940 in the Second World War. States that reentered World War II are dropped (e.g. Vichy France in 1940 and the Free French in 1942); consolidation under unified command leads to the acts of these forces being included in the command under which they served. Each warring dyad then leads to two directed dyads. For instance, Germany and France fought against one another in the First World War, giving rise to the directed dyads of Germany ⇒ France and France ⇒ Germany.

For each warring directed dyad, we code behavior of the first member toward the second member on nine different issue areas in the law of war. The issue-areas are as follows:

- Aerial bombardment

- Armistice/Ceasefire
- Chemical and biological weapons
- Treatment of civilians
- Protection of cultural property
- Conduct on the high seas
- Prisoners of war
- Declaration of war
- Treatment of wounded

Each of these issue-areas is defined by the set of treaties, including draft treaties, in the issue-area. We used the text of treaties found at the website of the International Committee of the Red Cross.[4] These treaties were grouped into the nine issue-areas above. Issue-areas such as neutrality law were dropped because they do not address the conduct of one warring party toward another. Genocide was also dropped as acts that could be considered genocide during wartime were subsumed under the treatment of civilians. This selection of issue-areas encompasses both areas with well-developed treaty law as well as those which lack any formal treaty law, such as aerial bombardment. This design allows me to test whether the existence of a formal treaty aids compliance with the norms of proper conduct in an issue-area.

The relevant treaties in each issue-area were read to identify major and minor violations. Table 4.1 gives examples of major and minor violations for each issue-area and the corresponding treaty. These coding rules structured the collection of information on violations and compliance for each directed warring dyad. Historical works and contemporary journalistic sources were searched for examples of violations and general judgments on degree of compliance by each warring party toward the other member of a directed dyad. We coded the following

dimensions of compliance:

- Magnitude: how bad were the violations?

  A four-point scale from none to many major violations such that compliance does not matter.

- Frequency: how frequent were violations?

  A four-point scale from none to massive violations to the point where the standard is ignored.

- Centralization: what was the role of central military and political authorities concerning violations?

  A five-point scale from no violations to central authorities punishing individual violators to positive identification of state intent to violate.

- Clarity: did the actions clearly violate the treaties?

  A four-point scale from no violations to definite legal violation.

When a state commits violations, we also attempt to determine the date of first violation. This breakdown of compliance into four dimensions is designed to make the coding more reliable than a single scale of compliance. Each dimension can generally be coded when we have available evidence on the acts.

Table 4.1 about here

This design does not allow us to test reciprocity of actions directly because the codings are judgments about compliance across the entire period of fighting. Ideally, one would like to have a complete list of all instances of violations where one could trace the patterns of reciprocal responses directly. Although such sequences can be found in some cases, it is impossible to find them for even a notable set of cases. Understandably, those who commit atrocities often attempt to conceal their own participation in them, meaning there is never any record of many violations. Charges that the other side has committed atrocities are also common; sorting out what actually happened can be difficult. We prefer secondary historical sources, particularly academic works written decades after events, because the authors of such sources have often done the difficult work of separating truth from unfounded accusation. They also often make judgments about the nature and extent of violations from an examination of many incidents.

Only violations that occurred *during* the conflict period were coded. Since we are strictly interested in compliance with *jus in bello*, events before and after the war are eliminated.[5] For this reason, we do not consider POW repatriation or postwar civilian treatment of occupiers.

We benchmark the most recent treaties in coding violations. We do not follow the principle of intertemporal law[6] but rather ask how warring parties in the twentieth century wars fought by the contemporary standard of the laws of war. In practice, this decision does not have a great impact on what acts constitute violations. The general principles underlying the laws of war have been largely consistent throughout the 20th Century. We do use the principle of intertemporal law in judging legal clarity. The law of war has developed over time to clarify acts as violations that have been found to be ambiguous, meaning that these acts are violations whose legal clarity was in doubt at the time of the violation.

We sort out violations of different magnitude and frequency by the following priorities:

1) most prevalent, 2) highest magnitude, and 3) highest quality of evidence. These priorities were used when a warring party committed many minor violations and a few major violations. An example is how French policy in the use of chemical weapons evolved during the First World War. The use of CBW by the French was decentralized with a few minor violations at first, but became centralized with more intense and clearly illegal use of chemical weapons beginning with the Battle of Verdun in 1916. Our coding is based on French conduct after Verdun under these priorities.

Coding decisions were based only on available information in the sources we collected. The notes section of the data set explains when our coding is based on an inference from the information in the sources. The laws of war are currently an active area of historical research, and we anticipate that the data may be updated in the future as new evidence emerges.

Quality and coverage of the data are key questions facing any analysis on this topic for two reasons. Violations are not possible for some issue-areas in some wars. For example, conduct on the high seas was not an issue in the Hungarian-Allies war of 1919 because all fighting took place on land. Missing data is an immense problem for any comprehensive study of compliance with the laws of war. Atrocities are often not reported. Some of these wars are obscure, meaning little or no information is available. Because the amount of information available to use in coding varies greatly from observation to observation, each directed-dyad-issue area is also coded the quality of the data used in the coding. A fifth variable was then collected for each observation that was coded:

- Quality of the data: do we have confidence in the coding because it is based on substantial and reliable information?

A four-point scale from sketchy evidence (1) to excellent documentation providing strong confidence in coding.

The quality scores reflect my preference for secondary historical sources over primary and journalistic sources. Historians have often done the hard work of verifying or rebutting rumors of atrocities and revealing those not reported in contemporary sources. If multiple sources substantiate each other with concrete evidence, the case received the highest score of 4 for quality of information. Journalistic sources with unsupported allegations or sketchy evidence receive quality score of 1. In extreme cases, some codings are based on a single sentence in a source or a judgment from a simple statistic. For instance, a report that a very small number of prisoners were exchanged at the end of a war with significant fighting suggests that the side which took the prisoners did not comply with the Geneva Convention because otherwise they would have taken more prisoners and those prisoners would have survived the war. We use the score for the quality of the data in some analyses to place greater weight on the cases where we have confidence in the coding.

Given the amount of directed-dyad issue-areas where we had no evidence on which to base a judgment, We employed standardized codings for the following issue-areas: treatment of civilians, cultural protection, conduct on the high seas, prisoners of war, and treatment of the wounded. These standardized codings reflect my view that even the best disciplined armies commit some violations. The codes suggest that civilians, soldiers surrendering, and wounded enemy are killed during combat, and that such actions are against state policy and may be punished. The coding for the conduct on the high seas assumes that naval forces conduct themselves properly when naval combat occurred during the war. The standard coding for

cultural property protection assumes that a few protected sites come under fire during combat. These standardized codings are superceded if any information is available. In the analysis, We drop a warring-dyad-issue-area if both sides have a standardized coding on that issue. These standardized codings allow me to use warring dyads where We have information only about what one member of the dyad did. The standardized codings are given data quality 0, which matters when We weight analyses by the quality of the data.

Table 4.2 about here

A standardized coding is also used for the issue of chemical and biological weapons when we had no reports of use by a side. Accusations of the use of such weapons have been extensively investigated by others (e.g. [Stockholm International Peace Research, 1971 #87; Harris, 2002 #165]), allowing me to conclude that a side did not use such weapons if the sources that focus on chemical and biological warfare do not mention that it used such weapons in that war. For the issue of chemical and biological warfare, the data set coded a warring party as having no violations if there are no reports in these sources. Data quality is rated as a 2 for such cases.

Violations are not possible for some issues in some cases because the sides either lacked the capability to carry out such violations or no fighting of the type in question occurred during the war. All the fighting in the Hungarian-Allies War of 1919 was on land, making violations of conduct on the high seas impossible.[7] Similarly, sides that had no air force, like the Chinese during the Boxer Rebellion, could not commit violations of aerial bombing. These cases receive missing values codes of -9 for all five measures of compliance. We took care to document when parties did not have capabilities and so should be coded as missing data as opposed to those where they had capabilities or the ability to create them, where the absence of violations is

compliance, not missing data. For the issue of CBW, we assumed that parties could create such capabilities even if they did not possess them.

We collected the first date of violation by a warring party on a given issue whenever possible to test hypotheses about timing of first violations. When a side commits both major and minor violations, the date for the first major violation is coded. When the date of first violation is unclear in the sources, we tracked down the closest date of the associated battle or event. In the Second Balkan War of 1913 for example, the date of the first Turkish violation against Bulgarian POWs was determined by the date of Turkish occupation of Adrianople because that was the first documented time when the Turks took Bulgarian soldiers prisoners. Dates were coded conservatively the cases when a precise date could not found. When we could narrow a violation down to a month but not a date, we used the last day in the month. In some cases, the first date is set at the last date of war because date of event could not be established (e.g. violations against Chinese wounded by the Relief Expedition forces during the Boxer Rebellion).

Finally, I would like to make clear what the data set is not. As mentioned above, it is not a comprehensive listing of all violations for a given warring directed dyad-issue-area. Such a comprehensive listing would be wonderful for testing the dynamics of reciprocity, but it is impossible to collect for even a small set of the cases. Second, the data is not based on a precise legal analysis of whether particular acts constitute violations of the treaty in question. The legal status of some acts are contested, particularly when questions of military necessity and proportionality arise. Instead, the codings capture whether the broad pattern of acts by a warring party are consistent with the standards of the relevant treaty. When such acts are not agreed to be clear legal violations, the score for the legal clarity of the violations reflects that uncertainty. At the level of aggregation of the data, precise legal analysis of all acts is not necessary to make

broad distinctions between behavior that is compliance and that which is not. These limitations are important to remind us what we can learn from this data and what we cannot. The data can help us see broad patterns in how the laws of war have worked during wartime. Because they cannot show the full dynamics of those laws in practice, I complement this chapter with the two following chapters of case studies.

Measuring Compliance

The variables in the data set are defined for the ease and clarity of collection and coding from the historical sources used. Compliance with the laws of war is the central variable I analyze here. A simple measure of compliance multiplies the scores for magnitude of violations and frequency of violations. This score ranges from 1, no violations, to 16, frequent and multiple major violations. However, equal intervals in this score do not necessarily indicate equal changes in the level of compliance. We can say clearly that some cases show lower levels of compliance than others without asserting that equal differences between scores represent equal differences in compliance. Further, the differences in compliance across some different scores may be small and so such scores should be collapsed into one level of compliance. Ideally, the categories of compliance should have large differences across levels compared to the variance in compliance within levels.

Table 4.3 presents the crosstabulations of magnitude and frequency of violations in the data set, the first with the standardized codings included and the second excluding them. These tables are helpful in grouping the scores into distinct levels. A score of 1 for either frequency or magnitude means the other must also score 1 as both reflect no violations by the state in question

on that issue. By construction of the measure then, the top row and leftmost column of these tables have 0 for every cell except the top leftmost cell. Looking across the rows, it is obvious that minor violations are almost always infrequent (216 out of 221 if standardized codings are included, 35 out of 40 if not) and even major violations are likely to be infrequent from the third row of the table (534 out of 688 or 240 out of 394 cases). This pattern suggests that frequent major violations differ from these less frequent and severe violations. Similarly, massive major violations constitute almost one-half of the cases with many major violations across the fourth row (61 out of 128 cases in both tables). These patterns suggest the following ordinal scale of compliance with four levels given by different shadings in Table 4.3:

- Full compliance, where no violations are reported,
- High compliance, where only minor violations are reported or infrequent major violations,
- Low compliance, where major violations occur frequently but the standard is not ignored,
- Noncompliance, where violations are both major and frequent.

This ordinal scale of compliance is robust in its separation and order of categories even if we cannot say that the differences in compliance between the levels are comparable.[8]

Table 4.3 about here

I exclude declaration of war from the analysis of compliance because it is only judged at the outbreak of war and reciprocity is not possible. That issue is included only in the summary statistics reported in this chapter. I do analyze violations of declaration of war separately in the companion chapter that follows.

Summary Statistics of Compliance

I begin the analysis of compliance by presenting summary statistics to give the reader a broad picture of the data. The frequency of each level of compliance can be found easily from Table 4.3. Of the 947 cases with coding based on evidence (not standardized codings except for CBW), 41% (385 cases) have full compliance, 32% (306) high compliance, 21% (195) low compliance, and 6% (61) noncompliance. As I noted at the beginning of the book, the record of compliance overall is mixed. While full compliance is common, low or noncompliance is not rare. If I include the standardized codings, the record of compliance looks better because cases with those codings fall into the full or high compliance categories.

Figure 4.1 depicts the spread of compliance scores as a histogram for each issue separately, both including and excluding the standardized codings. The variation across issues is substantial. Treatment of civilians is the issue with the lowest level of compliance; chemical and biological weapons the issue with the best record of compliance. In between these extremes, prisoners of war and protection of cultural property have worse records of compliance while aerial bombing, armistice/cease fire, and conduct on the high seas better than other issues. Obviously, the issue at hand has an important impact on compliance, a result we will see again in the multivariate analysis.

Figure 4.1 about here

Simple evidence for reciprocity can be seen in Table 4.4 which matches the compliance of both sides of each warring dyad, excluding cases where we have only standardized codings for both sides and declaration of war. The standardized codings are equal by definition and including those cases would inflate the effect of reciprocity in the table. I refer to the side in an

observation as the violator and the other side as the victim. Table 4.4 includes each dyad for which we have data twice, once for each direction of the dyad. Hence the table is symmetric about the main diagonal by construction. I have shaded the cells in the main diagonal in Table 4.4 to aid the reader.

Table 4.4 about here

The pattern in Table 4.4 supports reciprocity in the data, although it is not exact. The χ^2 test shows that the compliance of the two sides is not independent of one another, and the tau-b statistic shows the positive relationship in the table. Of the 1066 cases in Table 4.4, more than one-half, 580 of them, fall on the main diagonal of the table. Only 76 of the cases fall more than one cell off the diagonal. In over 90% of the cases then, the compliance of the warring sides does not differ by more than one level.

Table 4.5 shows compliance based on the ratification status of the both sides. The left-hand side of the table breaks down the violator's compliance based on whether it had ratified the most recent treaty in the issue-area, while the right-hand side shows the violator's compliance based on whether both sides had ratified the most recent treaty, which I refer to as joint ratification. The model argued that joint ratification should be crucial because it provides public acceptance that both sides have agreed to live by the standard. There is little difference in the violator's behavior based on ratification status, whether its own or joint ratification, alone. The columns are hardly different. However, reciprocity could cloud this picture; if joint ratification strengthens reciprocal responses to violations, then such responses could account for the cases with low levels of compliance. Ratification status also varies with the issue; no state has ratified a treaty that address aerial bombing. These multiple effects complicate the picture and could account for the lack of a clear relationship in Table 4.5. Multivariate analysis is the way to

address these multiple effects to see the separate effect of each possible cause of compliance on its own. Before describing that analysis and presenting its results graphically, I discuss the variables that could affect compliance.

Table 4.5 about here

Factors that Might Affect Compliance and Reciprocity

The model presented in the previous chapter explains the strategic logic of compliance at the state level. States live up to their legal obligations during wartime when the military benefits of abandoning those commitments are less than the audience costs incurred by breaking the commitment. But states see those advantages and audience costs in different ways. The effect of most of the state-level variables in a statistical analysis is difficult to predict; there are often arguments that point in opposite directions. Violations by individuals can produce noise, which can lead to retaliatory spirals and the collapse of compliance. Here again, the effect of state-level variables is typically unclear and could go either way. This section lays out the arguments for the different effects that the candidate explanatory variables could have on both compliance and reciprocity. The precise measures used for these concepts are presented in the companion chapter.

