

Evolution in Domestic Politics and the Development of Rivalry

The Bolivia-Paraguay Case

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Evolutionary approaches have long been important in the study of biological and anthropological phenomena, but evolution and related concepts have generally been ignored in the social sciences. Possible explanations for this lack of attention include the controversial status of evolution in popular society, the rejection of biological or genetic factors as sources of human behavior, and the belief that the biological sciences are not an appropriate source of ideas for social scientific research. Social scientists are finally beginning to proclaim the merits of evolutionary approaches in studying social phenomena, though, as suggested by a 1996 special issue of *International Studies Quarterly*. This chapter uses evolutionary concepts to develop a model of militarized interstate rivalry, focusing on evolution with the domestic political systems of two adversary nation-states.

Militarized interstate rivalry refers to a longstanding, competitive relationship between two adversaries who engage in numerous militarized confrontations (Goertz and Diehl 1993, Diehl and Goertz 2000; Hensel 1996, 1999). Although there have been relatively few rivalries in the modern era, enduring rival adversaries account for one-fourth of all interstate wars and territorial changes since 1816, roughly 40 percent of all militarized interstate disputes and violent territorial changes, and approximately half of all international crises (Goertz and Diehl 1992, Diehl and Goertz 2000; Hensel 1998a). Relations between rivals have been argued to be more conflictual than relations between other types of states, largely because of the distrust and hostility that are said to characterize rivalry. Despite the apparent importance of the rivalry concept, though, little systematic research has addressed the origins of rivalries, with most research focusing on the dynamics of established rivalries or on the termination of rivalry (including the Thompson and Rasler contributions to this volume). Perhaps the most prominent explanation of interstate rivalry suggests that most rivalries can be explained by preexisting structural or environmental factors or by “shocks” in the external environment (for example, Goertz and Diehl 1995).

Despite the emphasis on preexisting factors in the current rivalry literature, the central elements of a traditional biological approach to evolution offer impor-

states. In particular, the notions of fitness, adaptation, and selection offer useful insights into the identity of state leaders and the foreign policies that they implement. After describing the basic elements of an evolutionary approach, this chapter uses these elements to develop a model to account for the evolution of conflictual relationships between nation-states. It then examines the utility of this model with a brief case study of the rivalry between Bolivia and Paraguay, and with an examination of recent quantitative evidence on the origins and dynamics of rivalry. This chapter concludes by discussing the implications of the evolutionary approach for future research in international relations.

EVOLUTIONARY APPROACHES

The concept of evolution has been used most widely in the natural sciences. Evolutionary approaches are commonly used to study such phenomena as adaptive change within established species (sometimes termed vertical evolution), the increasing diversity of populations and development of new species (horizontal evolution), and the development of societal behaviors or means of organization (social or cultural evolution). The next section of this chapter identifies the central themes of such evolutionary approaches from the natural sciences, with the goal of developing an evolutionary approach that is relevant to the social sciences in general and the study of interstate rivalry more specifically.¹

One important characteristic of evolutionary approaches is the rejection of determinism as an explanation for observed phenomena, in favor of evolutionary processes reflecting unfolding, cumulative processes of change over time. Systems or populations in evolutionary theory are seen as changing over time in response to environmental challenges, reaching their particular state or condition at any given point in time through a series of changes. The study of evolution, then, involves replacing such static questions as “what is it” or “how does it work?” (whether this refers to a species’ bodily structure, a domestic political system, or a competitive international relationship) with more dynamic, process-oriented questions like “how did it come to work that way and not some other way?”

A second characteristic of most evolutionary approaches—despite the emphasis on cumulative processes of change—is the absence of teleological ends, or the rejection of progress- or perfection-directed change. Thus, while a given evolutionary adaptation may improve an organism’s fitness and improve its ability to survive in its current environment, there is no guarantee that the adaptation represents ultimate “progress,” movement toward “perfection,” or fulfillment of any grand cosmic design. Indeed, the same adaptation that improves fitness in one set of environmental conditions may actually reduce fitness in a subsequent set of conditions.

Beyond these two central assumptions, explanations of evolutionary change

fitness, adaptation, and natural selection. The organism in evolutionary stories—the entity facing an evolutionary challenge—is generally a species, a specific individual, or a social grouping. The “environment” refers to the setting in which this organism lives and works, and typically includes such elements as food, shelter, climate, and predators. Changes in this environment produce the need for evolution, by making it difficult for the organism to survive in its current form. Typical evolutionary challenges from the environment include the introduction of a new predator, a shortage in the supply of food or shelter, or changes in the climate.

When such environmental challenges arise, survival becomes a contest between different individuals or species. “Variation” refers to the traits or behaviors that distinguish between individuals or species; it is this variation that allows certain individuals or species to deal with evolutionary challenges better than others. “Fitness” generally refers to the ability to survive and reproduce in a particular environment or the probabilistic expected time to extinction for an organism or species given a particular time and environment (Beatty 1992); the relative fitness of organisms is influenced by their variation in relevant traits and behaviors.

A serious environmental challenge to an organism or species may culminate in several different outcomes. The first, evolutionary “adaptation,” refers to alterations in the traits or capacities of the organism that enable it to solve (or to improve on previous solutions for) problems posed by the environment, in such a way as to increase its relative fitness or likelihood of survival (Burian 1992; West-Eberhard 1992). Examples might include the development of a new physical attribute or a behavior modification, which would allow the organism to avoid or defend against predators or to obtain scarce food or shelter.

An organism that fails to adapt to environmental challenges, though, may fall victim to “natural selection.” Originally articulated by Darwin in *The Origin of Species*, the selection process begins with competing organisms that differ from each other in one or more ways (that is, there must be some type of variation in traits). Natural selection refers to a process by which organisms with better fitness are more likely to survive and reproduce successfully than other organisms, generally leading to the preservation of organisms with favorable variations and the rejection of organisms with less favorable variations—essentially, a process of the “survival of the fittest” (Darwin 1859/1968: 130–31; Endler 1992; Hodge 1992). An organism that does not adapt to deal with the changes in the environment, then, may be “selected out” in favor of competitors that are better able to deal with the environment.

Although each of these evolutionary concepts was originally developed in the natural sciences, many of them also offer useful insights for the social sciences. The next section of this chapter develops an evolutionary approach to interstate

rivalry, focusing on domestic politics in two potential rival nation-states. Despite important differences in the subject matter between the evolution of species and the evolution of rivalry, evolutionary concepts such as fitness, adaptation, and selection can help us to understand the processes and interactions that lead to interstate rivalry and the consequences of rivalry for world politics.

APPLYING EVOLUTION TO INTERSTATE RIVALRY

Perhaps the most prominent theoretical model of interstate rivalry is Goertz and Diehl’s “basic rivalry level” or “punctuated equilibrium” model, which does not allow for any systematic evolutionary change in potential or actual rivalry relationships. As described by Goertz and Diehl (1995, Diehl and Goertz 2000; Diehl and Hensel 1998), conflictual relationships between states are assumed to fluctuate in intensity or severity around some basic rivalry level (BRL) that varies from dyad to dyad. Certain rivalries have more conflict-prone or more escalatory BRLs than others, with the differences largely predetermined by structural or exogenous factors before each rivalry begins. Each rivalry is assumed to “lock in” around its BRL quickly, with adversaries that will eventually become enduring rivals recognizing each other as such early in their relationship. These adversaries then treat each other as enduring rivals from that lock-in point until the end of their rivalry, with little variation in the intensity of their relationship while the rivalry is ongoing.² Interactions between the adversaries during their ongoing rivalry are not assumed to affect the relationship in any meaningful or systematic way.

Unfortunately, this model concentrates much more on conflict behavior within rivalry than on the origins of rivalry itself. Goertz and Diehl have not specified the determinants of rivalry BRLs (and thus the factors that lead to rivalry), leaving them unable to account for the sources of BRL variation between rivalries or the differences between dyads that become rivalries and those that do not. In his most detailed statement on the subject (Diehl and Hensel 1998), Diehl speculates that BRL variation may be due to factors such as characteristics of the interstate system (for example, polarity), dyad (for example, joint democracy, geographic proximity, or relative capabilities), or nation-states (for example, wealth)—most of which appear to be influences on conflict behavior arising for other reasons, rather than causes of the rivalry itself.³ Dissatisfaction with Goertz and Diehl’s BRL model led Hensel (1996, 1999) to propose an evolutionary approach to interstate rivalry, which attempts to account for both the origins of rivalry and variation in conflict behavior within ongoing rivalries. The next portion of this chapter examines the basis for a general evolutionary approach to world politics, before applying this approach to the explanation of recurrent interstate conflict and rivalry.

EVOLUTIONARY CONCEPTS AND WORLD POLITICS

An evolutionary approach in the social sciences must begin by recognizing that there will be undeniable differences from applications of evolutionary theory in the natural sciences. Rather than genes or species, an evolutionary approach in the social sciences must deal with human beings or political collectivities. Rather than a time frame spanning generations or millennia, evolution in the social sciences generally involves a time frame of years or decades. Also, whereas unsuccessful species may become extinct because of their inability to adapt, the consequences in the social sciences may range from the removal of a leader from office to the disintegration of a political system. With these caveats, though, many evolutionary concepts from the natural sciences are relevant to interstate conflict and rivalry, offering important insights into the origins and development of conflictual relationships between nation-states.

As noted earlier, evolutionary approaches generally reject deterministic explanations in favor of more dynamic models. In contrast to the near-determinism of the BRL model, then, an evolutionary model of rivalry begins with the premise that rivalry—rather than being predetermined by structural conditions—is a dynamic phenomenon that comes into being over time as the cumulative result of interactions between two states. The eventual result of this evolutionary process—whether two adversary states become enduring rivals or manage to settle their differences short of protracted militarized competition—can not be known (by the participants or by outside observers) with any certainty at the start of the process or at any point during the process. This is not to say that structural conditions are irrelevant and do not affect relations between adversaries. Rather, this approach argues that the interactive, changing relationship between two adversaries is also very important, above and beyond the impact of any relevant structural conditions.⁴

It was also noted that evolutionary models generally reject teleological ends as the outcomes of evolutionary processes. Similarly, an evolutionary approach to interstate rivalry makes no assumption of movement toward perfection or toward some ultimate progressive goal of peace, prosperity, or justice. Domestic political systems or international relationships may evolve in a way that leads to more enlightened domestic and foreign policies, or they may evolve in a way that leads to protracted relationships characterized by death, destruction, and the transfer of resources from social purposes to the military.

One important difference between biological applications and the evolutionary approach to rivalry is the nature of the actors and their environments. Whereas biological applications of evolution tend to focus on individuals or species as the organisms facing evolutionary challenges, this chapter's evolutionary approach to rivalry focuses on the political leadership within each of two nation-

responsible for making decisions on foreign policy issues.⁵ It is this chief executive who faces evolutionary pressures from the environment.

The environment includes both domestic and external influences on the chief executive. One domestic influence involves other governmental actors who are responsible for approving, ratifying, or implementing the chief executive's decisions, who must be convinced to support the leader's foreign policy decisions before they can be put into effect (see, for example, Putnam 1988; Hagan 1993). A leader who fails to consider this policy ratification constraint is unlikely to be able to achieve his or her goals, as decisions are likely to be overturned or ignored and never ratified or carried out. The other primary domestic influence involves the "selectorate," which is made up of those political actors with the authority to select the political leader—such as the electorate in democracies, or the military or official political party in authoritarian states (see, Bueno de Mesquita and Siverson 1995; Hagan 1993). The selectorate has the power to remove or replace the chief executive (through elections, a coup, or some other means) if his or her policies are seen as undesirable or ineffective.

The primary international influence in the environment involves the state's adversary, which can block or assist the leader's attempts to achieve his or her goals. Even if the leader is able to satisfy other domestic actors associated with policy ratification and leader selection, foreign policy success depends on the actions and characteristics of the potential rival state. A peaceful agreement requires that the adversary be willing to negotiate and be flexible enough to agree to a settlement that both sides can accept, and unilateral action by the adversary that may block both peaceful and conflictual attempts to achieve goals. This combination of domestic and external influences forms the evolutionary "environment" in which political leaders operate, and which affects their prospects for survival in office (and for achieving their desired policy goals). A leader who is able to deal with the pressures and constraints offered by the environment is likely to achieve many of his or her political goals, and is likely to remain in power.⁶

In biological settings, individuals' fitness is linked to variation in physical characteristics and/or behavioral patterns, which may increase or decrease an individual's prospects for surviving, reproducing, and thus passing their favorable variations to future generations. With regard to world politics, leaders and their political opponents will vary in preferred policy goals and/or preferred behavioral paths to policy formulation and implementation.⁷ This variation may give certain individuals greater political "fitness" or ability to remain in office and pursue desired policies. To the extent that these policies are acceptable to the selectorate and to other domestic actors who are responsible for approving or implementing policies—and to the extent that these policies appear to be successful in achieving the leader's policy goals—the chief executive should be able to remain in power

It must be emphasized, though, that not all policy preferences are equally relevant at all times and in all places. As in the natural sciences, a leader's "fitness" can only be considered in the context of a specific environment, which has already been noted as including both domestic and international elements. In certain spatial-temporal contexts, such as peace-time periods with no perceived foreign threat, the relevant environment will be primarily domestic in nature, and the leader's preferred foreign policy goals or competence may not be very important contributors to his or her political fitness. In different contexts, such as during an ongoing war, the relevant environment may be primarily foreign in nature, and the leader's direction of the war effort may be much more important to his or her political fitness than any set of domestic policies. A leader who is seen as effective and "fit" in one type of environment may be seen in an entirely different light in another context; Winston Churchill and George Bush come to mind as examples of leaders who were seen as very effective in foreign war-making but were removed from office by citizens who began to focus on domestic policy.

In biological applications of evolutionary models, an organism facing environmental challenges must either adapt to deal with the challenges or risk being the victim of natural selection in favor of more "fit" competitors. Chief executives in world politics face a similar set of options as they confront challenges from the (domestic or international) environment. Adaptation for a chief executive involves changing his or her preferred policies or preferred path to achieving those policies, as when a formerly hawkish leader begins to pursue a peaceful settlement with a former enemy. The alternative to adapting one's own preferences to be more in line with the preferences of the selectorate and other domestic actors is the risk of natural selection, which in this case involves the leader's replacement with a more suitable (more "fit") individual through democratic elections, a coup d'état, or some other means.

EVOLUTIONARY CONCEPTS AND MILITARIZED RIVALRY

The above discussion of evolutionary concepts in world politics is general enough to suggest a complete model of foreign policy making. The preferred foreign policies that help to determine a given leader's political fitness may involve military policies regarding a long-time rival state, economic policies regarding trade or integration with neighboring states, or any number of other types of policies involving other international actors. The focus of the present chapter, though, is an evolutionary model of militarized interstate rivalry. As a result, the evolutionary model being developed here emphasizes relations with a particular rival nation-state adversary, leaving for future research the task of extending this model to more peaceful or cooperative dimensions of world politics.

result from choices made by each state's political decision-makers. To understand rivalry, then, we should attempt to understand how two states' political systems can produce decisions leading to a longstanding competitive relationship between states that features frequent militarized confrontations. Given the general evolutionary assumption that outcomes are not predetermined by structural or other factors, but rather that outcomes are reached as the result of cumulative changes over time, this approach suggests that the decisions that lead states toward or away from rivalry are influenced by the changing (international and domestic) political environment.