Regime Type

International relations scholars conventionally recognize a distinction between democracies and autocracies, with the well-known democratic peace–the observation that democracies are much less likely to fight one another even though they fight roughly as often as

nondemocracies–being the center result from that distinction. Why the democratic peace occurs has been a central issue of debate in the literature for well over a decade as I write. Some believe that democracies are better at generating audience costs and so can signal their resolve more clearly ({Fearon, 1994 #471}, {Schultz, 2001 #472}), while others think the pattern is a spurious result of common interests among democracies during the Cold War ({Farber, 1995 #473}), and many more such arguments have been advanced to account for the pattern described above. These arguments matter for my questions because the various arguments imply different patterns among regime types. The model is agnostic about these argument, and so will I in this section.[9]

First, democracies may be more likely to comply with their legal obligations. Many different arguments about how democracies conduct foreign policy lead to this conclusion. If democracies externalize their norms of limited competition ({Maoz, 1993 #477}), then they would be more willing to limit how their military forces conduct combat. Arguments about democracies being law-bound states–those that respect international law and commitments because they are governments where law presides over men–also predict that democracies would be more likely to comply with international humanitarian law during wartime ({Simmons, 2002 #480; Slaughter, 1995 #478}{Hathaway, 2002 #481; Hathaway, 2005 #482}). Perhaps these two arguments differ in that the former seems to imply that democracies would be willing to comply with such norms even if they had not ratified the current treaties, while acceptance of law through ratification would be critical for a law-bound state.

Second, autocracies may be less likely to comply because they hold human life in lower regard. This is the reverse of the normative argument of constrained competition in democracies. Autocracies are more likely to engage in mass killings of their own civilians ({Harff, 2003 #483}). Further, because autocracies see law as a tool the leader uses to retain his hold on

power, and not as a system of principles that limit the leader's power, autocracies will not take their international legal commitments seriously. They will feel free to ignore those obligations as suits their purposes of the moment.

Third, audience cost arguments suggest that democracies are more likely to live up to legal obligations that they have accepted before the war began. It is commonly argued that democratic leaders face greater audience costs for escalating a crisis and then backing down ({Fearon, 1994 #471; Schultz, 2001 #472}) because the domestic audiences can remove them from office more easily than those audiences in other systems. Similarly, others argue that democracies are more likely to honor their alliance commitments to defend their allies because of such costs. In both cases, the clear public act of accepting the obligation combined with the public act of subsequently failing to live up to it signal to the domestic audience that the leader should be removed.[10] In the model described in the previous chapter, higher audience costs increased the chance that the state in question would comply with the prewar convention limiting battle strategies, assuming that the convention was publicly known to be accepted by both side before the war.

All three of the arguments above suggest that democracies are more likely to honor the laws of war than autocracies are, although each casts a different light why. Whether democracies will retaliate when they suffer violations against their troops does not follow as clearly from these arguments. If democracies are unwilling to engage in unlawful acts, then they may not unwilling to respond to atrocity in kind. Of course, they could find other forms of response than direct reciprocity; recently, the threat of war crimes trials after the war have been threatened to deter autocratic leaders from committing atrocities. Whether such threats work is not a point the current analysis can address as the use of such threats of postwar trials is a recent phenomenon.

Law-bound states might be quite willing and capable of responding to violations in kind, particularly when the treaty in question provides for reprisals in the original meaning of the term–a violation that retaliates against other violations in order to induce future compliance. In some areas of the law of war, such reciprocal responses lift the protections of the law when the other side abuses that protection for a military advantage. Whether democracies are able to carry out reciprocal responses to violations is not clear cut.

Finally, I turn to another way to think about how domestic regimes might influence a state's willingness to comply with the laws of war. All political leaders answer to a set of supporters, their winning coalition. To stay in power, a leader must keep his or her supporters from defecting to a challenger. Leaders can use public policy to reward their supporters with combinations of public goods–policies that benefit all in society–or private benefits–policies that reward specific individuals directly or indirectly. A central insight into politics is that public policy shifts away from the provision of private benefits and towards the provision of public goods as the size of the winning coalition that the leader requires to hold power increases ({Bueno de Mesquita, 2003 #463}). Leaders of modern mass democracies require a large winning coalition, roughly half of the electorate of their states. Autocratic leaders, on the other hand, rely on a much smaller set of supporters to retain power, and so are less likely to provide public goods to all in society. In this view then, democracies are law-bound states because the rule of law is a public good, and leaders of democracies have created institutions to enforce law in order to provide that public good.

This view of domestic politics has similar implications for compliance with the laws of war as more general views of democracies versus autocracies. First, no leader in any system draws support from enemy soldiers or civilians; their willingness to limit violence against the

enemy arises from the benefits such limits produce for their own supporters in terms of shortening the war or reducing the costs of fighting. This suggests that democratic leaders may care more about both sides complying than autocratic leaders because it is more likely that their own people suffering from violations will be supporters of the current leader. Because the supporters of the leader are more likely to suffer the consequences of atrocity when the winning coalition is large, leaders who answer to a large winning coalition should be more likely to comply, but also more likely to retaliate. It may also be the case that leaders who answer to a large winning coalition are less likely to commit the first violation of an agreement during war, as they would like to uphold those standards, but are more likely to retaliate against a violation. Put another way, autocrats are less predictable than democratic leaders; they have more latitude to do as they wish because they answer to fewer supporters.

Relative Power

The relative power between the warring parties could also affect their willingness to comply. Here the arguments present effects in both directions. If the sides are roughly equal, then both possess the ability to retaliate in some form, enhancing reciprocal deterrence of violations. On the other hand, the consequences of any military advantage gained from breaking a convention for which side wins the war might be more significant when the sides are equal. Similarly, when one side is much stronger than the other, it might be restrained because it knows it is likely to win without violating any conventions. On the other hand, a much stronger side might violate conventions to raise the cost of fighting, and so shock the weaker side into conceding quickly, as explained in the last chapter. As with democracy, I am agnostic on which of these effects dominates. It may prove to be the case that although each of these arguments

appears to hold in some cases, that in general, they cancel one another out and there is no systematic pattern.

There is one exception to my agnosticism here because the model does have a clear prediction concerning which side is responsible when the first violation comes late in the war. Assuming audience costs are constant across the war, a side close to victory can benefit from raising the costs of war by breaking a convention. Because this observation opposes the common wisdom that losing states break conventions in an attempt to stave off defeat, I will test it separately. It might be the case that the leader of a state near defeat would violate a convention because the chance that he will survive to face any audience, foreign or domestic, is slight.

Legal Obligation

The central puzzle of this book is whether international law shapes state behavior, and if so, when and how. If law matters, states' conduct during wartime should depend on their legal obligations. There are two different views of international law as legal obligation. One view assumes that legal obligations matter only when states agree to be bound by the standards in a treaty. This view puts the acts of treaty ratification and reservations as signs that a state has accepted the legal standards of the treaty. The second view asserts that legal obligations affect states as norms that shape their behavior even when states have not publicly accepted those standards.

The mechanisms of legal obligation or constraint through shared norms are audience costs and internalization of standards. Both views above see both mechanisms as working and effective in shaping state behavior, although they disagree about how each operates. As such, the evidence presented in this chapter cannot separate the details of these mechanisms. The analysis

can allow us to see if acceptance of legal obligations is necessary to limit state behavior by including cases where states have not accepted the current treaty in an issue-area. The analysis also includes an issue-area, aerial bombing, where no formal treaty has ever entered into force and so no legal obligations exist, even if norms against the indiscriminate bombing of civilians have and do exist.

The status of legal obligation can be specific to a state or dyadic if a state is committed to observe a treaty obligation only when the other side has also ratified the treaty in question. In the analysis, I test for both unilateral ratification and joint ratification of the relevant treaty.

Legal obligations could also depend on the political system of a state as described above; democracies could care about and honor their legal obligations while autocracies do not ({Hathaway, 2002 #481; Hathaway, 2005 #482}). It also could be that states are willing to overlook their legal obligations depending upon the course of the war. As argued in Chapter 3, a common view is that losing states may ignore their legal obligations in an effort to stave off defeat. I argued the contrary view that violations are likely to come early in the war if there is a military advantage to be gained by breaking a standard of conduct, and that when initial violations come late in a war, the victors are more likely to break the standard in an effort to compel their opponent to settle. Additionally, the side winning on the battlefield can insulate itself from possible retaliation by the losing side, making an initial violation more attractive.

Different Issue-Areas

State compliance with the laws of war should vary with the issue-area. In Chapter 3, I argued that violations by individuals produce noise, making reciprocal enforcement more difficult. Because different issue-areas provide varying levels of opportunities for individuals to

commit violations, overall levels of compliance should vary across issue-areas. Some issues, like prisoners of war and treatment of civilians, provide individual soldiers with frequent opportunities to commit violations on their own initiative. Other areas, such as chemical and biological warfare, have little scope for such individual violations because soldiers can only commit violations if the command authority gives them the means to do so. Other areas, such as conduct on the high seas, are less prone to violations by individuals because the ability to commit individual violations lies in the hands of officers higher up the chain of command than the common soldier. Consequently, I expect to find substantial differences in compliance across issue-areas independent of the legal status of those areas, and I expect that average compliance should decline as the role of noise from individual violations rises by issue.

Analysis of Compliance with the Laws of War during the 20th Century

The multivariate analyses predict which cases fall into the four levels of compliance I described above–full, high, low, and noncompliance. The analyses include a large number of variables to test for how the strength of reciprocity varies and for other sources of compliant behavior. I refer to the side in question as the violator and the other side as the victim. The four-level scale of compliance and the estimation of reciprocity pose two different threats to inference. The scale of compliance is ordinal; the categories are ranked from highest to lowest compliance, but there is no guarantee that the separation of the categories is equal. We cannot say that the rise in violations in moving from full to high compliance is of the same magnitude as moving from low compliance to noncompliance. The appropriate statistical technique for this issue is ordinal probit. The estimation of reciprocal effects raises the issue of simultaneity bias. I

estimate the effect of reciprocal responses by seeing how the violator's compliance varies with the victim's compliance. Because the victim's compliance is caused by the violator's compliance if reciprocity exists, the inclusion of the victim's compliance can bias upwards our estimates of the reciprocal effects. The appropriate statistical response is to create an instrumental variable for the victim's compliance, which eliminate the correlation between it and the violator's compliance and allows an unbiased estimate. The companion chapter presents the full results of these analyses and a lengthier discussion of these methodological issues.

The other issue the statistical analysis confronts is the quality of the data. As mentioned in the description of the data collection, the quality of the data varies across observations. In some cases, I employ standardized codings for one side when I lack any information on its acts during the war in question. To see if the results vary with the quality of the data, I have run each analysis three different ways, treating all observations the same, weighting by the quality of the data for both sides, and dropping all observations where I have a standardized coding for either side. The companion chapter presents all of these results.

The results I present in the graphics that follow are robust in the face of all of these issues. The graphics are based on the ordinal probit results weighting cases by the quality of the data for each observation. Still, the patterns I report appear in all the analyses, and so this particular analysis is representative of the patterns found in all of these analyses. Although the specific coefficients vary from analysis to analysis, the patterns and estimated effects are similar across all of them. Consequently, the results reported are not simply the effect of simultaneity bias or the erratic quality of the data.

Multivariate analysis allow us to estimate the effect of each variable on compliance while controlling for the others. It allows us to address the issue posed by the tables I presented earlier;

does the variation in compliance across issue-areas explain why there is no relationship between ratification and compliance? The ordinal probit results that I report in the following figures predict the probability of each level of the violator's compliance as a result of the victim's compliance. The effects of the different variables can be seen by calculating predictions of each level of compliance for combinations of those variables. Each of the figures shows how the probabilities of each level of compliance varies with one of these variables. Figure 4.2 gives two sample figures that illustrate how reciprocity appears in the figures. Because reciprocity is central to the results, I vary the compliance of the other side along the horizontal axis of each figure. The vertical axis gives the cumulative probability of each level of compliance. For each of the four levels of compliance of the other side, the color of the figure shows the probability of each level of compliance for the side in question; green is full compliance, yellow high compliance, orange low compliance, and red noncompliance. Overall levels of compliance can be seen by the amount of each color in each figure. Less green and more red means a greater chance of more and worse violations. The slope of the lines between the colored regions shows the degree of reciprocity. The picture on the left-side of Figure 4.2 shows no reciprocity whatsoever; the chance of each level of compliance is the same no matter what the compliance of the other side is. The lines between the colored regions are all horizontal as the chance of the violator's compliance does not vary with the victim's compliance. (I have also made the probability of each level of compliance equal in this picture, but the key element is the horizontal divisions between the colored regions.) The right-hard side picture shows perfect reciprocity; the compliance of the side in question always matches that of the other side. The lines between the colored regions all slant downward diagonally from left to right, and the color at each level of the victim's compliance corresponds to that level of compliance. For instance, tracing directly up

from High Compliance for the victim, the picture is entirely yellow, meaning that the violator always also has High Compliance. The two key points to remember when looking at the figures depicting the estimated effects is that the amount of the colors shows the overall average compliance, with more green and yellow and less orange and red meaning better compliance, and the degree of diagonal slant between regions giving the strength of reciprocity, with a higher slant meaning stronger reciprocity. These pictures allow the reader to see quickly how reciprocity changes in the slopes of the lines between regions and the overall level of compliance in the color scheme.

Figure 4.2 about here

Ratification Status and Regime Type

I begin with the effects of ratification status and regime type. I considered their effects together because there are important interactions between them. Figure 4.3 shows the interactive effects of regime type and legal obligation through joint ratification. The six separate diagrams are arrayed with the rows showing whether the state is question is a democracy or not and the columns specifying whether neither, just the violator, or both parties had ratified the most recent treaty on the issue in question. Legal obligation through ratification has two important effects. First, joint ratification strengthens reciprocity. The borders between the regions are steeper, particularly when the victim is less compliant, in the two pictures in the right column than in the other four. When both sides are obligated through joint ratification, both respond to substantial violations in kind. All the pictures have relatively steep drops when the victim's compliance moves from full to high compliance. Reciprocity matters more when the other side commits substantial violations. This stronger reciprocity under joint ratification does not depend on

whether the violator is a democracy; the two pictures on the right reflect comparable strengths of reciprocity. Reciprocity still works to some extent even when at least one side has not ratified the most recent treaty, but it is weaker in those cases. Reciprocal responses under joint ratification are 28 to 162% stronger than the other cases, with cases where only the initiator has ratified have the weakest reciprocal responses.[11]

Figure 4.3 about here

The stronger reciprocal responses under joint ratification also produce more compliance through effective deterrence. The green areas in both of the pictures in the right column are larger than in the other four pictures, showing that full compliance is more likely. The deterrent effect of joint ratification is not strong as the differences in the green area is not large, but it is noticeable.

Ratification and restraint go together for democracies but not for other systems. Of the six pictures in Figure 4.3, a democracy which has not ratified the relevant treaty, the bottom picture in the left column, has the worst record of compliance as can be seen in the small amount of green and large amount of red in that picture. In contrast, the other two pictures for when the violator is a democracy show more green and less red, and hence have better records of compliance. We do not see the same pattern looking across the top row corresponding to a nondemocracy. Ratification makes little difference on the behavior of a nondemocracy beyond the added deterrence under joint ratification.

The tendency of democracies to comply less when they are not legally bound through ratification of the most recent treaty is partially a consequence of the issue of aerial bombing. The companion chapter reports results that exclude that issue, which reduces the increase in violations for democracies that have not ratified by about one-third. There has never been a

formal treaty signed, much less ratified, to address aerial bombing. The major aerial bombing campaigns of the 20th century were generally carried out by democracies; the United States, for one, has conducted extensive aerial bombing campaigns in every war it fought beginning with World War II. I return to discuss aerial bombing in detail in Chapter 6.

The effect of reservations on compliance shows the logic of ratification as a signal of intent to comply with an agreement. The effects are small, so I do not depict them in a figure or report their results in the tables of the companion chapter. Nondemocracies that have lodged a reservation to the most recent treaty commit more violations than those that have not, and the effect is statistically significant although not large. Reservations by democracies, however, do not lead to lower compliance. Reservations slightly improve compliance by democracies but the effect is not statistically significant. This pattern suggests that reservations are a signal by nondemocracies that they will not fully comply with the treaty. For democracies, on the other hand, reservations signal that they take the treaty seriously and lodge their reservation only to clarify portions of the treaty with which they have a specific problem.