Before two adversaries begin to engage in militarized conflict and approach enduring rivalry, it is likely that most domestic political actors are concerned with domestic economic and social issues, and that the international adversary does not pose a severe constraint on action for the chief executive. This is consistent with research on public opinion, which generally indicates that foreign policy is not a day-to-day concern of most citizens. At least in the United States, the public generally treats foreign policy issues as confusing or uninteresting, and public opinion is best described as "latent"—having the potential for expression, but only if activated by an international crisis, war, or other serious event (see Holsti 1996; Powlick and Katz 1998; Stimson 1991).

As a result, when there is little or no history of recent conflict with an adversary, the primary determinants of a leader's political fitness should involve his or her domestic policies. A leader facing a new adversary thus has little to worry about from the domestic political scene in reaction to foreign policy initiatives, unless the leader dramatically bungles foreign relations in such a way as to bring on an unintended war or to give away what is perceived as an important national interest. The leader's popularity and ability to remain in office, in short, should be affected primarily by domestic policies (which are beyond the scope of the current model).

Foreign policy is likely to become more important, though, when it creates the perception that individuals' personal safety or interests are at stake. Militarized interstate rivalry is typically described as involving decades of competition between the same actors, with each side perceiving that the other poses a serious security threat to important interests (see, for example, Goertz and Diehl 1992; Vasquez 1993; Hensel 1996, 1999). Rivalries often feature dozens of militarized confrontations, some of which may escalate to full-scale war, and even in peacetime each rival will generally pay close attention to the actions and military deployments of the other. This combination of a decades-long threat from a specific adversary, frequent confrontations (perhaps leading to the death or injury of friends or relatives), and constant military vigilance and preparations (perhaps leading to military stationing abroad) is likely to create the perception that one's own safety and interests are at stake in the rivalry, thereby making the manager

As two adversaries come to see each other as serious security threats, more domestic actors on each side are likely to see their chief executive's foreign policy behavior as an important indicator of his or her competence. Foreign policy issues, particularly those involving the rival, should then be more important sources of the leader's political fitness, with regard to both policy ratification and leader selection or deselection.⁸ Unlike a non-rivalry context, in which the management of foreign relations has little impact on the leader's fitness, the domestic and international environment in a context of rivalry is much more threatening politically—potentially leading the leader to reevaluate his or her desired policies in light of recent events and recent trends in public attitudes (adaptation) or to risk removal from office in favor of a more desirable leader (selection).⁹

The next section of this chapter attempts to elaborate on this general statement of an evolutionary model of foreign policy. In particular, what is needed is a set of factors related to a developing conflictual relationship that might be expected to lead to the political activation of domestic political actors, along with specific expectations about how this activation might be expected to affect the relationship. Consistent with the earlier evolutionary assumptions that evolutionary processes are not unidirectional or teleological, it must be emphasized that not all of these factors will have effects in the same direction. Indeed, as will be seen, different factors may have different effects on foreign policy toward the rival, and even a single event can produce several competing effects in opposite directions. Three types of factors are examined: the nature of the contentious issues dividing the two states, the general context of recent relations between them, and specific details of past interactions between the states.

Contentious Issues

The first factor that must be considered is the nature of the issues at stake between two adversary states. As several scholars have argued (Holsti 1991; Vasquez 1993; Hensel 2000), conflict—military or diplomatic—occurs for a reason, and the specific issues or stakes behind a given conflict can be an important influence on the course and consequences of that conflict. From an evolutionary perspective, domestic political activation—and therefore domestic constraints on policy-makers—is likely to be greatest when highly salient issues are at stake.

The salience of an issue for any given actor depends on that actor's evaluation of the value of that issue, whether for him/herself or for the country as a whole. An example of a generally low-salience issue might be a question of foreign default on a debt owed to a bank or individual; although this may be important for the bank or individual whose money was not repaid, the average citizen is unlikely to see the issue as worthy of attention or as deserving any great sacrifice.

claimed or occupied, and which contains valuable resources and strategic military positions; Vasquez (1993) describes territory as perhaps the most salient type of issue. Many citizens would be affected by the loss of such territory to an enemy, in terms of both lost resource revenue and the enemy's newly threatening military positions, although the effects would be strongest for citizens whose careers depend on extracting or using those resources and for those who live near the territory.

Low-salience issues are likely to have little impact on domestic political activation, as most citizens, legislators, and other actors perceive that even a total defeat over the issue is unlikely to carry high costs for themselves or for the country. Because of their greater perceived importance to more actors, though, high-salience issues are likely to be followed by many different political actors. As a result, leaders are likely to face much greater domestic constraints when dealing with high-salience issues than when dealing with low-salience issues, and policy failures over high-salience issues are more likely to lead to the replacement of the leader. Unlike many of the other factors discussed herein, the political activation effect of high-salience issues may be felt almost from the beginning of contention over the issue, at least to the extent that the public recognizes that a high-salience issue is under contention. As two or more adversary states continue to contend over high-salience issues, more and more people are likely to become aware of the issue, thereby increasing the constraints on leaders attempting to manage the issue (and making it much more difficult for them to settle the issue when large portions of the electorate or other political groups are agitating for success over the issue).

The General Context of Past Relations

A central tenet of the evolutionary approach to rivalry, with its emphasis on cumulative changes over time, is that the context of relations between states changes in response to earlier events between those states. Hensel (1996, 1998a, 1999) describes two distinct types of evolutionary factors that help to account for movement toward or away from rivalry, beyond the impact of contentious issues or control variables like relative military capabilities or political democracy. The first type of factor is the general context of past relations, with relations expected to become more conflictual as two adversaries accumulate a longer history of militarized conflict or more cooperative as they build up a longer history of friendship and cooperation. The second type involves specific details of past interactions, such as the outcomes and severity levels of specific militarized confrontations.

Before two states become involved in a string of recurrent militarized conflict, they are unlikely to recognize each other as primary security threats or as primary

activists, or individual members of government may warn about the dangers posed by the adversary, it is unlikely to be seen as a serious rival in the military sense by most of the population or the government. For example, books appeared in the 1980s proclaiming “the coming war with Japan” and similar arguments are being made today about “the future U.S.-Chinese war” or the future rivalry between the West and the Islamic world, but most current observers view such proclamations as alarmist and not as prudent bases for policy making. As noted earlier, a variety of public opinion literature suggests that foreign affairs are of little day-to-day consequence to the average citizen, at least until his or her personal interests are perceived as being threatened. In the absence of a clear military rival, then, this chapter’s evolutionary approach suggests that the primary determinants of a leader’s popularity and prospects for remaining in power are domestic in nature (typically involving social or economic policy). A leader may thus pursue foreign policy goals with little risk of domestic backlash, at least as long as the leader is able to avoid a dramatic misadventure such as a costly or unsuccessful war (Bueno de Mesquita and Siverson 1995).