Figure 4.4 shows the effects of state violations–those that are a consequence of a decision by state authorities–as opposed to individual violations–cases where the violations are committed by individual soldiers without government approval. As can be seen in the two diagrams, there are no significant differences in compliance or reciprocity based on whether the violations are the result of state policy or individual acts. If anything, violations by individuals may produce stronger responses. This could be the result of conscious reciprocal enforcement. Retaliation may not change the behavior of a government which has already decided its forces will commit violations as a matter of policy, but it might convince a government to institute disciplinary measures to stop violations committed by their soldiers in violation of state policy. Government often do not discipline their soldiers for such violations when an effective system of training and military justice could reduce these acts.[12]

Figure 4.4 about here

There is another important difference between state and individual violations; state

violations are worse on average. Table 4.6 breaks down the level of compliance by whether the violations were committed by individual or as a matter of state policy. When the violations are committed by individuals, the state still is in high compliance about two-thirds of the time. When the violations are a result of state policy, those violations rise to the level of low or noncompliance close to three-fifths of the time. Although reciprocal responses to individual violations may match those violations more closely, the worst violations are generally the result of state policy.

Table 4.6 about here

A surprising result is that legal clarity has little real effect on reciprocity; the strength of a reciprocal response is about the same whether the victim's violations are clear violations of the law or in legal dispute. To be precise, legal clarity strengthens reciprocal responses when the parties are not legally obligated through joint ratification, but it has no effect when they are so obligated. I do not produce a figure to show this lack of an effect to avoid taxing the reader with too many of these figures. This surprising result may arise because few cases fall into the category of legal doubt. When joint ratification exists, most violations are at the level of definite legal violations. There are only 10 cases of violations in clear legal dispute under joint ratification, and both sides have high or full compliance in these cases.

Differences across Issues

Figure 4.5 depicts the variation in compliance across issues in the laws of war. I have placed the pictures of the issues in the order of the degree of compliance. Chemical and biological warfare (CBW) has the best record of compliance and is at the top left. Average compliance declines moving across the top row of the figure, and then across the bottom row.

Treatment of civilians has the worst record of compliance and is at the bottom right of the eight pictures in Figure 4.5. These differences can be see easily in the amounts of green and red in each picture. The difference in average compliance between CBW and treatment of civilians is large. Ranking all eight issues from the highest average compliance to the lowest, they are CBW, armistice/cease fire, conduct on the high seas, aerial bombing, protection of cultural property, treatment of the wounded, prisoners of war, and treatment of civilians.

Figure 4.5 about here

This order corresponds to the scope for violations by individuals across issues. Individual soldiers cannot use chemical weapons unless their commanders give them the weapons to use, while every soldier on the battlefield has the ability to kill civilians and enemy soldiers attempting to surrender. The intermediate issues often provide opportunities for lower-level commanders to commit violations. Ship captains can violate the rules for conduct on the high seas by refusing to take on enemy sailors whose ships they have sunk. Individual violations make it difficult to tell whether the other side is trying to comply with an existing standard, which can lead to escalation in violations through tit-for-tat feuds on the battlefield. The pattern of compliance across issues suggests that such noise and the resultant difficulties it poses for reciprocal enforcement is key to how the laws of war can regulate combat.

Relative Power

The effects of relative power on compliance are reduced by legal obligation through joint ratification. The first two rows of Figure 4.6 give six compliance pictures that vary the power ratio of the two sides up and down by one standard deviation and whether both sides have ratified the relevant treaty. Looking across the second row when the violator has not ratified the relevant

treaty, compliance goes down some as the violator becomes stronger. There is no visible difference across the first row.[13] Legal obligation through joint ratification effectively eliminates the tendency of stronger states to commit more violations. The last row of Figure 4.6 shows compliance when the violator loses the war. Here the effect of power is the opposite of what one might expect; violations rise as the losing violator becomes weaker. Compared to the other variables considered so far, relative power has no substantial effect on compliance.

Figure 4.6 about here

Finally, Figure 4.7 shows the effect of changing the intensity of the war as measured by battle deaths per 1000 prewar population. Intensity has a noticeable effect on compliance as more intense wars have worse records of compliance. This effect is comparable to that of a democracy that has not ratified the relevant treaty.

Figure 4.7 about here

Comparisons across Variables

How important are these different effects? What factors play the largest role in compliance? Such comparisons are more easily done directly from the estimated coefficients in Tables 4'.3. Nevertheless, we can still see the relative importance of these effects by comparing across figures to see how much the different levels of compliance change for changes in the variables. The issue has the largest impact; the difference in average compliance between CBW and treatment of civilians is larger than any of the other differences considered here. Next and comparable in magnitude to issue is reciprocity when both parties are legally obligated through joint ratification. The effects of issue and reciprocity under joint ratification are roughly one level of compliance; changing the issue from chemical and biological warfare to treatment of

civilians reduces compliance one level, such as from high to low, and shifting the victim's compliance from full to none has about the same effect. After these two, the unilateral restraint of a democracy which has ratified the relevant treaty has the next biggest effect. Losing the war at hand and increasing the intensity of the war produce similar and lesser reductions in compliance. The strength of reciprocal responses does not vary appreciably with either legal clarity or whether the violations are state policy or the result of individual acts nor does relative power have much effect on compliance.

Explaining the Patterns

What do these results tell us about the hypotheses of the model from Chapter 3? First of all, reciprocity enforces the laws of war. Violations are met with violations, providing one motivation to comply with existing treaties. However, reciprocity often fails, and the sides both commit many major violations. We cannot tell from the data how often reciprocity succeeds in enforcing a standard because such cases are those where both sides comply which could also be the result of self-restraint. Reciprocal responses generally do not match the violations that trigger them; the fit between the estimated equations and the data is not strong. In Table 4.6, it is more likely that the compliance of one side does not match that of the other, even though they move together. Reciprocity on the laws of war is not a tit-for-tat process.

The presence of noise introduced by violations shapes how reciprocity works in practice. *The degree of compliance across issues matches the scope for individual violations in those issues*. The issue with the most compliance–chemical and biological weapons–is the issue where individual soldiers have the least ability to commit violations acting on their own. They can only

use such weapons if the command structure distributes them. At the other end of the spectrum of compliance is treatment of civilians, an issue where every armed soldier has the ability and opportunity to kill and plunder civilians. Further, civilians, unlike enemy soldiers, often lack the ability to retaliate against armies that commit violations against them, undermining any sense of immediate retaliation that might deter violations. In between these extremes, the issues which have higher levels of compliance–aerial bombing, armistice/cease fire, and conduct on the high seas–allow greater scope for individual violations than CBW but still place that opportunity at the level of officers–pilots, local commanders, and ship captains, respectively–than the other issues where the individual soldier has the ability to commit violations even against orders. These other issues–protection of cultural property, prisoners of war, and treatment of the wounded–often break down on the battlefield because of individual violations, as we will see in the next chapter on prisoners of war. The effects of centralization on reciprocity are consistent with the role of noise; strong responses are more likely when the violations are committed by individuals than when they are state policy. As theories of reciprocity under noise predict, more noise increases the chance that reciprocal enforcement will break down into violations and noncompliance.

Effective reciprocity in the face of noise requires bright lines of conduct to help the sides separate deliberate violations that require a response from the inadvertent ones that do not. The laws of war attempt to establish clear rules of conduct that will help warring parties understand which actions are unacceptable. The statistical evidence shows that warring parties respond more strongly to clear legal violations of the treaties, supporting this argument. States do respond to violations that are legally ambiguous, but they respond more strongly to clear legal violations of the treaties.

The pattern of evidence does not support the argument that states live up to their legal obligations out of a sense of moral restraint. Legal obligation through joint ratification has no effect on its own. Democracies do comply somewhat more when they are legally obligated to do so; however, they commit more violations when they are not. This pattern contradicts the argument that the norms of appropriate conduct are more important than their legal implementation. As mentioned above, democracies are less likely to comply than other types of states when they do not have a legal obligation to do so. Aerial bombing accounts for much but not all of this pattern. I take up the specifics of aerial bombing and how democracies have viewed it in Chapter 6. For now, I point out that democracies should be more likely than other systems to follow general normative principles, yet the wartime behavior of democracies depends on their legal obligation. The pattern of evidence is consistent with both an audience cost argument and an argument that democracies are more likely to comply with legal obligations because they are more likely to be law-bound states. Both arguments predict that legal obligation is the trigger for compliance by democracies. Legal obligation signals democratic audiences about which commitments their leaders are supposed to follow; law-bound states will try to live up to their legal obligations. Both arguments need to the assumption that violations by the other side free a democratic state from its legal obligation to account for the pattern of reciprocity found here.

The effects of power provide some support for an argument about moral restraint. More powerful states are more likely to commit violations, presumably they have greater opportunity to commit them than their weaker opponents. The laws of war often seek to protect vulnerable targets, both military and civilian. Stronger states are more likely to win on the battlefield, providing them with access to enemy targets while protecting their own. Legal obligation and

winning on the battlefield reduce but do not eliminate the effect of greater power on violations. This combination suggests that moral restraint may play a role. However, audience costs could also explain the pattern as the leaders of winning states have to worry about the reaction of their domestic audiences to how they fight in a way that losing leaders do not have to. This evidence is not sufficient to allow us to judge between these arguments.

Analysis of Outlying and Discordant Cases

One set of evidence that could be helpful in separating these arguments are the outlying cases where the statistical model does not fit well. I focus on dyads where either the model does not explain either side's compliance well–the outlying cases–or those where reciprocity is not present–the discordant cases. My purpose is to see if the logic of reciprocity could explain why these cases either do not fit the statistical model or account for why one side refuses to respond to extensive violations of the other side. I use the instrumental variable analysis using the interaction of clarity with the victim's compliance with weighted data (second cell in the middle column of Table 4'.4) to judge outlying cases.[14] I begin by looking for all the directed dyad-issue areas where the residual from this model exceeds two standard deviations of all those residuals. Out of these 51 cases, I then look for pairs of these cases which represent the two sides of a dyad for a given issue-area. These pairs of cases are those dyads where the compliance of both sides deviates substantially from the prediction of the model.

There are four dyad-issue areas identified by this procedure. The use of chemical weapons between Germany and Great Britain during the First World War is a case where the conduct of both sides was much worse than the model predicted.[15] This is the greatest use of chemical weapons, when the use of such weapons became commonplace on the Western Front.

Any use of chemical weapons is unusual, and such use tends to be one-sided when they are used as we will see in Chapter 6. The other three cases occur when one side's conduct is much better than expected and the other's is much worse. These cases are the failure of the former side to make a reciprocal response to the atrocities of the latter. Listed in the order of the side with the much better conduct followed by the side with the much worse conduct, they are: treatment of civilians by Russia and Turkey during the First World War, conduct on the high seas between Italy and the Western Allies during the Second World War, and aerial bombing between North Korea and the UN during the Korean War. The first is Turkish atrocities during the First World War against Armenian civilians where Russia saw any interest in retaliating. The Russians sought to protect Armenians and recruited troops from them. In the second, Italy was the victim of submarine attacks on its merchant shipping and had no real chance to retaliate.[16] North Korea in the third case lacked any real capability to retaliate for extensive aerial bombing of its cities. The paucity of these cases where one side does not retaliate against atrocities of its opponent suggests that unilateral moral restraint occurs very rarely.

The discordant cases are defined using the ordinal measures of compliance. I look for cases where one side fully complied with the standard or had high compliance while the other engaged in violations at the level of noncompliance. As a reminder to the reader, a side is coded as being noncompliant when it commits major violations frequently. These cases are listed in Table 4.7. The cases fall into two rough groups. First, there are cases where the compliant side had little capability to retaliate. The aerial bombing cases in Table 4.7 are cases where the compliant side did not use what little air capability it had to engage in aerial bombing outside of the battlefield.[17] The compliant side in the cases of conduct on the high seas did not deploy its naval forces where they could attack merchant shipping, greatly reducing the opportunity for

violations. The second group concern treatment of the wounded where the compliant side commits itself to humane treatment despite the violations of the other side. In the first group, the compliant side has little ability to respond; in the second group, it has made a conscious decision not to respond. Only seven cases fall into this second group, again implying that unilateral restraint in the face of frequent major violations is rare.[18]

Table 4.7 about here

Reciprocity and Total Compliance

To investigate how reciprocity varies, I analyze how reciprocity varies across pairs of warring sides. The dependent variable is the difference between the compliance of the two sides; low scores mean that both sides had similar levels of compliance and higher scores that their compliance was different and hence reciprocity was weak in that dyad. The companion chapter presents a multivariate analysis of reciprocity, whose results I summarize at the end of this section. Here I present the main results about how reciprocity varies across dyads through a series of tables on ratification status, regime type, and issue. I also examine how reciprocity influences the total compliance in the dyad–the sum of the compliance scores of both sides–to see whether reciprocity actually enforces higher levels of compliance. Low scores for total compliance indicate better records of compliance, and higher scores worse records.

Table 4.8 shows how reciprocity and total compliance vary with the ratification status of both sides, broken into whether both, one, or neither ratified the relevant treaty. The three separate tables here vary the cases included to show reciprocity and enforcement fully to see if reciprocity works when violations are committed as well as when both sides fully comply.[19]

Table 4.8a includes all cases; Table 4.8b includes only cases where at least one side committed some violations– dropping cases where both sides fully complied, and Table 4.8c includes only cases where both sides committed violations. The pattern in all three tables is the same. Reciprocity is weakest (higher scores) and total compliance worse (again higher scores) when only one side has ratified the relevant treaty. These differences are all statistically significant at the .01 level or higher. Reciprocity has similar strength when both or neither have ratified the relevant treaty, although joint ratification has a slightly better record of total compliance when both sides commit violations. None of these differences is statistically significant, however.

Table 4.8 about here

Table 4.9 examines the effect of regime type in the cases where only one side has ratified the relevant treaty. The analysis of compliance showed that ratification induced unilateral restraint only for democracies. This result implies that unilateral ratification by a democracy should undermine reciprocity because it is unwilling to retaliate. Again there are three tables for all cases, cases where at least one side commits violations, and cases where both sides commit violations. Reciprocity is weaker (bigger differences between the compliance of both sides) and total compliance is worse (again higher scores) when the democracy is the sole ratifying party. The number of cases is small, so the only difference that is statistically significant is the difference in total compliance when both sides commit violations (Table 4.9c).

Table 4.9 about here

Table 4.8 suggested that reciprocity is roughly the same when both have ratified the relevant treaty and when neither has. Table 4.10 examines reciprocity and total compliance by regime type for these two types of ratification status to see whether a democracy in the war changes the effects of ratification status.[20] The tables show that democracies are capable of

retaliating in both situations. Joint ratification improves total compliance the most between nondemocracies when both commit violations; these are clear cases of reciprocal enforcement. None of these differences are statistically significant, however, at any commonly accepted level of significance.

Table 4.10 about here

Table 4.11 examines the differences in reciprocity and total compliance between neither ratified and both ratified controlling for the greatest legal clarity of violations by either side. Legal clarity is supposed to reinforce reciprocity by creating bright lines between acceptable and unacceptable conduct, although I have little evidence for that argument so far. Controlling for legal clarity, reciprocity is stronger and total compliance better under joint ratification than when neither has ratified the relevant treaty in almost all situations.[21] Further, the tables show why reciprocity and total compliance are comparable between these two statuses of ratification. Lower levels of legal clarity also have better records of compliance, largely because low levels of compliance are violations that are clear legal violations of existing standards. Then cases where the legal status of violations are in question are less likely to be major violations nor are they likely to be frequent, which means these cases show higher reciprocity and compliance. These cases predominantly occur when neither side has ratified the relevant treaty; if violations occur under joint ratification, they are clear legal violations in 84% (164 of 195) of the cases, whereas less than 50% (60 of 121) of the cases of violations when neither side has ratified the relevant treaty are clear legal violations. The better record of compliance under joint ratification is statistically significant at the .06 level for Tables 4.11b and c.