As two adversaries begin to confront each other militarily, however, foreign policy vis-à-vis the rival is likely to become more important as an influence on both the selectorate and the chief executive. Each confrontation between two adversaries is likely to lead to a general deterioration in relations due to increased feelings of hostility, distrust, or enmity, as well as any death or losses that may have resulted. Beyond these direct effects on the chief executive, a longer history of conflict is likely to lead to the political activation of a larger portion of the selectorate, for whom foreign affairs are becoming more menacing. Any confrontation that has led to fatalities or to the extended stationing of military forces in harm’s way is likely to create the perception of a threat to personal interests for the soldiers and their friends and families, and any domestic social or economic hardships as a result of the budding rivalry are likely to have a similar (if less intense) effect on a wider scale. As a result, the leader’s policies regarding the rival state are likely to be seen as an important indicator of his or her overall quality of leadership, and a leader with unpopular policies must either change the policies (that is, undergo evolutionary adaptation) or risk being removed from office by the selectorate (that is, risk being “selected out” in favor of a more “fit” political competitor).

It is important to note that past interactions may influence domestic political actors—and, as a consequence, the foreign policy-making process—in either a more conflictual or a more cooperative direction. A longer history of conflict and distrust should be expected to produce more suspicion and conflict, as the history of past conflict leads to self-fulfilling prophecies that the enemy can not be trusted and must be stopped by force if needed. Indeed, each successive confrontation that occurs should have such an effect, all else being equal; it is diffi-

cult to imagine a circumstance where confronting an adversary militarily improves relations with the adversary (although characteristics of the confrontation, such as its outcome, may produce this effect; see below). A longer history of cooperative interactions—such as arms-control agreements, confidence-building measures, or attempts to settle disputed issues peacefully through negotiations—should be expected to produce more cooperation in the future, perhaps helping bring a long-time rivalry to a close. This is consistent with the result of U.S. opinion polls taken during the Cold War that show the U.S. public seeing the Soviets as more trustworthy (and cooperation as more likely) in periods such as detente, when recent history seemed to show successful examples of U.S.-Soviet cooperation (Holsti 1996: 66 ff). Similarly, the perception of the Soviet Union as trustworthy tended to decline with each new Cold War incident or crisis, which Holsti (1996: 67) illustrates by juxtaposing a list of early Cold War incidents with the decreasing popular perception of Soviet trustworthiness from 1945 to 1949.

Specific Details of Past Relations

Beyond the general contextual effects discussed above, the unfolding processes of change that characterize the evolutionary approach are also influenced by specific details of past interactions. With regard to past episodes of militarized conflict, relevant details include the outcomes and severity levels of each past confrontation, which may exacerbate the conflictual effect of the confrontation itself or may help to counterbalance it in a more cooperative direction. For example, a confrontation that ends in a stalemate is likely to increase distrust and hostility between two adversaries without resolving any of their disputed issues to either side’s satisfaction. In contrast, a confrontation ending in a negotiated compromise may settle some or all of the disputed issues and may create a more cooperative atmosphere. A decisive victory for one side may be able to settle the issues if the loser should recognize the futility in continued contention against a demonstrably stronger adversary; even if contention is not abandoned altogether, a substantial period of time may be required before the loser begins to feel confident in its ability to reverse its earlier losses.

Focusing more specifically on domestic actors beyond the chief executive, the impact of past conflict outcomes may also depend on the political activation of relevant domestic actors. If most domestic actors are uninterested in the rivalry or the issue(s) under contention, then leaders face few constraints on policy-making, and defeat might not be enough to spur a disinterested selectorate to remove a leader from power. To the extent that domestic actors are activated (either by the outcome itself or by events occurring before the confrontation), though, the impact of dispute outcomes on policy should be much greater. For example, an outcome in which the state was defeated by its rival and lost control of disputed

territory appears likely to activate more of the public by convincing them that the rival poses a serious threat to their interests (and that the leader's policies were ineffective). If the defeat was so overwhelming as to indicate that even a more effective leader is unlikely to achieve better results against this adversary, though, domestic political actors may begin to prefer a more accommodationist strategy vis-à-vis the rival, and may pressure future leaders in that direction.

The severity level reached in a previous confrontation between two adversaries may also affect their subsequent relations, independent of the outcome of the confrontation. If a confrontation reaches a high level of escalation, the involved nations may need to rearm or replace the loss of much of their military hardware or trained military personnel. Public opinion may develop an aversion to belligerent foreign policies as the result of previous experiences with wars or perhaps crises that raised the strong possibility of escalation to war. Either separately or in conjunction with the effects of public opinion, a state's policy-makers may develop a similar aversion to war that will lead them to hesitate before seeking to initiate another confrontation, often referred to as a "war-weariness" or "negative reinforcement" effect. A previous confrontation that led to heavy losses could lead policy-makers to reevaluate or abandon the policies that led to those losses, as the leader attempts to adapt his or her policy preferences or is replaced by a new leader favoring a less hard-line policy. Alternatively, a confrontation that ended with few or no losses may contribute to more aggressive foreign policy actions in its aftermath, relative to confrontations that produced heavier losses in men or material.

The present chapter's emphasis on domestic actors also suggests that such a dramatic international event as a full-scale war is likely to lead to the political activation of a large segment of domestic society, because so many people's interests were likely affected by the war. In general, then, the evolutionary model suggests that especially severe conflicts between two rivals should have the twin effects of activating a sizable portion of the public and generating opposition to such costly conflict in the future. The result should be that the government will be less belligerent in the near future after the war, because of the high political costs of pursuing a belligerent policy that the public is likely to oppose.¹⁰ It is instructive that Bueno de Mesquita and Siverson (1995) find that involvement in a costly war increases a government's likelihood of losing political power, whether the war ended in victory or defeat.

Returning to more cooperative forms of interaction, we might also expect specific details to have important effects. As noted earlier, we should generally expect a history of cooperation to increase the prospects for future cooperation. Yet not all negotiations or other peaceful interactions will have the same effect, and some may work in the opposite direction. Negotiations that produce successful treaties that are ratified and carried out are likely to produce a positive effect on future

relations. The opposite result is likely, though, for talks that end without agreement or for agreements that are not ratified or carried out by one or both sides. Such cases may indicate to one or both sides that the other side can not be trusted or has no interest in reaching a genuine peaceful settlement of their contentious issue(s), rendering future cooperation more difficult.

Summary

This basic evolutionary model suggests that interstate rivalry can be understood as both the product and an agent of evolution in domestic politics. Most previous studies of rivalry—particularly those that consider the impact of domestic politics (see for example, Mor 1997; Rasler, this volume; Thompson, this volume)—have treated rivalry as a given and focused on the management or termination of ongoing rivalries. In contrast, this evolutionary approach allows us to begin to understand how rivalries develop initially, and how rivalries—once developed—affect the nature and consequences of domestic politics.

Under this model, rivalries are likely to begin over issues that are seen as salient by important portions of the political system, such as control over strategic or otherwise valuable territory. Relatively trivial issues would appear to be unlikely to lead chief executives into chains of recurrent militarized confrontations, or to lead to the political activation of other domestic political actors in such a way as to push leaders toward aggression or away from more cooperative initiatives. More salient issues would appear to be more likely to generate hard-line policies by leaders initially, as well as activating the political opposition and the selectorate in such a way as to reward tough policies vis-à-vis the rival and to punish what are seen as policies of weakness or appeasement.

Beyond issue salience, interactions between two potential rival states can also generate pressures leading toward (or away from) rivalry. A longer history of conflict or a highly visible outcome related to it—such as a decisive victory or loss in a military confrontation, or a bloody confrontation with the adversary—is likely to attract greater public attention to the rivalry, making it more difficult for the leader to back down or to end the rivalry without suffering domestic political consequences. Alternatively, a longer history of cooperation (such as a series of confidence-building measures, arms control treaties, or agreements involving some or all of the contentious issues between the adversaries) may help to convince both the leader and his or her constituents that cooperation is both possible and desirable. Political shocks—whether related to the rivalry or external in nature—may produce either of these effects, depending on the nature of the shock and the way that it is perceived by political actors; if the leader is blamed for the occurrence or impact of the shock, it may increase the political constraints against him or her (see also Rasler, this volume; Thompson, this volume).