Table 4.11 about here

I now turn to differences in reciprocity and total compliance across issues. Table 4.12

breaks down reciprocity and total compliance by issue. The earlier analysis of compliance broke the issues into two groups based that reflect the scope for individual violations and so average compliance. The issues with the least scope for individual violations–Chemical and Biological Warfare, Armistice/Cease Fire, Aerial Bombing, and Conduct on the High Seas–exhibit greater reciprocity than those with a larger scope for individual violations–Treatment of Civilians, Prisoners of War, Treatment of Wounded, and Protection of Cultural Property. The difference is statistically significant at the .01 level if all cases are included, but the difference reverses if at least one side commits violations and disappears if both sides commit violations. The low-noise issues have average reciprocity of .45 when all cases are included, .84 when at least one side commits violations, and .48 when both sides commit violations; the parallel values for the high-noise issues are .61, .64, and .53 respectively.

Table 4.12 about here

The effects of noise across issues also depends on ratification status and regime type. Table 4.13 presents reciprocity and total compliance comparing high and low noise issues broken down for ratification status–neither or both ratified. Although joint ratification does not generally produce stronger reciprocity than neither ratifying, it does generally produce better total compliance. Four of the six differences in total compliance comparing across ratification status are statistically significant at the .02 level or higher. The two exceptions are on the low-noise issues when violations occur (the left-hand side of Tables b and c). Joint ratification then has the greatest deterrent and restraining effect on the high-noise issues. On the low-noise issues, joint ratification leads to full compliance by both sides in 57% of the cases (59 out of 104), whereas only 37% (44 out of 119) of the low-noise cases whether neither side has ratified have full compliance by both sides. When violations occur on a low-noise issue, joint ratification does not

strengthen reciprocity or improve compliance. Instead, it discourages any violations to begin with.

Table 4.13 about here

I end this section with a brief summary of the multivariate results on reciprocity and total compliance that the companion chapter presents in full. The results support the patterns reported here, but they also allow me to include continuous variables, such as the difference in power of the two sides. Reciprocity induces better total compliance. Power reduces reciprocity some while raising total compliance. This pattern may occur because a side that is much stronger than the other can limit the latter's ability to inflict violations on it. More intense wars have worse records of total compliance, even though reciprocity does not vary with intensity.

Searching for Firewalls

In Chapter 3, I argued that the laws of war separate issues to channels when and how reciprocity occurs. Reciprocal responses occur on the issue-area where the violation occurs. Actors, whether they be states or individual soldiers, do not retaliate to a violation by committing violations on a different issue-area. These firewalls between the issue-areas prevent the spread of violations from one issue-area to another, so that some standards of conduct are still honored even if others are not. Thus the laws of war continue to limit violence during wartime even when some of those restraints fail.

I test this claim against the patterns of conduct captured in the data. If actors respond across issues, then compliance on a given issue-area should be affected positively by compliance of the other side on other issue-areas above and beyond that predicted by the compliance of the

other side on that issue. If firewalls exist between the issue-areas, then we should find that the compliance of the other side on other issue-areas is not correlated with compliance on the given issue once we control for the other side's compliance on that issue. I look for cross-issue correlations in the residuals of the instrumental variable analysis. If states often retaliate against violations by the other against their soldiers held prisoner by attacking the civilians of the latter, then the residuals of compliance on prisoners of war should be positively correlated with those of compliance with treatment of civilians. When the compliance of one side on one issue is much higher or lower than we expect from the model, then the compliance of the other side on the other issue should be also. This test is conservative in the sense that it would miss cross-issue retaliation if the variance from such is correlated with one of the exogenous variables in the instrumental variable analysis used to calculate the residuals. I am conservative in interpreting the correlations. Furthermore, a negative result means only that there is no evidence of cross-issue retaliation occurring regularly; a negative result would not exclude individual cases of cross-issue retaliation. Firewalls, if they exist, merely try to separate issues so that retaliation operates only within them and not across them.

The observation in this test is the directed warring dyad, not the warring directed dyad-issue as it is in the analysis of compliance.[22] I take the residuals of the best instrumental variable analysis and collapse the data set so that I have the residuals on all issues for both sides for each directed dyad. Figure 4.8 shows the pattern of correlations among the residuals of different issues between warring parties. I plot statistically significant correlations, using a dashed line to indicate statistical significance at the .1 level and a solid line for the .001 level. A black line indicates a positive correlation, a red line a negative correlations. Of the 28 correlations across warring sides and issues, only five are statistically significant at the .1 level and only one at the

.05 level.[23] The largest correlation, that of protection of cultural property and conduct on the high seas, is negative, contradicting cross-issue retaliation as an unusually high level of violations by one side on one issue is linked to the other side have an unusually high level of compliance on the other. Two of the five statistically significant correlations are negative. There is no systematic grouping of issues and few of the correlations are significant at even the .1 level. There is little evidence here consistent with cross-issue retaliation generally, and so we have some evidence, albeit weak, that firewalls do exist between different issues in the laws of war.

Figure 4.8 about here

To check that the lack of significant results here is not just a property of the randomness of residuals, I also calculate the cross-issue correlations for each warring side on its own. Do sides that tend to commit high levels of violations on a given issue consistently commit more violations on another? Figure 4.9 shows the patterns of correlations in the same way as Figure 4.8 does. Here the evidence is much stronger than compliance by warring states is correlated across issues. Of the 28 correlations, 15 are positive and statistically significant at the .1 level, and nine of those are statistically significant at the .001 level. There are no statistically significant negative correlations. In general then, those states that comply a higher level than they should on one issue tend to do so for more issues. Further, the issues fall into two groups which state compliance is highly intercorrelated among all the issues. The first set–aerial bombing, chemical and biological weapons, and conduct on the high seas–are all issues with low levels of noise. The second set–treatment of civilians, prisoners of war, and treatment of the wounded–are all high noise issues. Noise could explain this grouping of issues; once a side decides it is going to violate on the low noise issues, its violations are clearly the act of the cental government and so it might as well violate on the other low-noise issues as well. The correlation

on the high noise issues would be the result of a collapse of these standards generally whether a deliberate act of policy or inadvertent escalation induced by noise on the battlefield. Another possible explanation lies in the willingness of states to impose discipline on their own soldiers. Large scale violations on the second set of issues–civilians, POWs, and enemy wounded–are often the result of a breakdown or of discipline in an army or the lack of any discipline to begin with. The first set of issues would be the result of a government simply ignoring the standards generally.

Figure 4.9 about here

We have some evidence then that firewalls do exist in the laws of war. States do exhibit patterns in their own compliance or the lack of it across issues, but I found little evidence that such patterns exists across issues between states. Again, this test looks for systematic patterns of cross-issue retaliation but does not find any. It could still be the case that warring parties do retaliate in particular cases across issues, but there is no evidence that such retaliation occurs regularly. The laws of war in practice have been upheld on some issues even while they were failing on others.

Timing of First Violations

The model in Chapter 3 predicted that if a state violates a treaty standard, it would do so early in wars in order to gain the strategic advantage of that violation as soon as possible. When violations come late in a war, the side winning on the battlefield, not the loser, should be more likely to break the standard. The winning side could use such violations to raise the cost of continuing the war to its opponent, pushing the latter to agree to terms to end the war. These

hypotheses contradict the view that the first violations come from states desperate to stave off defeat. This section presents the results of a survival analysis on dates of first violations to test these hypotheses.

I collected dates of first violations in the data set for this analysis. These dates give the first violation of the standard when we could find such dates. The best evidence for such dates are single acts that are violations tied to a specific report with the date of the act. Chronologies of the World Wars (e.g. [Gray, 1990 #135]) are particularly helpful in tracking down these dates as are detailed military histories. Dates were coded conservatively with the last date of the month used for violations where I had only the month in which the violation occurred. First dates could not be found. All the cases of standardized codings of violations are dropped from this analysis because such codings were used only when I had no information on specific violations and so could not place a date.[24]

These dates of first use have the important caveat that the first violation was coded even if it was minor compared to major violations by the same side later in the war. For example, Germany's first use of chemical weapons on the Western Front of World War I is the chlorine gas attack on April 24, 1915 in the Second Battle of Ypres. The Germans claimed that this attack did not violate the Hague Regulations against the use of projectiles that spread asphyxiating gases because the gas was discharged from cylinders. Like the Western Allies, Germany later used gas shells, a clear legal violation of the standard for the coding of legal clarity. The first use of gas then was not the same as the acts underlying Germany's coding on the issue across the entire war.

Survival analysis, also known as event history analysis, is the statistical analysis of durations before an event occurs that originate in epidemiology (see [Box-Steffensmeier, 2004 #461] for an introduction to survival analysis as used in political science). It is called survival

analysis because it was developed for data on how long medical patients lived. The basic unit of observation in this analysis is the warring party for a particular issue, and the dependent variable is time in days from the start of the war until a side commits its first violation on that issue. Those cases where the side in question fully complies throughout the war are right-censored; the observation is simply that no violation had occurred by the time the war ended. The statistical techniques of survival analysis allow us to use this information in addition to all the cases which did result in a violation. I focus on hazard rates, the chance that a case ends–here has its first violation–at a given time. Hazard rates can be expressed as a function of time, which tells us how the chance of a first violation changes as a war progresses. If the hazard rate is increasing with time, then first violations become more likely as the war goes on. If it is decreasing, then first violations are more likely early in the war. If the hazard rate is flat, then the chance of a first violation per time period does not change during the course of the war. We can also see how the hazard rate across cases varies with the variables we have examined earlier in this chapter. Here the analysis tells us whether the chance of a first violation increases (or decreases) with a given variable. Typically, such analysis assumes that an independent variable has the same effect on the hazard rate across time, simply multiplying it by the same amount at every time; this assumption is known as proportional hazards. Variables may have effects on the hazard rate that are not proportionate, and I test for those exceptions.

In most applications of survival analysis to political science, how the hazard rate varies with the variables is the primary question of interest. For instance, we might want to know how characteristics of a coalition government affect its duration in office. Here my main interest is the shape of the hazard function, not how it varies across cases. The model in Chapter 3 led to the conclusion that the hazard rate of first violations should decline as a war progressed. A side

that saw a strategic advantage in violating the laws of war should do so as soon as possible in the war. I test this hypothesis by estimating duration models that allow for the possibility of the hazard rate increasing and decreasing over time. The estimates that give the shape of the hazard function allow a statistical test of whether it consistently rises or falls over time. The companion chapter presents the full details of this analysis; here I present those results graphically.

Figure 4.10 depicts the estimated hazard rate for first violations by length of the war in days. The quick drop in the hazard rate can be easily seen in the graph of the estimated hazard rate. I have plotted the passage of time on a logarithmic scale to spread out the quick decrease in the hazard rate in the first days of the war to make the magnitude of the change easier to see if far less dramatic graphically.[25] The hazard rate drops quickly from its original high on the first day of the war. It drops by more than one-third in the first ten days of the war and is less than one-half of its initial value within one month of fighting (the line at 30 days in Figure 4.10). Within two months, the hazard rate has almost dropped to one-quarter of its initial level, and within a year, it has dropped to one-eighth of its initial high value.

Figure 4.10 about here

The hazard rate is the daily risk of a first violations, and although it is highest early in the war, there is still a significant chance of first violations later in the war. Figure 4.11 gives the chance that a side will not have committed any violations as a function of time passed during the war. The scale of the time axis is linear rather than the logarithmic scale used in Figure 4.10. There is about a 15% chance of violation within the first month of the war; the risk of a violation rises to over 30% within the first six months of the war. After a year, the risk of the standard being violated is over 40%, which rises above one-half after two years. (These points in time correspond to the vertical lines in Figure 4.11.) Figure 4.11 overstates the chance that violations

will occur at some time during a war because it does not account for the fact that most wars are shorter than the period of time depicted in the figure. The median duration of a war in the data set is 237 days. About 45% of the wars last one year, and less than one-third last two years or longer (32.9% to be exact). The picture remains the same; warring parties are much more likely to violate the laws of war early rather than late in the course of their war.

Figure 4.11 about here

I can also test for reciprocity using survival analysis. I separate first violations into whether they were the initial violation in the warring dyad or a response to an initial violation by the other side. Cases where both sides committed first violations on the same day were not considered as reciprocal responses to one another. Including a variable for whether the other side has already committed a first violation allows me to see how quickly states respond to first violations by the other side. The more quickly the response comes, the more immediate the reciprocity.

Reciprocal responses are swift. Figure 4.12 shows the estimated hazard rates for first violations and reciprocal responses after a first violation by the other side. The estimated chance of responding to a first violation during the day immediately after is *over 40%.* The chance of a reciprocal response falls off very quickly so that two months after the initial violation, it is not greatly higher than the chance of a first violation. Figure 4.13 shows the chance that a side will not have committed a violation as a function of time since either the war began or the other side has committed its first violation. I have shortened the time period shown in Figure 4.13 compared to Figure 4.11 to show how rapid reciprocal responses are. There is almost five-sixths chance that a side will respond to a first violation within *five* days. There is a 95% chance of a response violation with one month of the initial first violation. Of course, this analysis does not

tell us about the size of the reciprocal response nor does it demonstrate that the responses were adopted as retaliatory responses. But it does show that first violations are often met quickly by violations.

Figures 4.12 and 4.13 about here

Cases of First Use Late in a War

As the survival analysis shows, first violations tend to come early in wars, not late, as the model in Chapter 3 predicted. A side might choose to violate an agreement that had held throughout the war in a last effort to effect the outcome of war that was almost decided. While some argue that losers in such situations should be those who break a standard that has held in order to stave off defeat, victors might do so in the model in order to force their opponent to surrender and end the war. To test these two possibilities, Table 4.14 lists all the cases where one side committed a first violation by either side on the given issue after the war has gone on for at least one year and where that side's compliance was low at best.[26] I exclude cases where the violator committed only isolated violations because such violations could not be part of a campaign to influence the outcome of the war. This measure excludes cases of accidental sinking of hospital ships for instance. I have classified these cases of late first use based on the military position of the violator in the war at the time of the first violation; were they clearly winning or losing or were the two sides relatively even in the results of battle? Table 4.14 uses five levels to describe the military situation at the time of the first violation–whether the violator was clearly winning, was favored on the battlefield, neither winning nor losing, unfavored, or clearly losing. There are no cases of the first violator clearly winning, and five of the nine cases are even on the battlefield.

Table 4.14 about here

Of these nine cases, only Serbia's violations against Austro-Hungarian prisoners was a clear decision reached on the battlefield before the first violation. Serbia was overrun quickly by after Bulgaria joined the Central Powers by a combination of German, Austrian, and Bulgarian troops. The violations in this case occurred when the Serbians forced around 40,000 Austrian POWs to march with their retreating forces across the mountains into Albania ([Fryer, 1997 #274]). Given the difficult conditions of a forced march across the Albanian mountain as winter approached, many of both sides died. The two cases where the violator was favored, Turkish treatment of British POWs after the surrender of Kut in Iraq and German treatment of Italian POWs after the Battle of Caporetto, are also the first occasions when these violator took large numbers of prisoners from the forces of the victim. The case that most closely fits the picture of a losing side violating a standard to prevent defeat is Iraq's use of chemical weapons against Iran. Although the Iranians were gaining ground when Iraq used mustard gas in 1983, the fighting was still along their border, meaning Iraq was not close to defeat. Most of the cases occur in situations where the battle results do not clearly favor either side. The conservative coding used for dates of first violation also mean that some of these cases may have had earlier violations for which I was unable to pin down an explicit date. I would be surprised, for example, if the first atrocity by North Vietnamese forces against civilians during the Vietnam War happened in 1967. However, that is the date of the first verified atrocity that I could document. The cases of late first use do not support this conclusion of the model nor its alternative. First violations come early, not late in war.

Cases of Early First Use

The model in Chapter 3 argued that a side would be willing to violate a standard if it saw a clear strategic advantage in doing so. One way to test this conclusion is to examine the cases where a side committed a first violation when the survival analysis predicted it should not. To find these cases, I examine the deviance residuals of the survival analysis including reciprocity. Table 4.15 lists the cases where the deviance residual exceeded 2, the side in question committed the first violation, and its violations rose to the level of low compliance or noncompliance (magnitude and frequency greater than or equal to 3). These are the cases where a side was the first to commit frequent major violations early in a war when the survival analysis predicts that they were unlikely to commit violations at all. The model suggests that there should be many cases where the strategic effect of breaking the standard favored this side.