Of course, this is not to say that these evolutionary explanations are the only factors that affect the development of potential interstate rivalries. The combination of salient issues and a history of conflictual interactions may greatly increase the prospects for future conflict and rivalry, but other factors may intervene. For example, if both sides are political democracies, they may be able to settle their differences peacefully even when highly salient issues are at stake (see, for example, Dixon 1993, 1994). Similarly, if the two sides are highly unequal in military capabilities, their disagreements may be ended quickly through a decisive military victory by the stronger side or a capitulation by the weaker side in the face of overwhelming odds. Any test of this or any other model of rivalry should control for such elements, in order to obtain the most accurate understanding of the role of evolutionary or other factors in the development of rivalries.

THE BOLIVIA-PARAGUAY RIVALRY

Having presented an evolutionary model to account for the origins and development of militarized rivalry, it is now important to evaluate this model to determine its relevance to interstate rivalry. Two forms of evaluation are used, beginning with a brief case study of the rivalry between Bolivia and Paraguay in the late nineteenth and early twentieth centuries. After this case has been examined, the recent quantitative evidence on rivalry is examined, in order to determine the extent to which this evidence is consistent with the evolutionary model or with its competitors.

The Bolivia-Paraguay rivalry offers a useful case to examine for these purposes. Most case studies of rivalries in the decade or so that rivalry has been a systematic topic of study have focused on rivalries between major powers (such as the Cold War) or on rivalries that were closely tied to major power rivalries (such as the Arab-Israeli rivalries). Little is known about rivalries between minor powers that generally avoided direct major power involvement, as was the case for Bolivia and Paraguay. Whether or not such a case provides substantial support for the evolutionary model proposed herein, we can conclude with some confidence that we are getting a fair picture of the role of evolutionary dynamics in the rivalry. With a case such as the Israel-Egypt rivalry that was tightly interconnected with the Cold War, it would be easy to dismiss negative or inconclusive results as an artifact of the Cold War, rather than as an indication of the irrelevance of evolutionary considerations. Similarly, with a major power rivalry such as the Cold War itself, it would be easy to dismiss weak results as an artifact of the centrality of the rivalry in world politics; perhaps the system's two superpowers have higher concerns or are affected by so many additional factors beyond their own rivalry that evolution would not operate as expected in such a case.

HISTORICAL BACKGROUND

The rivalry between Bolivia and Paraguay involved competing territorial claims to the Chaco Boreal region between the two countries. After independence from Spain in the early nineteenth century, both states claimed the territory on the basis of incomplete and contradictory Spanish records. By the end of the century, both sides were exploring the region and building ever-advancing lines of military outposts to protect their claims. Bilateral talks between Bolivia and Paraguay in the late nineteenth century failed to produce an agreement that could be ratified by both sides, and further talks in the early twentieth century failed even to produce an agreement that could be submitted for ratification. Military patrols from the two sides' Chaco outposts began to encounter each other in the 1920s, leading to a number of militarized incidents and failed attempts to settle the competing claims. One set of incidents spawned the bloody Chaco War of 1932 to 1935, in which Paraguay captured most of the region. After three years of difficult postwar negotiations and renewed incidents in the Chaco, Bolivia and Paraguay agreed to a final settlement of the Chaco that recognized most of Paraguay's gains from the war (for more detail see Hensel 1996).

Table 7.1 summarizes the major military and diplomatic events between Bolivia and Paraguay, from 1850 (shortly after both sides were recognized as sovereign nation-states) to the 1938 settlement of the Chaco issue. The first column lists militarized interstate disputes (Jones, et al. 1996) between Bolivia and Paraguay, indicating which confrontations were severe enough to lead to fatalities among the participants. The second column lists peaceful attempts to settle the Chaco Boreal territorial claim, including both bilateral negotiations and talks involving third party assistance (for example, good offices or mediation). This column also addresses the effectiveness of each attempt, indicating failed talks that never led to an agreement between the participants, as well as failed agreements that were never ratified or were never carried out by at least one of the participants.

Bolivia and Paraguay managed to avoid militarized conflict for much of their disagreement over the Chaco. At first, both states were concerned with other international issues (for Bolivia the War of the Pacific and its aftermath, for Paraguay the War of the Triple Alliance and its aftermath), the Chaco was not seen as central to either state's existence, and both sides were plagued by internal political and economic troubles. The few incidents that did occur were neither frequent nor serious until the 1920s, at which point the Bolivia-Paraguay relationship would be classified as an enduring rivalry by most quantitative measures. Diplomatically, the Chaco question was largely ignored throughout the nineteenth century, with a few negotiations producing treaties that were never ratified or carried out. The pace of diplomacy picked up in the twentieth century,

Table 7.1 Timeline of the Bolivia-Paraguay Rivalry

Militarized Conflict	Negotiations
1850–1879:	1878–79 Treaty (not ratified)
1880–1889: 1886 Fuerte Olimpo Militarization 1887–88 Puerto Pacheco Seizure	1887 Treaty (not ratified)
1890–1899:	1894 Treaty (not ratified)
1900–1904:	1901 Talks (no agreement)
1905–1909: 1906 Chaco Fortifications	1906 Arg. Good Offices (no agreement) 1906–07 Arg. Good Offices—Treaty (not ratified)
1910–1914:	1912–13 Procedural Treaty (not carried out)
1915–1919: 1918 Chaco Fortifications	1915 Procedural Treaty (not carried out) 1916 Procedural Treaty (not carried out) 1917 Procedural Treaty (not carried out) 1918 Procedural Treaty (not carried out) 1919 Procedural Talks (no agreement)
1920–1924: 1921 Chaco Fortifications 1922 Chaco Fortifications 1923 Chaco Fortifications 1924 Mennonite Incidents	1921 Procedural Talks (no agreement) 1923 Uru. Good Offices (no agreement) 1924 Procedural Talks (no agreement)
1925–1929: 1927 Fortín Sorpresa Incident 1927 Oil Rumors Buildup 1928–29 Vanguardia Clashes*	1927 Arg. Good Offices (no agreement) 1928 Arg. Good Offices (no agreement) 1928–29 Good Offices (procedural agreement) 1929–30 Arg. Good Offices (no agreement)
1930–1934: 1930 Bolivian Attack Plans Crisis* 1931–35 Chaco War*	1931–32 Good Offices (no agreement) 1932–33 Good Offices (no agreement) 1933 Mediation (no agreement) 1933–34 League Fact-Finding (no agreement) 1933 Mediation (no agreement) 1934 Mediation (no agreement) 1934 League Fact-Finding (no agreement)
1935–1938: 1935 Demarcation Line Patrols 1936–37 Chaco Road Incident 1936 Chaco Clashes* 1937 Chaco Road Occupation 1937 Chaco Patrols 1937 Pre-Treaty Incidents	1935 Mediation (ceasefire/troop withdrawal) 1935–37 Mediation (no agreement) 1936 Mediation (no agreement) 1936–37 Mediation (agreement not carried out) 1938 U.S. Mediation (no agreement) 1938 Mediation—Final Settlement 1938 Arbitration—Final Settlement

* Indicates militarized disputes that led to at least one dispute-related fatality among the participants.

Sources: COW Militarized Interstate Dispute data (Jones, Bremer and Singer 1996); ICOW Territorial Claims data (Hensel 2000).

beginning with further unsuccessful bilateral talks between Bolivia and Paraguay and occasional talks under Argentine good offices. As serious militarized incidents began to accumulate, drawing foreign attention and concern to a previously ignored portion of the world, third parties became involved diplomatically as well. Particularly after the near-war crisis of 1928 and the Chaco War in the 1930s, the League of Nations, the United States, and neighboring Latin American states offered good offices and mediation with great frequency, generally failing to reach agreement but eventually producing the final 1938 settlement.

CONTENTIOUS ISSUES

The rivalry between Bolivia and Paraguay centered around territory in the Chaco Boreal, a desert region lying between them. Perceptions of the disputed territory changed during the rivalry, with the Chaco coming to be seen as much more salient later in the rivalry than it had been earlier. At the initial independence of both Bolivia and Paraguay, the Chaco was not seen as especially vital to the well-being of either state. Selected leaders and scholars on each side knew about their countries' claims to the Chaco, but the mass public neither knew nor cared about the Chaco (Warren 1949; Rout 1970). Both sides maintained a presence in the region to some extent during the nineteenth century, in the form of small military bases ("fortines"), explorations, small settlements, and missionaries. Yet neither made a concerted effort to establish undisputed sovereignty over the territory until later in their relationship, when the perceived value of the Chaco had been increased by both sides' losses in previous wars and by economic conditions.

Upon achieving independence, Bolivia's economy and foreign policy were oriented westward toward the Pacific Ocean through its coastal territory, ports, and nitrate mines. In the 1879 to 1883 War of the Pacific, however, Chile captured Bolivia's Litoral province, which contained all of Bolivia's nitrate mines and ocean ports. Decades of postwar diplomacy failed to return the Litoral province or to acquire rights from Chile to the formerly Peruvian areas of Tacna or Arica, leaving Bolivia a landlocked state without direct access to the sea (and without its valuable nitrate mines). By the time Peru and Chile resolved the Tacna-Arica question in July of 1929, giving Tacna to Chile and Arica to Peru, it had become clear that Bolivia would not be able to recover any Pacific coastland, and the Bolivian government began to look elsewhere for access to the sea.

The rivers in Bolivia were not deep enough to allow oceangoing vessels, but Bolivia saw a suitable opportunity in the Río Paraguay, which ran through Brazil and the Paraguayan Chaco. This river was deep enough for oceangoing vessels, and Bolivia had historical claims to the Chaco dating back to the early days of Spanish rule. The loss of Bolivia's Pacific coastland thus led Bolivia to devote much greater effort to its previous claims to the Chaco (Abecfa Baldivieso 1979;

The importance of the Chaco to Bolivia also increased dramatically with the discovery of oil. Bolivia's economy, which had been dependent on tin exports since losing the nitrate industry to Chile, was crippled by the 1920s collapse of the world tin market. The recent discovery of oil in Bolivian-occupied portions of the Chaco offered the prospect of improving the economy through oil exports. According to Abecía Baldivieso (1979: II, 480; my translation), "If for Baptista in 1904 the Chaco was a useless territory, for Salamanca in 1920 it was the route to a port and the possibility of exporting oil. The Chaco War could no longer be only a question of frontiers for Bolivia; it was now a question of sovereignty over the Río Paraguay." Furthermore, as Rout (1970: 25) and Garner (1966: 33–34) note, the oil issue complicated the already-complex Chaco problem by making compromise less tolerable to Bolivia. Negotiating with Paraguay for the right to build a pipeline to the Río Paraguay would mean tacit acceptance of Paraguay's claims to the Chaco and diversion of some of the tax revenues that would result from the oil exports, neither of which was desirable in view of the 1920s deterioration of Bolivian-Paraguayan relations and of Bolivia's economic situation.

Like Bolivia, Paraguay was motivated by the desire to avoid further losses of territory. After the disastrous War of the Triple Alliance from 1865 to 1870, Paraguay had lost the disputed Apa region to Brazil and the disputed Chaco Central region to Argentina. Already having lost territory to two of its neighbors, the Paraguayan government felt it absolutely necessary to maintain Paraguayan possession of the Chaco Boreal, particularly in light of the perceived economic importance of the region (and because the Chaco made up over half of Paraguay's remaining territory). The Chaco contained valuable quebracho timber and ample space for cattle ranches and agriculture, and began to attract foreign investors in the late nineteenth century and early twentieth century. Paraguay granted numerous concessions to American, British, and Argentine businessmen to exploit the Chaco's land and resources for cattle ranching, quebracho timber, and tannin extract. The importance to Paraguay of revenue from these concessions made the Chaco an asset to be retained at all costs, leading to active measures to ensure continued Paraguayan ownership as the Bolivian and Paraguayan lines of settlements and military outposts began to come into contact in the middle of the Chaco (Rout 1970: 18–21).

DOMESTIC POLITICS IN BOLIVIA AND PARAGUAY

The Bolivian and Paraguayan political systems during much of the rivalry were nominally democratic, with leaders being selected through elections and with checks and balances among the executive, legislative, and judicial branches of government. Realistically, though, neither system met modern standards of

democracy. Elections in both systems were limited to a very small electorate, generally the literate upper classes. Furthermore, elections in both systems tended to be rigged in favor of the ruling party, marked by the frequent threat or use of violence to keep supporters of opposition parties from voting. As a result, Bolivia was ruled by a president from the Conservative Party from 1880 to 1899, the Liberal Party from 1899 to 1920, and the Republican Party from 1920 to 1934; Paraguay was ruled by the Colorado Party from 1878 to 1904, and the Liberal Party from 1904 to 1936. Opposition parties occasionally acquired significant representation in the legislature, including a majority for the opposition Liberal Party in the Bolivian legislature under Republican President Daniel Salamanca (1931 to 1934), but in each period the presidential dominance of the ruling party was only ended by a coup or revolution (Fifer 1972; Klein 1969, 1992; Lewis 1993; Roett and Sacks 1991; Warren 1949, 1985).

The political process in Bolivia during the rivalry—including numerous coups, revolts, and other instability as well as the more routine selection of leaders and policy formulation—was influenced primarily by domestic concerns most of the time (Fifer 1972; Klein 1969, 1992). These concerns included the relative influence of silver and tin miners, the restriction of rights for Bolivia's indigenous peoples, large budget problems, and an often dissatisfied or unpaid military, and the personal greed of individual leaders (indeed, President Melgarejo has been accused of sacrificing much of Bolivia's Pacific coast to Chile for personal profit). Up to the 1920s, the few exceptions where international factors affected Bolivian politics generally involved Chile, including the overthrow of President Daza during the War of the Pacific in 1879, public discontent over negotiations or treaties that seemed to award formerly Bolivian territory to Chile, and a 1918 attempt by the political opposition to raise the Chilean question in order to weaken the hold of the ruling party. It was not until the 1920s that the Bolivian mass public and political opposition (and the government itself) began to seize on relations with Paraguay as a vital issue affecting the Bolivian political process. Klein (1969: 102) notes that the question of the Pacific dominated Bolivian newspapers until December 1926, when stories on the Chaco first began to appear.

Similarly, in Paraguay, the budding rivalry with Bolivia apparently failed to capture the attention of the mass public until the mid- to late-1920s (Lewis 1993; Roett and Sacks 1991; Warren 1949, 1985). Throughout the 1870s and 1880s, Paraguay was recovering from its catastrophic loss of over half of its population in the War of the Triple Alliance (López War), and was the subject of frequent post-war interference by its Argentine and Brazilian opponents. In subsequent decades, Paraguay's political situation was preoccupied with domestic political, economic, and social concerns, including frequent splits within each political party as well as the expected disagreements between the parties.