Table 4.15 about here

Of the seventeen cases in Table 4.15, I judge that at least eleven were cases where the effect of breaking the standard favored the violator over the victim even if the victim retaliated. France placed strong restrictions on German and Austrian civilians at the outbreak of World War I out of fear of espionage and sabotage, interning 45,000 enemy aliens in concentration camps. The number of French citizens in Germany and Austro-Hungary at the outbreak of war was much smaller, and Germany did not intern French citizens in camps until after the German public became aware of France's policy of internment of German citizens ([Garner, 1920 #259], 74-80). Although France gave German merchant ships a grace period of seven days before they were subject to seizure in French ports and by French warships on the high seas, the seizure of merchant shipping violated the Hague Convention and greatly favored France over Germany because the German fleet was contained in harbor by the British while the French fleet had free access to the high seas ([Garner, 1920 #259], 149-56). Germany lost almost two-thirds of its

merchant shipping to seizures and internment in neutral ports within one month of the outbreak of war ([Herwig, 1996 #33], 288). Ethiopia lacked sufficient airplanes to retaliate against Italian bombing of civilians ([Sbacchi, 1997 #160], 71), and China lacked chemical weapons to match Japan's extensive use of poison gas against them beginning in 1937 ([Harris, 2002 #165], 50-51). The adoption of unrestricted submarine warfare favored Germany over Britain in the Second World War. The destruction of much of the Soviet Air Force on the first days of Operation Barbarossa met that the Soviets lacked the capability to retaliate against German air attacks on their cities in the first years of the war known to the Soviets as the Great Patriotic War. The three cases of armistice violations in Table 4.15 are all cases where the violator used a local superiority to gain territory by breaking or refusing to enforce a cease-fire ([Oren, 2002 #355], 244, 291-92 for the Six Day War, [Polyviou, 1980 #356], 157-59 for the Turco-Cypriot War). Israel shot down 29 Syrian aircraft with no losses early in their 1982 war in Lebanon; after that, the Syrian air force ceased operations in Lebanese air space, giving Israel freedom to conduct aerial attacks without fear of retribution in kind. Of the other six cases, the two POWs cases involving Japan and Germany have violators who clearly decided that humane treatment of POWs were not in their interest, as we will see in the next chapter. Perhaps the most interesting case here is the adoption of unrestricted submarine warfare by the United States against Japan shortly after Pearl Harbor. The United States was quite vulnerable to retaliation in kind against its own merchant shipping needed to transport troops and supplies in the Pacific, but the Japanese did not use their submarines to attack Allied shipping, providing the U.S. with a huge strategic advantage from its own submarine war against Japanese shipping, as we will see in Chapter 6. Similarly, Great Britain and its allies gained a small strategic advantage from adopting unrestricted submarine warfare against Italy because Italy did not commit its submarine fleet to the Battle of the Atlantic

in response. At least eleven, and perhaps as many as fifteen, of the nineteen cases in Table 4.15 have asymmetric strategic effects, supporting the argument of the model from Chapter 3.

Conclusion

This chapter has been awash in the results of statistical analyses, and I realize I have tested the patience of the reader with them. What is the big picture of these results?

First, there is clear evidence of reciprocity in the laws of war. Warring parties do respond to violations on an issue with violations of their own, and they respond to first violations very quickly. Reciprocity produces better compliance.

Second, joint ratification strengthens reciprocity and produces higher levels of compliance. Ratification is a signal that a state will comply with the treaty standard if the other side will as well. Joint ratification creates the expectation of reciprocal enforcement and hence better compliance.

Third, noise introduced by violation by individuals is essential to the dynamics of reciprocity. The issues with the greatest scope for individual violations have lower levels of reciprocity and the worst record of compliance.

Fourth, treaty law matters indirectly by clarifying what acts are violations and by inducing restraint in actors that would do so otherwise. Legal clarity helps the sides understand when they need to respond to the acts of the other side. They respond more strongly to violations by individuals than those of state policy.

Fifth, unilateral legal obligation does matter for democracies, but democracies do not feel a moral obligation to follow general norms of conduct in the absence of legal obligation. Legal

obligations also restrain the tendency of the powerful to use their power to coerce their weaker opponents through atrocities. Situations where only one side has ratified the relevant treaty have the worst records of reciprocity and compliance, implying that unilateral restraint is not a good thing.

Sixth, there is no evidence that sides retaliate across issues. Firewalls do seem to exist between different issues in the laws of war.

Seventh, first violations come early in wars if they happen at all. If a side sees an advantage in violating a treaty standard, it grabs that advantage quickly.

Eighth, first violations trigger responses by the other side quickly. Vengeance is swift in the laws of war.

These results are consistent with the view of the laws of war as formalized conventions of allowable conduct during wartime. Actors, whether they be states or soldiers, comply with such standards when doing so is in their interest considering the consequences of any response from the enemy. The laws of war, and international law more generally, relies on both shared understandings of right and wrong and self-interest, a marriage between power and principle.

These results broadly support the view of reciprocity under noise in Chapter 2 and the model of the laws of war in Chapter 3. Having shown that the broad pattern of wartime acts fits these views, I now turn to a detailed examination of some cases of a few issues to show how well the details of these cases fit these views. The next chapter addresses treatment of prisoners of war, and Chapter 6 briefly discusses chemical weapons, conduct on the high seas, and aerial bombing. Both chapters focus on the World Wars because there is plenty of evidence for a detailed analysis of these issues for those wars.

I end this chapter by reminding the reader of some brief qualifications on the data

analysis. The data covers a period of history and therefore describes how states and their militaries operated in this period. In the concluding chapter, I discuss current issues in the laws of war where I consider how these current issues differ from those during the period of time covered by the data. Simple-minded extrapolation does not account for how current situations differ from those covered by the data. Second, the data aggregates many events both within each war and across many wars to look for the general patterns reported in this chapter. The data used here was difficult to collect and required compromises on what one would like to be able to collect to test fully the theories presented so far. The compliance scores are aggregates of many actions in most cases, and the dates of first violations are just that. Ideally, one would like detailed time series of all violations to test reciprocity. That cannot be collected from the historical record, and so the data and its analysis is a compromise between what one would like to be able to do and what one can do. I have strived to be careful about the strength of conclusions I have drawn from this data and remind the reader of the limits of this data analysis. Now I turn to some case material to complement and buttress the arguments I have made here.

Table 4.1

Examples of Major and Minor Violations in Each of the Issue Areas

Issue Area	Example of Violations	Treaty Referenced
Aerial Bombardment	Major: Bombing civilians, civilian installations	Amsterdam Draft Convention for the Protection of Civilian Populations Against New Engines of War, 1938 (never signed)
	Minor: Deceptive or improper use of safety zones	Amsterdam Draft Convention for the Protection of Civilian Populations Against New Engines of War, 1938 (never signed)
Armistice/Flag of Truce	Major: Attacks on individuals under a flag of truce	Hague Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, 1899
	Minor: Use of flag of truce as ruse	Hague Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, 1899
Chemical and Biological Weapons	Major: Use of projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases	Hague Declaration (IV,2) concerning Asphyxiating Gases, 1899
Treatment of Civilians	Major: Torture or inhumane treatment of civilians	Geneva Convention (IV) relative to the Protection of Civilian Persons in Time of War, 1949
	Minor: Detention of enemy civilians at the outbreak of war, except for military personnel and security risks	Tokyo 1934 Draft International Convention on the Condition and Protection of Civilians of enemy nationality who are on territory belonging to or occupied by a belligerent, 1934 (never entered into force)
Cultural Property	Major: Failure to take care to avoid destruction of cultural property	Hague Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, 1899

	Minor: Use of cultural property for military purposes when so marked	Hague Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, 1899
Conduct on the High Seas	Major: Detention of enemy merchant ships at the outbreak of war	Hague Convention (VI) relating to the Status of Enemy Merchant Ships at the Outbreak of Hostilities, 1907
	Minor: Destruction of any submarine cable	Oxford Manual of the Laws of Naval War, 1913 (not a treaty, does reflect treaty interpretation)
Prisoners of War	Major: Summary execution on the battlefield, no quarter	Hague Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, 1899
	Minor: Failure to separate races or nationalities	Geneva Convention relative to the Treatment of Prisoners of War, 1929
Declaration of War	Major: Sneak attack without declaration of war	Hague Convention (III) relative to the Opening of Hostilities, 1907
Treatment of Wounded	Major: Reprisals against the wounded	Geneva Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, 1949
	Minor: Use of medical signs as military ruse	Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field, 1906

Table 4.2

Standardized Codings Used For Cases Lacking Evidence

Issue Area	Frequency	Magnitude	Centralization	Clarity	Data Quality
Civilians	2	3	2	4	0
POWs	2	3	2	4	0
Wounded	2	3	2	4	0
High Seas	1	1	1	1	0
CBW	1	1	1	1	2
Cultural	2	2	2	3	0

Table 4.3

Crosstabulations of Magnitude and Frequency of Violations

All Observations including Standardized Codings

		Frequency			
		1: None	2: Infrequent	3: Common	4: Massive
Magnitude	1: None	438	0	0	0
	2: Minor Violations	0	216	4	1
	3: Some Major Violations	0	534	145	9
	4: Many Major Violations	0	216	4	1

All Observations excluding Standardized Codings

		Frequency			
		1: None	2: Infrequent	3: Common	4: Massive
Magnitude	1: None	385	0	0	0
	2: Minor Violations	0	35	4	1
	3: Some Major Violations	0	240	145	9
	4: Many Major Violations	0	26	41	61

Declaration of war is excluded from the tables.

Legend:

	Full Compliance
	High Compliance
	Low Compliance

 Noncompliance

Table 4.4

Crosstabulation of the Compliance of Both Warring Parties in a Directed Dyad

		Compliance of Victim			
		Full Compliance	High Compliance	Low Compliance	Noncompliance
Compliance of Violator	Full Compliance	270	105	14	2
	High Compliance	105	218	76	22
	Low Compliance	14	76	80	24
	Noncompliance	2	22	24	12

χ^2 = 397.8 w/9 d.f.s Significance probability < .0001

tau-b = .517 Significance probability = .020

Table 4.5

Treaty Ratification and Compliance

	Violator Ratified?			Both Sides Ratified?	
Violator's Compliance	Yes	No		Yes	No
Full	221 (41%)	164 (40%)		188 (42%)	197 (39%)
High	175 (32%)	131 (32%)		153 (34%)	153 (30%)
Low	106 (20%)	89 (22%)		75 (17%)	120 (24%)
None	39 (7%)	22 (5%)		29 (7%)	32 (6%)

Each cell reports the number of cases in that cell and the percentage of the column total it represents.

Table 4.6

Compliance by Centralization of Violations

	High Compliance	Low Compliance	Noncompliance
Individual Violations	187 (67%)	90 (32%)	4 (1%)
State Violations	119 (42%)	105 (37%)	57 (20%)

$\chi^2 = 62.3$ with 2 d.f.s Significance Probability < .0001

The table does not include cases with a standardized coding. Individual violations are scored as 2 (individual violations punished by state authorities) or 3 (individual violations against state policy but not punished by state authorities). State violations are scored 4 (probable state decision to violate) and 5 (state decision to violate with clear evidence of the decision).

Table 4.7

List of Cases where One Side Complies Fully

while the Other is Noncompliant or Has Low Compliance

War	Issue-Area	Compliant Side	Noncompliant Side
World War I	Chemical Warfare	Belgium	Germany
World War I	Conduct on High Seas	Italy	Germany
World War I	Conduct on High Seas	Italy	Austria-Hungary
World War I	Conduct on High Seas	Greece	Germany
World War I	Treatment of Wounded	France	Germany
Italo-Ethiopian	Aerial Bombing	Ethiopia	Italy
World War II	Aerial Bombing	Italy	Western Allies
World War II	Conduct on High Seas	Italy	Western Allies
Korean War	Aerial Bombing	North Korea	United Nations
Korean War	Treatment of Wounded	United Nations	North Korea
Korean War	Treatment of Wounded	United Nations	China
Vietnam War	Aerial Bombing	North Vietnam	United States and Allies
Vietnam War	Treatment of Wounded	United States and Allies	North Vietnam
Yom Kippur	Treatment of Wounded	Israel	Egypt and Allies
Israel-Syria (Lebanon 1982)	Aerial Bombing	Syria	Israel
Israel-Syria (Lebanon 1982)	Treatment of Civilians	Syria	Israel

Table 4.8

Tables Showing Reciprocity and Total Compliance by Ratification Status

Table 4.8a: All Cases

	Neither Side Ratified	Only One Side Ratified	Both Ratified
Average Reciprocity	.50	.66	.50
Average Total Compliance	3.74	4.23	3.78
Number of Cases	166	106	261

Table 4.8b: Cases where At Least One Side Committed Violations

	Neither Side Ratified	Only One Side Ratified	Both Ratified
Average Reciprocity	.69	.88	.66
Average Total Compliance	4.39	4.95	4.36
Number of Cases	121	80	197

Table 4.8c: Cases where Both Sides Committed Violations

	Neither Side Ratified	Only One Side Ratified	Both Ratified
Average Reciprocity	.42	.75	.47
Average Total Compliance	5.09	5.34	4.93
Number of Cases	77	64	136

Table 4.9

Tables Showing Reciprocity and Total Compliance for Unilateral Ratification by Regime Type

Table 4.9a: All Cases

	Democracy Ratified	Nondemocracy Ratified
Average Reciprocity	.79	.64
Average Total Compliance	4.64	4.16
Number of Cases	92	14

Table 4.9b: Cases where At Least One Side Committed Violations

	Democracy Ratified	Nondemocracy Ratified
Average Reciprocity	1.00	.86
Average Total Compliance	5.36	4.88
Number of Cases	69	11

Table 4.9c: Cases where Both Sides Committed Violations

	Democracy Ratified	Nondemocracy Ratified
Average Reciprocity	.75	.75
Average Total Compliance	6.00	5.25
Number of Cases	56	8

Table 4.10

Tables Showing Reciprocity and Total Compliance for Neither Ratified and Both Ratified by Regime Type

Table 4.10a: All Cases

	Neither Side Ratified		Both Ratified	
	Democracy in Dyad	No Democracy in Dyad	Democracy in Dyad	No Democr acy in Dyad
Average Reciprocity	.48	.53	.53	.46
Average Total Compliance	3.64	3.85	3.78	3.78
Number of Cases	86	80	146	115

Table 4.10b: Cases where At Least One Side Committed Violations

	Neither Side Ratified		Both Ratified	
	Democracy in Dyad	No Democracy in Dyad	Democracy in Dyad	No Democr acy in Dyad
Average Reciprocity	.67	.70	.68	.63
Average Total Compliance	4.31	4.47	4.29	4.44
Number of Cases	61	60	113	84

Table 4.10c: All Cases where Both Sides Committed Violations

	Neither Side Ratified		Both Ratified	
	Democracy in Dyad	No Democracy in Dyad	Democracy in Dyad	No Democr acy in Dyad
Average Reciprocity	.30	.53	.44	.51
Average Total Compliance	5.00	5.18	4.93	4.92
Number of Cases	37	40	73	63

Table 4.11

Tables Comparing Reciprocity and Total Compliance

by Ratification Status Controlling for Greatest Legal Clarity of Violations

Table 4.11a: Violations were in Legal Dispute

	Neither Side Ratified	Both Ratified
Average Reciprocity	.78	.60
Average Total Compliance	3.52	3.40
Number of Cases	27	5

Table 4.11b: Violations were Probable Legal Violations

	Neither Side Ratified	Both Ratified
Average Reciprocity	.76	.57
Average Total Compliance	4.06	3.71
Number of Cases	34	28

Table 4.11c: Violations were Definite Legal Violations

	Neither Side Ratified	Both Ratified
Average Reciprocity	.60	.68
Average Total Compliance	4.97	4.49
Number of Cases	60	164

Table 4.12

Reciprocity and Total Compliance by Issue

Table 4.12a: All Cases

	Aerial Bombing	Armistice	CBW	Civilians	Cultural Property	High Seas	POWs	Wounded
Average Reciprocity	.61	.29	.24	.69	.36	.72	.64	.61
Avg. Total Compliance	3.39	3.29	2.49	5.09	4.18	3.56	4.64	4.24
Number of Cases	80	34	102	90	33	50	85	59