SOURCES OF POLITICAL ACTIVATION

Public opinion on each side of the rivalry was activated in large part by the efforts of the political opposition, the mass media, and interest groups. Warren (1949) notes that opposition parties and newspapers on both sides were very effective at keeping up agitation, supporting their country's claims to the Chaco, rejecting the rival's claim, criticizing perceived governmental inaction, warning against tricks by the rival, and urging military preparation. Similarly, beginning in the 1890s and accelerating in the 1920s, academics and other scholars—many of whom would later reach the presidency or other political offices—published numerous well-received books supporting their own country's claims and rejecting those of the rival (Warren 1949; Rout 1970). Together, these opinion leaders essentially converted geographic features like the Río Paraguay into sacred national symbols, and created a psychological climate in which concession to the rival became tantamount to treason. After leaving office, Paraguayan President José Guggiari (1928 to 1932) declared that the Bolivian menace in the Chaco provided the principal issue for Paraguayan opposition parties; Bolivians went so far as to claim that the Chaco dispute was the one cohesive factor holding Paraguay together as a nation (Warren 1949: 290).

This political activation was most effective for the masses after Bolivia and Paraguay had started to engage in serious militarized confrontations. The incidents of the late nineteenth and early twentieth century tended to be minor, involving threats or protests over both sides' military expansion into largely uninhabited portions of the Chaco. Beginning in the late 1920s, though, these incidents took a more serious turn as the military front lines started to encounter each other, leading to the first fatalities in the rivalry and offering fertile ground for political activation.

The first bloodshed came in February 1927, when a clash between patrols at Fortín Sorpresa resulted in the death of a Paraguayan lieutenant. With his death, "an outburst of nationalist emotion" swept through students and the military, leading to numerous angry demonstrations (Lewis 1993: 142) and causing "emotions in La Paz and Asunción to rise to fever pitch" (Fifer 1972: 208). Lewis (1993: 145) goes so far as to claim that Paraguayan public opinion was so inflamed by the incident that war was only averted through Argentine diplomatic intervention. This incident also sparked the rapid rise of opposition newspapers and political movements, with the primary goals of spreading awareness of the Bolivian threat and pressuring the government to do more to meet this threat (Lewis 1993). Talks over the Fortín Sorpresa incident—conducted with Argentine assistance—lasted until July 1928, but ended without a positive decision. This failure of diplomacy, coupled with the intense nationalism inspired by the incident itself, led to the hardening of attitudes over negotiation as both sides

began to abandon compromise in favor of more extreme demands (Rout 1970; Fifer 1972; Lewis 1993).

Intense clashes in December 1928, led to the capture of the Bolivian outpost Fortín Vanguardia and the Paraguayan Fortín Boquerón. These incidents "inflamed public passion to a dangerous degree" in Paraguay, bringing the Chaco issue to the attention of the entire country (Warren 1949: 298). Similarly, the clashes had an "overwhelming" impact on Bolivia, immediately uniting all political parties behind the government (albeit temporarily) and prompting three days of mass popular demonstrations (Klein 1969: 105–06). Fifer (1972: 209 ff) notes that with these clashes, both Bolivian and Paraguayan "national honor became identified with the small, apparently worthless plot of ground which had changed hands in the Chaco"; subsequently, both Bolivian and Paraguayan public opinion would react violently against any Chaco concession that might be seen as weakness.

The 1928 incident also intensified political problems within Paraguay, as the troop mobilization during the crisis revealed shortages of weapons, ammunition, uniforms, medical supplies, and food. The political opposition criticized the administration of President José Guggiari for its lack of preparation and demanded a rapid military buildup. Opposition increased in January 1929, when Guggiari accepted the terms of the International Conference of American States on Conciliation and Arbitration, which named Paraguay as the aggressor in the 1928 crisis and ordered Paraguay to rebuild Bolivia's Fortín Vanguardia. Guggiari's administration would subsequently be associated with appeasement, and a coup by the disaffected military appears to have been avoided only by the lack of a willing leader (Lewis 1993). Bolivian President Siles would also suffer political fallout from the 1928 crisis and its aftermath, being attacked by the opposition for his "cowardliness" in the Chaco and for "selling out national sovereignty to the Paraguayans" when he refused to order a general mobilization during the crisis (only calling up several draft classes) and attempted to avoid war by agreeing to the 1929 settlement (Klein 1969: 105–06, 112).

Another incident in September 1931 resulted in the Bolivian capture of Paraguay's Fortín Masamaclay (Agua Rica). After a failed attempt to recapture the outpost, Paraguay's military leadership and President José Guggiari were willing to accept the loss because of Bolivia's overwhelming military superiority in the Chaco at the time. The Paraguayan government tried to keep the loss secret by suppressing the news, but a month later word leaked out and enraged the public; the public anger over the loss was only compounded by the government's attempt to cover up the incident. The political opposition demanded action, criticizing Guggiari's alleged pacifism and inaction. A "mob of excited super patriots" rioted in Asunción in October, led by students and intellectuals. The government refused to talk with the mob and attempted to disperse the crowd; eleven pro-

testers were killed while marching on the presidential palace, leading to the establishment of martial law and the arrest or deportation of major opposition leaders. Most of the cabinet resigned or was replaced, Guggiari was forced to step down during a Congressional investigation (he would be exonerated because the opposition had already withdrawn all of their legislators), and serious revolt was averted only because the armed forces remained loyal (Warren 1949; Lewis 1993). By this point, the Chaco was seen as vitally important by a politically activated public and political opposition, and weak or ineffective leadership on the Chaco would likely lead to the loss of political power.

Incidents continued in 1932, creating continued pressure on both sides' political leaders (Fifer 1972; Klein 1969, 1992; Lewis 1993; Warren 1949). A Bolivian force occupied a Paraguayan position at Laguna Chuquisaca and beat off several counterattacks before being defeated in July. Paraguayan President Eusebio Ayala, who took power in August 1932, would quickly be "heckled and goaded by fiery nationalists" for his moderation over the Chaco dispute and "pilloried by the mob" for his hesitation in declaring war (Warren 1949: 301). Indeed, president-elect Ayala had called on Congress to vote down war credits in June, convinced that Argentina and Brazil would force Bolivia—recently branded as the aggressor by the Inter-American Conference in Washington—to stop shooting and pull back its Chaco forces. After his August inauguration, Ayala proposed a ceasefire and the creation of a demilitarized zone, but incidents continued and escalated into full-scale war in September (Lewis 1993). By this point, Fifer (1972: 212) argues, both governments were "committed too far to withdraw without loss of national prestige," making war in the Chaco seem "both inconceivable and inevitable."