Table 4.12b: Cases where At Least One Side Committed Violations

	Aerial Bombing	Armistice	CBW	Civilians	Cultural Property	High Seas	POWs	Wounded
Average Reciprocity	.82	.48	1.04	.70	.38	.95	.68	.63
Avg. Total Compliance	3.85	4.10	4.17	5.16	4.25	4.05	4.84	4.32
Number of Cases	60	21	23	88	32	38	79	57

Table 4.12c: Cases where Both Sides Committed Violations

	Aerial Bombing	Armistice	CBW	Civilians	Cultural Property	High Seas	POWs	Wounded
Average Reciprocity	.41	.27	1.00	.66	.31	.50	.68	.63
Avg. Total Compliance	4.70	4.53	5.89	5.39	4.38	5.13	5.34	4.74
Number of Cases	27	15	9	79	29	16	62	40

Table 4.13

Tables Showing Reciprocity and Total Compliance for Low and High Noise Issues by Ratification Status

Table 4.13a: All Cases

	Low Noise Issue		High Noise Issue	
	Neither Side Ratified	Both Ratified	Neither Side Ratified	Both Ratified
Average Reciprocity	.50	.32	.49	.62
Average Total Compliance	3.21	2.84	5.09	4.40
Number of Cases	119	104	47	157

Table 4.13b: Cases where At Least One Side Committed Violations

	Low Noise Issue		High Noise Issue	
	Neither Side Ratified	Both Ratified	Neither Side Ratified	Both Ratified
Average Reciprocity	.80	.73	.50	.64
Average Total Compliance	3.92	3.93	5.15	4.48
Number of Cases	75	45	46	152

Table 4.13c: All Cases where Both Sides Committed Violations

	Low Noise Issue		High Noise Issue	
	Neither Side Ratified	Both Ratified	Neither Side Ratified	Both Ratified
Average Reciprocity	.39	.38	.44	.49
Average Total Compliance	4.72	4.95	5.41	4.92
Number of Cases	36	21	41	115

Table 4.14

Cases of Late First Use Classified by Status of Fighting at the Time of the First Violation

War	Side Committing First Violation	Other Side	Issue-Area	Date of First Violation
Violator Favored				
World War I	Turkey	United Kingdom	POWs	November 10, 1915
World War I	Germany	Italy	POWs	October 24, 1917
Violator Unfavored				
Iraq-Iran	Iraq	Iran	CBW	October 21, 1983
Violator Clearly Losing				
World War I	Serbia	Austria-Hungary	POWs	November 18, 1915
Violator Neither Losing nor Winning				
World War I	Italy	Austria-Hungary	POWs	June 29, 1916
World War I	France	Turkey	POWs	September 1, 1916
Vietnam	North Vietnamese	United States, South Vietnam and Allies	Civilians	December 5, 1967
Vietnamese-Cambodian	Cambodia	Vietnam	Civilians	April 30, 1977
Iraq-Iran	Iran	Iraq	POWs	March 15, 1983

Table 4.15

List of Outlying Cases of First Violations

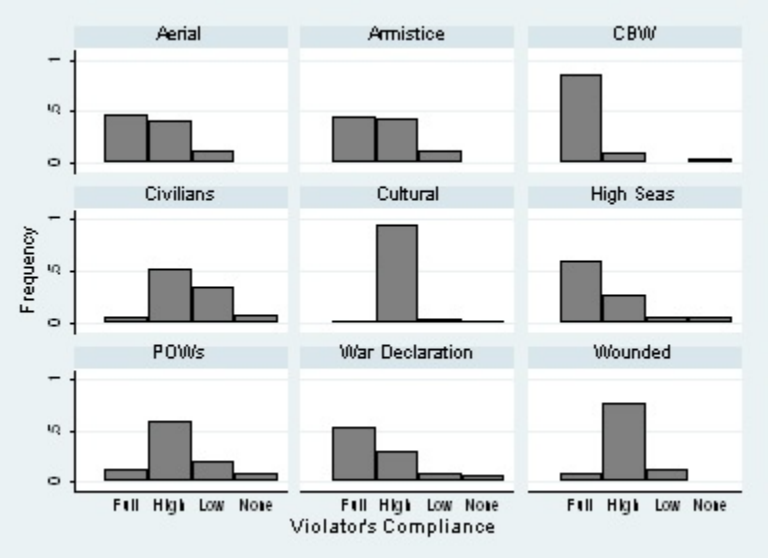
War	Side Committing First Violation	Other Side	Issue-Area	Date of First Violation	Violator Favored Even if Victim Retaliates
Second Balkan	Bulgaria	Serbia	POWs	June 30 ,1913	No
Second Balkan	Bulgaria	Serbia	Wounded	June 30 ,1913	No
World War I	France	Germany	Civilians	August 3, 1914	Yes
World War I	France	Austria-Hungary	Civilians	August 3, 1914	Yes
World War I	France	Germany	High Seas	August 15, 1914	Yes
Italo-Ethiopian	Italy	Ethiopia	Aerial Bombing	October 3, 1935	Yes
Sino-Japanese	Japan	China	CBW	July 18, 1937	Yes
Changkufeng	Japan	Soviet Union	POWs	July 29, 1938	No
World War II	Germany	Western Allies	High Seas	September 3, 1939	Yes
World War II	Western Allies	Italy	High Seas	June 10, 1940	No
World War II	Germany	Soviet Union	POWs	June 22, 1941	No
World War II	Germany	Soviet Union	Aerial Bombing	June 24, 1941	Yes
World War II	United States	Japan	High Seas	December 10, 1941	No
Six Day	Israel	Jordan	Armistice	June 7, 1967	Yes
Six Day	Israel	Syria	Armistice	June 9, 1967	Yes
Turco-Cypriot	Turkey	Cyprus	Armistice	July 21, 1974	Yes

Israel-Syria (Lebanon 1982)	Israel	Syria	Aerial Bombing	June 4, 1982	Yes

Figure 4.1

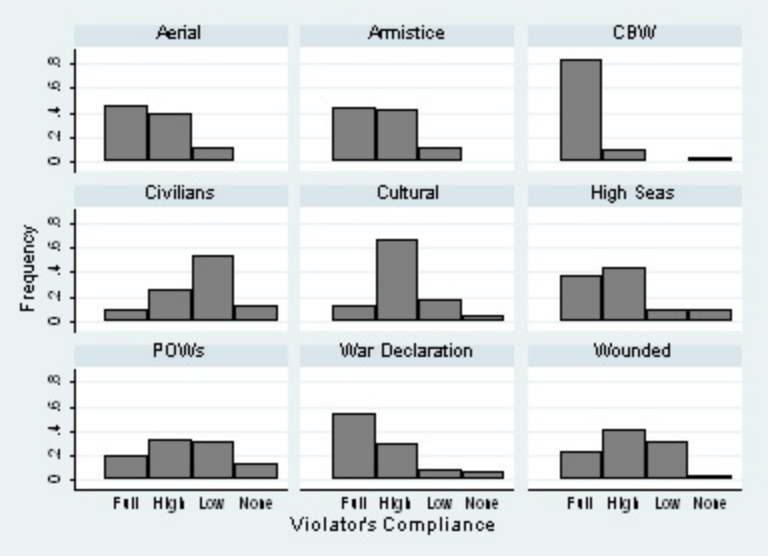
Compliance by Issue-Area

Including Codings



Standardized

Excluding Codings



Standardized

Figure 4.2

Depiction of Reciprocity in Figures

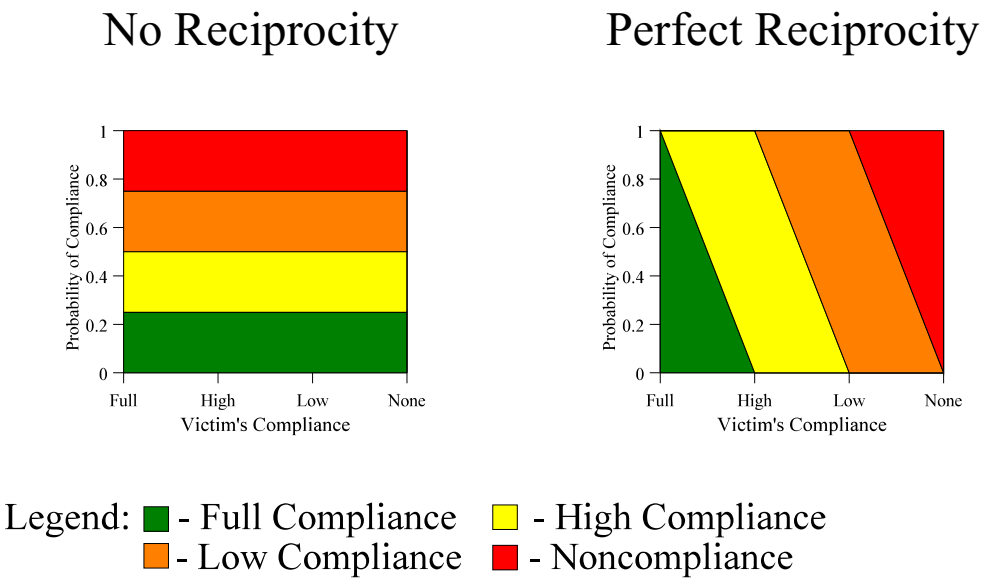
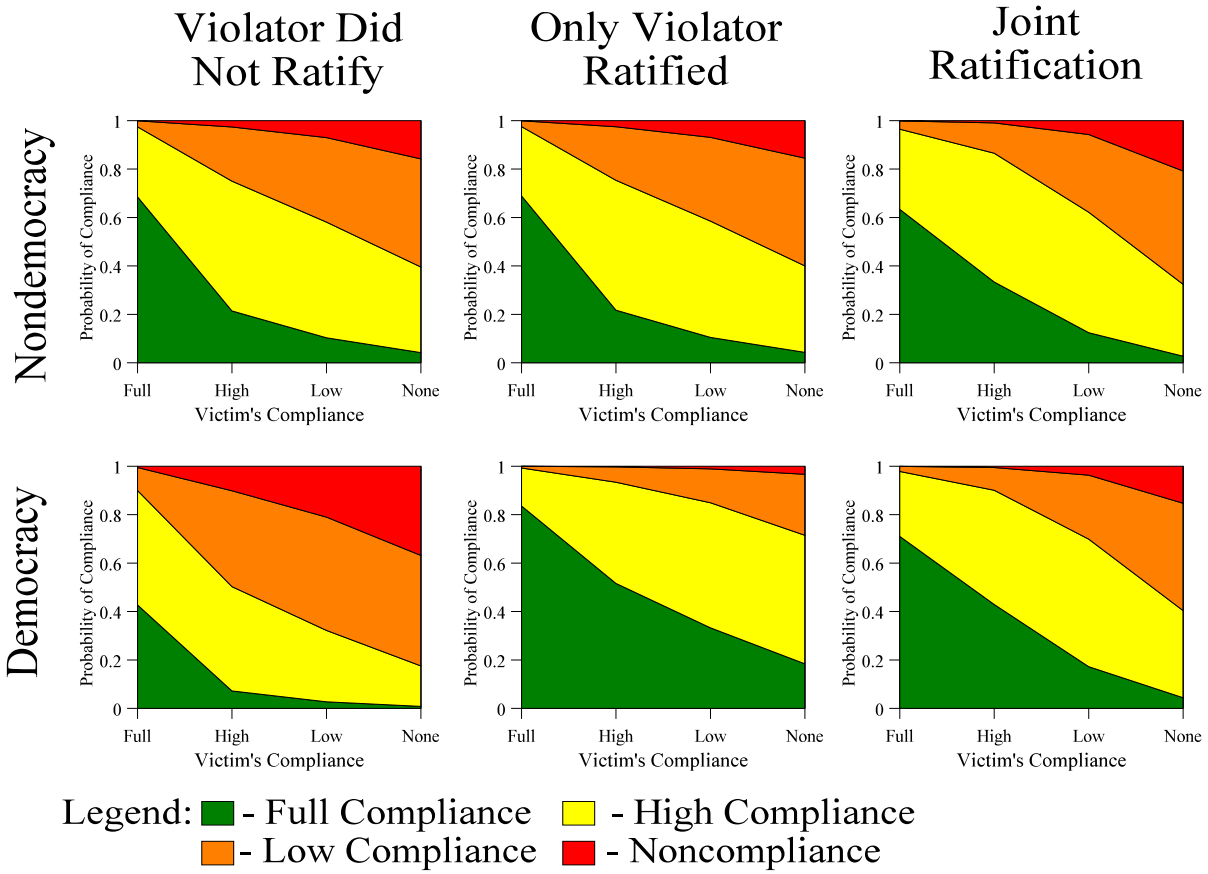


Figure 4.3

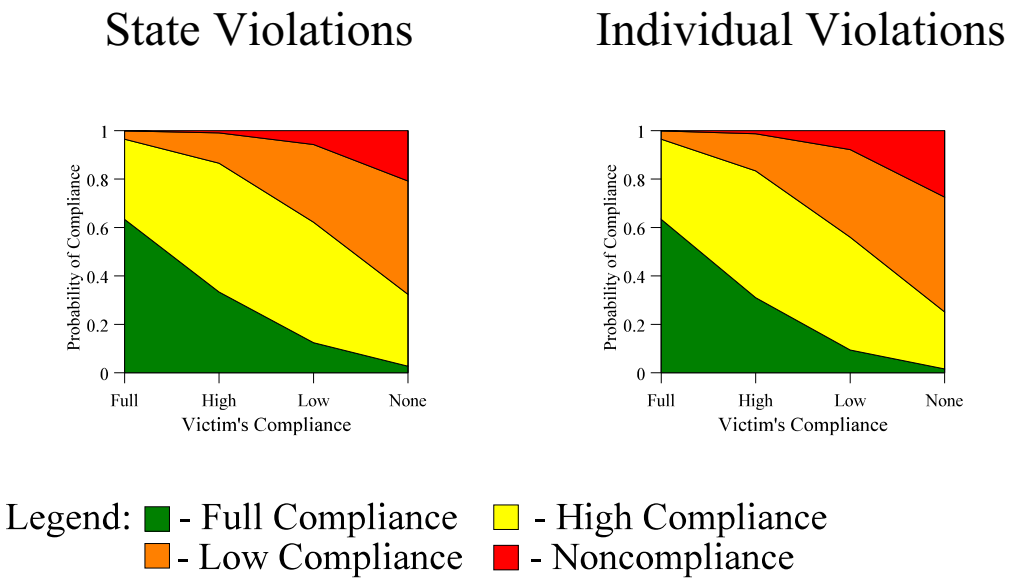
Estimated Effects of Democracy and Ratification on Compliance



Probabilities calculated from estimates of Table 4'.3 weighted for the quality of the data (the second column of that table). They assume Clarity of Victim's Violations are Definite Legal Violations (= 4), Victim's Violations were State Policy (= 1), Power Ratio and Battle Deaths per 1000 Population set to their means (.5 and 10.63 respectively), Violator is Not an Initiator (= 0) nor a Loser (= 0), and the Issue-area is Treatment of the Wounded.

Figure 4.4

Effect of State Versus Individual Violations on Compliance

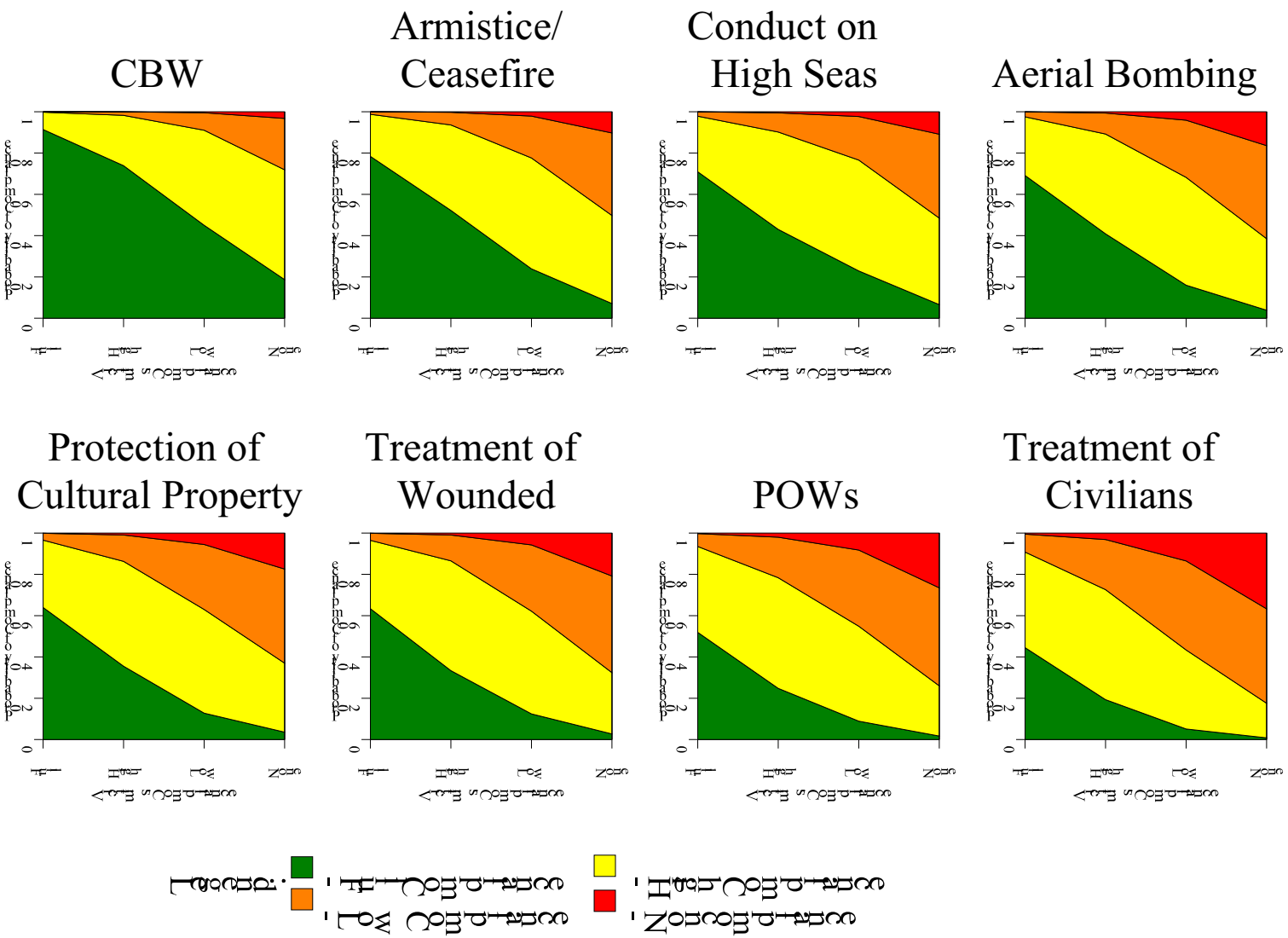


Probabilities calculated from estimates of Table 4'.3 weighted for the quality of the data (the second column of that table). They assume Clarity of Victim's Violations are Definite Legal Violations (= 4), Violator is Not a Democracy, Joint Ratification, Power Ratio and Battle Deaths per 1000 Population set to their means (.5 and 10.63 respectively), Violator is Not an Initiator (= 0) nor a Loser (= 0), and the Issue-area is Treatment of the Wounded.

Note: The estimated probabilities if the victim's compliance is full are the same for both pictures because then the victim cannot have either state or individual level violations.

Figure 4.5

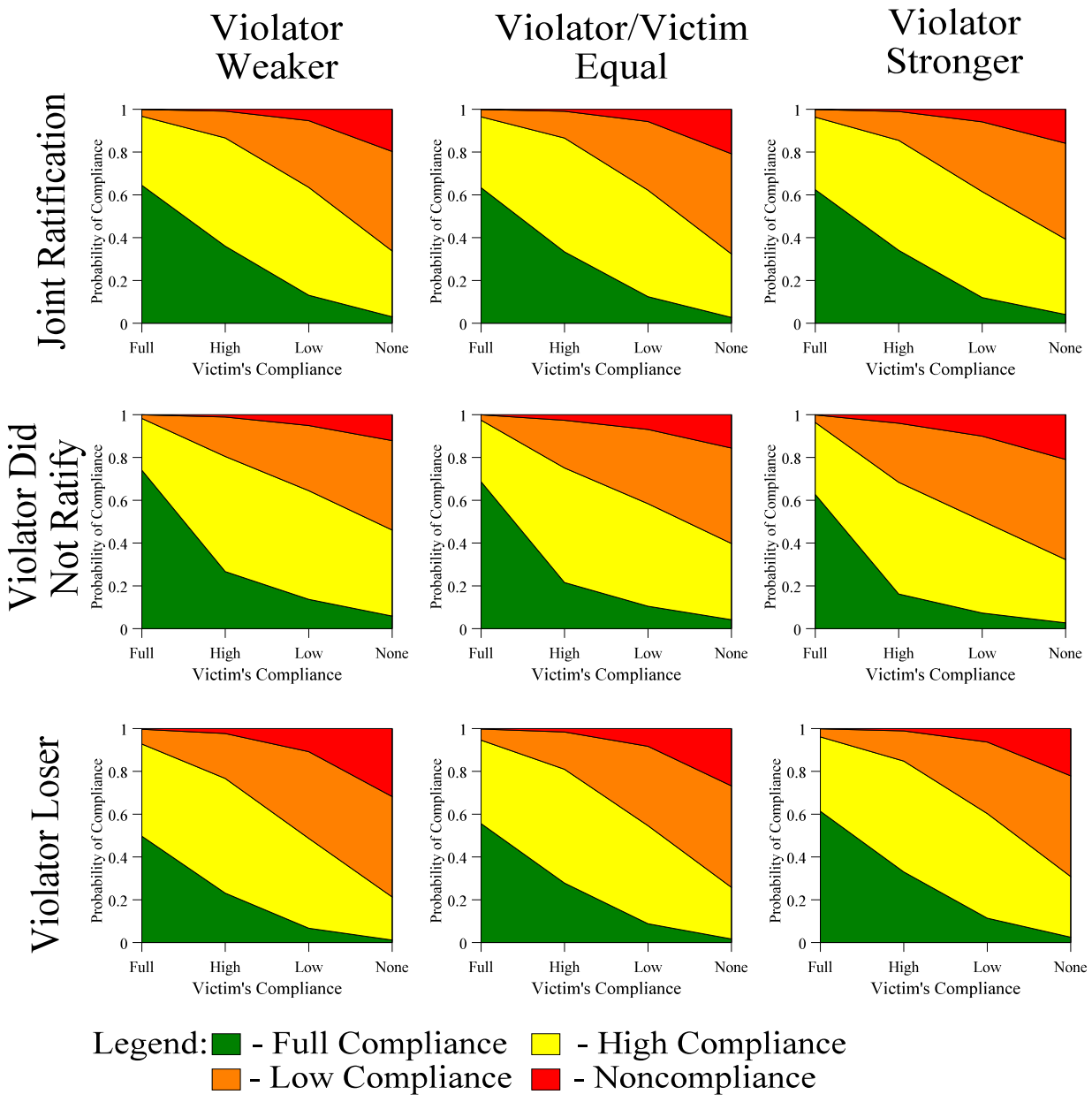
Effects of Issues on Compliance



Probabilities calculated from estimates of Table 4'. weighted for the quality of the data (the second column of that table). They assume Clarity of Victim's Violations are Definite Legal Violations (= 4), Victim's Violations were State Policy (= 1), Violator is Not a Democracy, Joint Ratification, Power Ratio and Battle Deaths per 1000 Population set to their means (.5 and 10.63 respectively), and Violator is Not an Initiator (= 0) nor a Loser (= 0).

Figure 4.6

Effects of Relative Power on Compliance depending on Legal Obligation

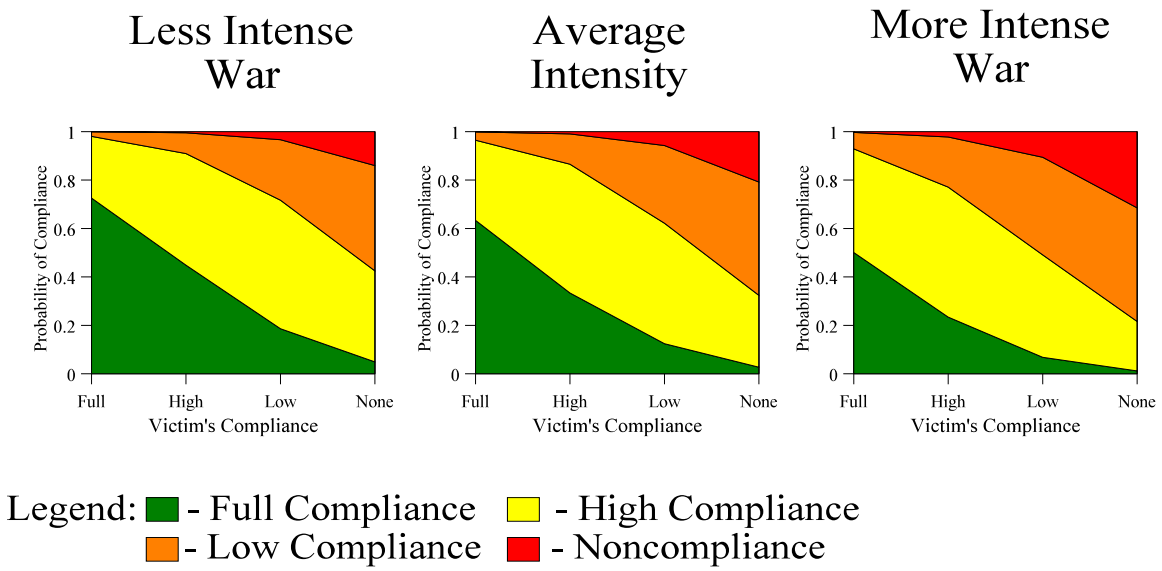


Probabilities calculated from estimates of Table 4'.3 weighted for the quality of the data (the

second column of that table). They assume Violator is not a Democracy, Clarity of Victim's Violations are Definite Legal Violations (= 4), Victim's Violations were State Policy (= 1), Battle Deaths per 1000 Population set to their means (.5 and 10.63 respectively), Violator is Not an Initiator (= 0), and the Issue-area is Treatment of the Wounded. Violator Weaker and Stronger are one standard deviation of Power Ratio (= .273) lower and higher than its mean (= .5). The first two rows assume that the Violator was not a Loser. The third row assumes that Joint Ratification exists.

Figure 4.7

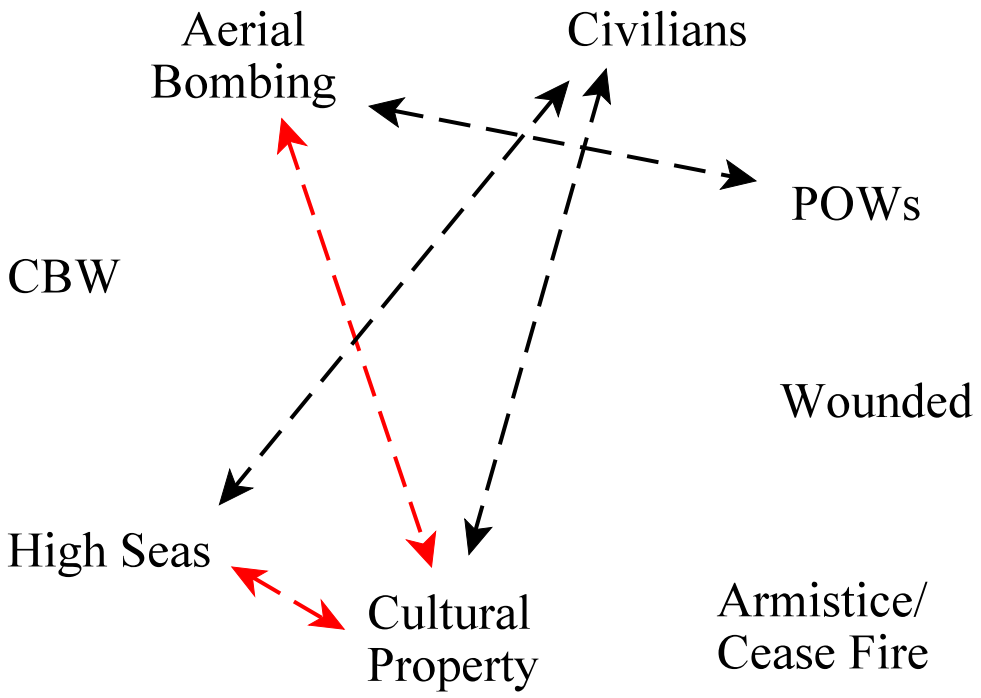
Effect of Intensity of War on Compliance



Probabilities calculated from estimates of Table 4'. weighted for the quality of the data (the second column of that table). They assume Joint Ratification, the Violator is not a Democracy, Clarity of Victim's Violations are Definite Legal Violations (= 4), Victim's Violations were State Policy (= 1), Power Ratio is set to its mean (.5), Violator is Not an Initiator (= 0) nor a Loser (= 0), and the Issue-area is Treatment of the Wounded. Average Intensity is the mean of Battle Deaths per 1000 Prewar Population (10.63). More intense war is one standard deviation higher (+14.25), and less intense war sets intensity to 0 because you cannot have negative battle deaths.

Figure 4.8

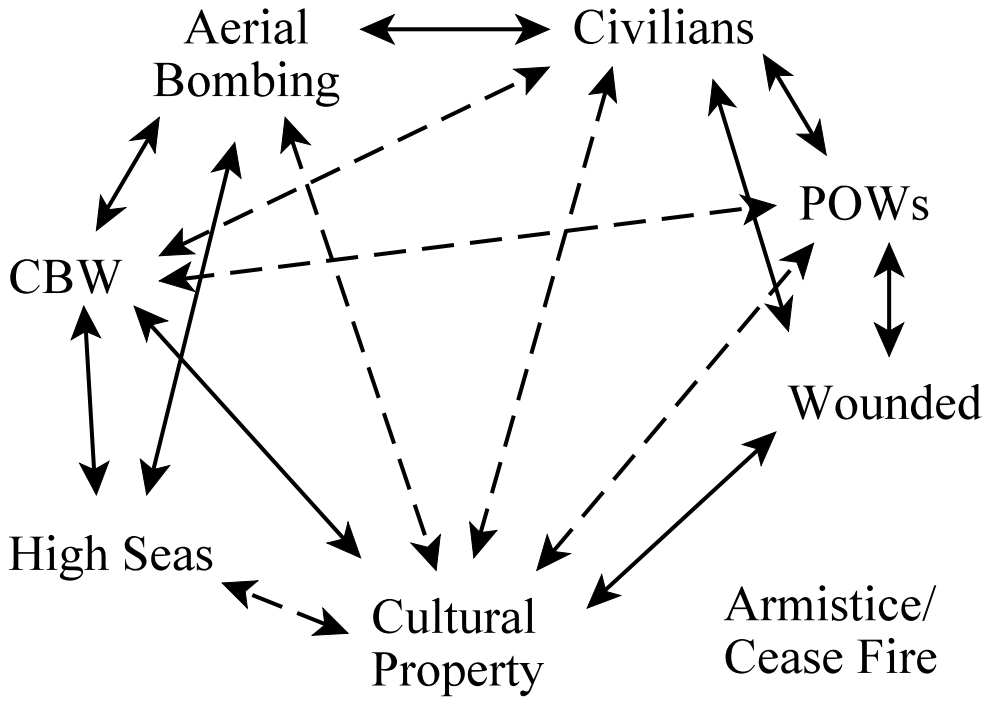
Pattern of Correlations of Residuals Between Warring Parties Across Issues



A red line indicates a negative correlation, a black line a positive one. Solid lines indicate correlations significant at the .001 level or higher, and dashed lines correlations significant at the .1 level.

Figure 4.9

Pattern of Correlations of Residuals Within Warring Parties Across Issues



A red line indicates a negative correlation, a black line a positive one. Solid lines indicate correlations significant at the .001 level or higher, and dashed lines correlations significant at the .1 level.

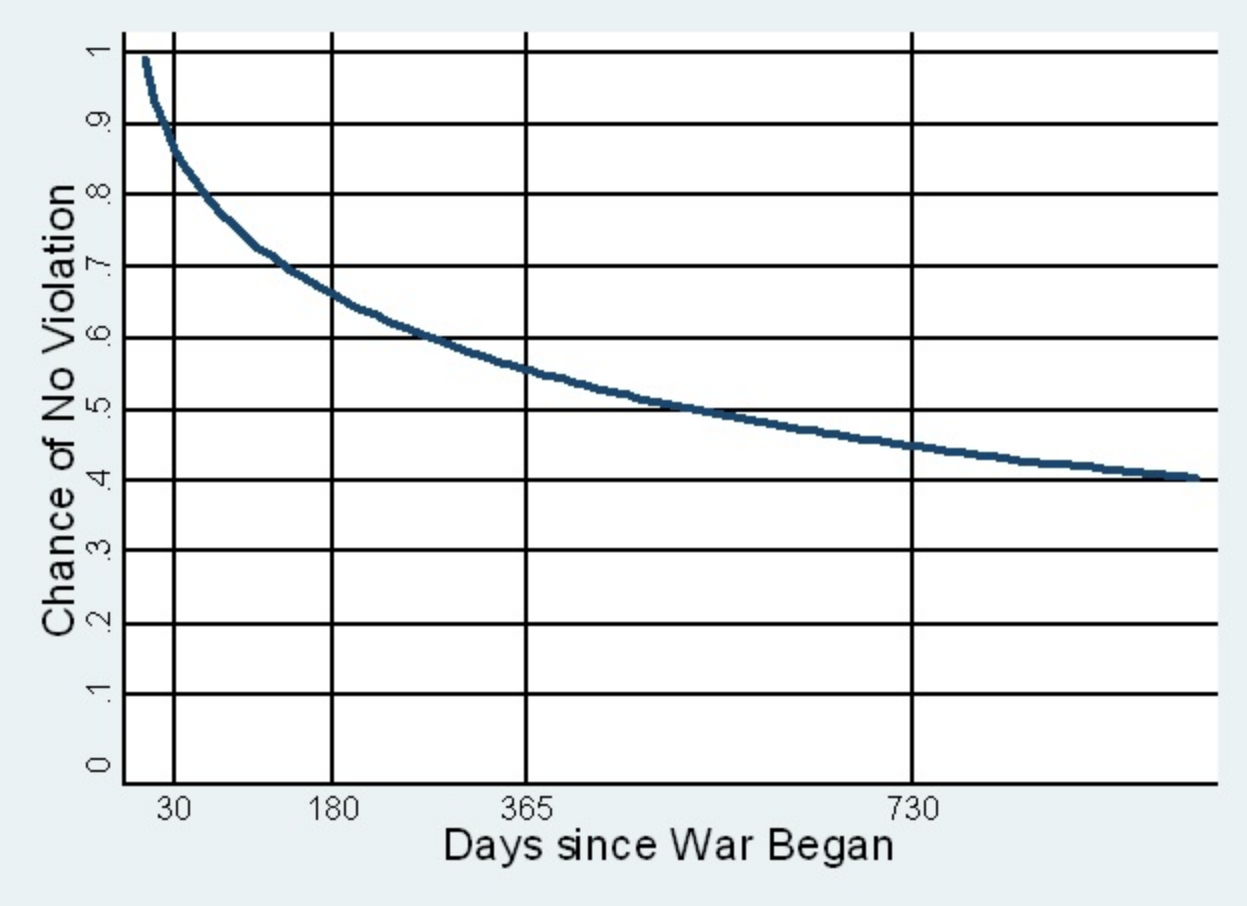
Figure 4.10

Estimated Hazard Rate for First Violations

This figure is calculated from the Lognormal Model with Correction for Nonproportional Hazards in Table 4'.10. All independent variables are set to their mean values.

Figure 4.11

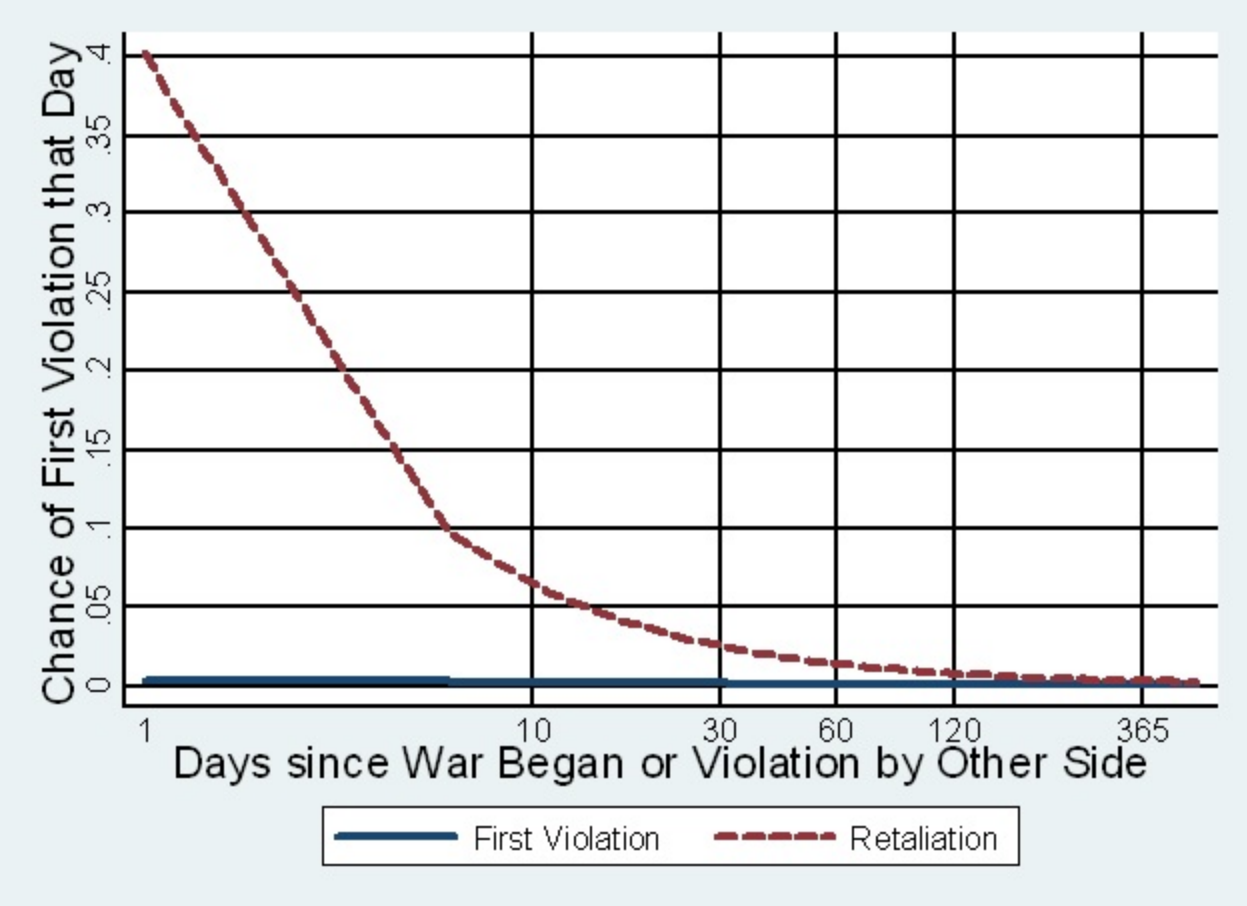
Chance of No Violation over Time



This figure is calculated from the Lognormal Model with Correction for Nonproportional Hazards in Table 4'.10. All independent variables are set to their mean values.

Figure 4.12

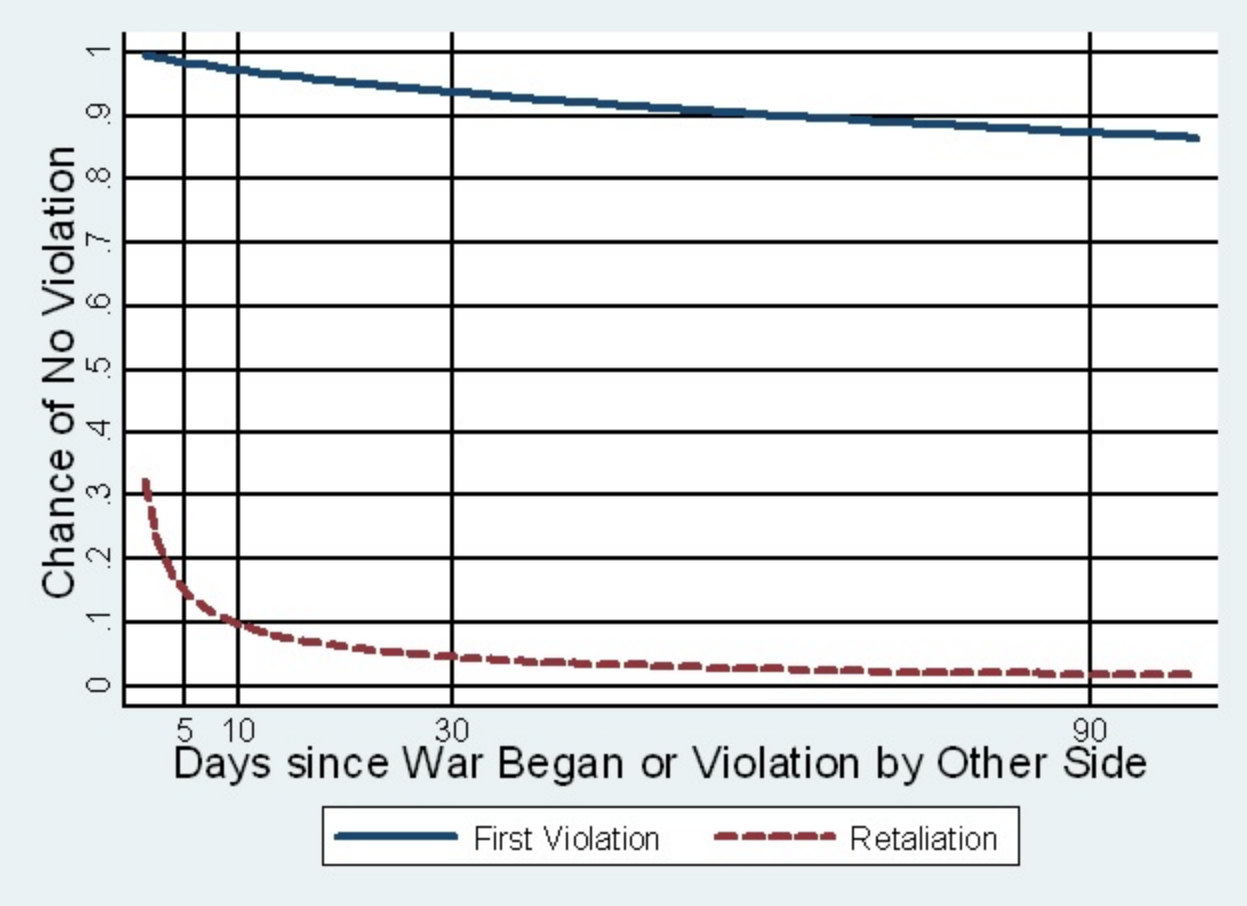
Hazard Rates for First Violations versus Retaliatory Responses



This figure is calculated from Table 4'.11. All independent variables are set to their mean values.

Figure 4.13

Probability of No Violation over Time for First Violations versus Retaliations



This figure is calculated from Table 4'.11. All independent variables are set to their mean values.

Endnotes for Chapter 4

1. The data set and full details of its construction of the data set including coding rules are available at [insert website].

2. Although it might be more accurate to say the Portuguese ran under British command...

3. This is typically the surrender of one party to the other, but we also end fighting when one side is no longer capable of resisting the other even if there is no formal surrender document.

4. http://www.icrc.org/ihl.nsf/WebFULL?OpenView

5. The only exception to this rule is declaration of war where skirmishes prior to the starting date help to determine the magnitude and frequency of violations at the start date of the war.

6. Intertemporal law is the legal rule that the validity of a state's action is determined by the accepted rule of international law at the time the action was taken and not by a rule of law adopted later.

7. Out of 222 cases of high seas cases, 80 cases do not involve any naval engagement and thus are not applicable.

8. . I have also run the analyses using scales with 3 levels (combining low compliance and noncompliance into one level) and 5 levels (dividing high compliance into a level with only minor violations and another with only infrequent major violations). The results of such analysis are generally similar to those I report and can be found at the website with the data and replication information.

9. As readers may know,.I have strong views about why the democratic peace occurs ({Bueno de Mesquita, 1999 #398}, {Morrow, 2002 #475}). For now, I am putting aside my own view about how democratic politics affects foreign policy.

10. For a possible explanation why domestic audiences might remove leaders who break public

commitments, see {Smith, 1998 #484}.

11. The reciprocal responses is calculated as the difference in the average compliance when the victim has high compliance and noncompliance. The percentages are calculated by comparing the increases in these average compliance rates. Responses under joint ratification are stronger than if neither has ratified by 26% for a democracy and 43% stronger for an autocracy. The reciprocal response of a democracy is 162% under joint ratification than if only the violator has ratified and 117% stronger for an autocracy under those conditions.

12. I am indebted to Ryan Goodman of the Harvard Law School for this argument.

13. There is a slight decline in compliance as the violator becomes stronger relative to the victim, but here the interocular test is superior to any statistical test.

14. I chose this instrumental variable analysis because it has the largest R^2.

15. The France-Germany dyad for CBW during World War I almost makes this set as well, with the residual for Germany being slightly smaller than two standard deviations.

16. The Western Allies, that is, Great Britain, the United States and the members of the British Commonwealth, are coded as not complying with the standard of conduct on the high seas through their unrestricted submarine attacks in the Mediterranean and use of Q-ships.

17. A side that lacks any capability or the ability to produce any capability to commit violations is coded as missing for that issue-area. In all of these cases, the compliant side possessed some airplanes.

18. These cases in Table 4.7 are nonuse of CBW by Belgium against Germany in World War I, treatment of the wounded by France versus Germany in World War I, UN forces versus both North Korea and China in the Korean War, US-led forces versus North Vietnam in the Vietnam War, Israel versus Egypt and allied forces in the Yom Kippur War. Treatment of civilians by

Syria versus Israel during 1982 Invasion of Lebanon may count, although fighting between Syrian and Israeli forces was limited geographically compared to combat by Israeli forces against Palestinian combatants.

19. As with the analysis of compliance, I do not include the war declaration cases nor any cases where both sides have standardized codings. I do not weight by data quality in these tables.

20. Because of the well-known democratic peace, almost all democracies in the data set are at war with a nondemocracy. The only exception is the Turco-Cypriot War of 1973.

21. I omit the cases where greatest legal clarity of violations is none because neither side committed any violations in such cases, making both reciprocity and compliance perfect.

22. I exclude declaration of war from the analysis as I do in the analysis of compliance.

23. If the residuals were simply random numbers, we would expect about 3 of the 28 correlations to be statistically significant at the .1 level and 1 of those at the .05 level.

24. The exception here is chemical and biological weapons where the standardized coding is full compliance based on the lack of any report of the use of those weapons. These cases are kept in the analysis as cases without a violation.

25. The nonlinearity of the log-normal distribution shows up in the first day of the war as the hazard rate rises from the first to the second day of the war. A violation on the first day of the war occurs at time 0 in the model.

26. In the data set, the first violation by North Vietnam against civilians in South Vietnam produces two cases, one against the US and allies and one against South Vietnam because the South Vietnamese did not fight under US command. I have grouped these two cases as one because they are coded off the same incident.