Once the war began, public opinion generally followed battlefield results. Paraguayan successes in the Chaco translated into national unity behind President Ayala and the military; Warren (1949: 303) notes that "even those discontented elements who had no love for Ayala" refrained from a revolt that would have disrupted the national unity and allowed Bolivia to take advantage of a divided enemy. Once the war ended, however, dissatisfaction with the ruling Liberal Party's prewar diplomacy and management of the war came to the surface. The Liberals were blamed for poor diplomacy that allowed the war to begin and that had failed to make adequate military preparations, for repressing popular protests (including the killing of ten students in an October 1931 mob), for agreeing to a 1934 ceasefire that allowed the Bolivian military to regroup and resupply, and for stopping the war when a much greater victory appeared to be in reach (Roett and Sacks 1991; Lewis 1993). After the war ended, Ayala ordered a large-scale demobilization to cut expenses from an empty treasury, leading to angry protests from the opposition because no peace treaty had yet been signed to end the threat from Bolivia. This discrediting of Liberal party rule helped to ensure the downfall of the party after decades of rule, and prepared the way for

Bolivian losses in the Chaco helped to turn the people against President Daniel Salamanca. As the war began, literate public opinion in Bolivia was already disturbed by the political use that Salamanca was making of the Chaco situation; feelings of doubt and opposition quickly spread to the rest of society as the Bolivian army suffered several early defeats. Several weeks into the war, twenty thousand rioters demanded Salamanca's resignation, and several leading military officers soon demanded his dismissal. Salamanca survived these protests, but he was forced to ask the opposition Liberal party to join him in a coalition government. Talks with the Liberals broke down with a further Bolivian defeat, leading to opposition attacks on Salamanca, government-encouraged mob violence against opposition newspapers, and the banning of all unions and labor organizations (Klein 1992: 191; 1969: 169–84). Salamanca would eventually be overthrown in a 1934 coup as the war (and Bolivia's losses) continued.

In each of these cases, interactions between Bolivia and Paraguay contributed to the political activation of domestic political actors with regard to the rivalry. Early in the relationship, when leaders' attention was elsewhere and there had been little direct confrontation, most of the populace in both states paid little attention. With each successive military clash in the 1920s, though, more and more of the public came to see the Chaco dispute as highly salient for each country (and as an indicator of the effectiveness of their chief executive). The next section addresses the impact of this activation on decision-making on each side of the rivalry.

IMPACT OF DOMESTIC POLITICS ON FOREIGN POLICY

As political actors on both sides became increasingly activated politically, the rivalry over the Chaco came to exert an increasingly important influence on policy-making in both Bolivia and Paraguay. Two specific forms of this influence are examined, centered around the two primary types of domestic constraints on political decision-makers discussed earlier: leader selection and policy ratification. Special consideration is given to the timing of the influence in rivalry, emphasizing changes in political activation.

Leader Selection

Leader selection refers to the replacement of a political leader by the "selectorate," which could involve the military, political parties, or the voting public and could occur through elections, coups, revolutions, or other means. In both Bolivia and Paraguay, leader selection at the outset of competition over the Chaco was not influenced by the Bolivian-Paraguayan relationship. To the extent that foreign policy affected leader selection, the impact came from relations with other

nineteenth century wars. For example, Bolivian President Hilarión Daza was overthrown in an 1879 revolution involving both citizens and the military, following political and military blundering that helped lead to the War of the Pacific and that led to disastrous military defeats by Chile (Klein 1992). Similarly, Paraguayan dictator Francisco Solano López was killed in battle in 1869 during the War of the Triple Alliance, and the selection of Paraguayan leaders over the next decade was heavily influenced by Brazil and Argentina in unilateral attempts to gain political advantage following the war (Warren 1978). Outside of these war-related cases, both Bolivian and Paraguayan leaders in the nineteenth and early twentieth centuries were generally selected (or removed from power) on the basis of domestic political and economic issues.

Once the rivalry became active and led to full-scale war, though, both Bolivia and Paraguay saw leaders removed from office largely because of perceived foreign policy failures relating to the rivalry. Paraguay's president during the Chaco War, Dr. Eusebio Ayala, was overthrown by Colonel Rafael Franco in February 1936 because of alleged weakness at the postwar peace table. In particular, beyond the alleged misconduct of the war that has already been noted, Ayala had inflamed nationalist opinion by agreeing to release all seventeen thousand captured Bolivian soldiers in exchange for the only twenty-five hundred captured Paraguayans. Many nationalists had sought a one-for-one exchange, with the remaining Bolivians to be used as bargaining chips in future negotiations, and Ayala's actions were seen as confirming their suspicions about his lack of patriotism (Warren 1949; Rout 1970; Lewis 1993).

Franco's government committed itself to a more militant defense of Paraguayan interests, including the rejection of new concessions at the Chaco Peace Conference (Warren 1949; Rout 1970). Yet Franco made an important concession in January 1937, agreeing to withdraw from forward positions controlling a strategic Chaco road in order to allow the passage of Bolivian supply trucks. Although neutral observers would continue to monitor the road, Franco's concession was seen as appeasement. Paraguayan forces in the Chaco—already dissatisfied due to supply shortages—refused to abandon the road, and another coup in August 1937 overthrew Franco.

Bolivia also experienced an important change in leadership due to the rivalry with Paraguay. Bolivian President Daniel Salamanca was widely perceived to have started the Chaco War for personal gain after deceiving the public and overcoming military objections. After a series of Bolivian military defeats in the war, Salamanca lost the widespread popular support that had accompanied the march to war. Finally, the Bolivian army removed Salamanca from power in November 1934, temporarily uniting the country again politically and socially (Klein 1969, 1992). Indeed, Klein (1992: 199) notes that by the end of the war Bolivians were so frustrated by poor leadership and military defeat that they were showing much

Policy Ratification

Policy ratification refers to constraints by domestic political actors on the policy-making process, rather than on the selection or deselection of leaders. Policy ratification constraints are most visible when political actors refuse to ratify or implement a policy chosen by the chief executive, as when a legislature refuses to ratify a treaty or a government agency refuses to carry out the policy. Less visible, but at least as important, is the situation in which the chief executive is aware of potential policy ratification problems and formulates policies with ratification in mind. There are numerous examples of policy ratification problems in the Bolivia-Paraguay rivalry; as with leader-selection constraints, these problems became most prominent after the rivalry had become active and blood had been spilled.

The Bolivia-Paraguay rivalry offers many examples of ratification problems, where the Bolivian and Paraguayan leadership signed four treaties over their territorial dispute that subsequently failed to achieve ratification in one or both countries (Rout 1970). The 1879 Quijarro-Decoud Treaty was signed after what were termed very smooth negotiations, with neither side presenting the extreme demands that would characterize later negotiations. Seeking to settle the Chaco question peacefully and without the resort to arbitration, Paraguay agreed to give Bolivia half of the territory that it would eventually acquire through the Chaco War. However, fearing popular opposition, the Paraguayan government attempted to keep the details of the treaty secret until Congress could convene to ratify it. Paraguayan President Cándido Bareiro, who had supported the treaty, died in office in 1880; his successor, Bernardino Caballero, was much less inclined to be generous with Bolivia. The Bolivian National Assembly ratified the treaty in August 1881, with the additional provision that Paraguay cede Bolivia one or two ports on the Río Pilcomayo above flood level, which Paraguay refused to accept. Bolivia finally ratified the treaty without any reservations in 1886, but the seven-year time limit for ratification of the treaty had passed (Rout 1970; Warren 1985).

Miguel Suárez Arana, a Bolivian developer, built a port called Puerto Pacheco at Bahía Negra on the Río Paraguay in 1885; the Paraguayan government had granted Arana permission, although reserving Paraguay's territorial rights in the area. Puerto Pacheco lay in an area claimed by Paraguay, although well north of the line that Paraguay had agreed to in the (never ratified) 1879 Quijarro-Decoud treaty. With Arana in deep financial trouble, the Bolivian government nationalized Puerto Pacheco in 1885, later sending a troop detachment to the port and raising the Bolivian flag. Bolivia sent Dr. Isaac Tamayo to Paraguay to negotiate either the ratification of the Quijarro-Decoud treaty or the signature of a new treaty, but the Bolivian exercise of sovereignty in territory still claimed by Paraguay (and not

opposition in the Paraguayan Congress and press. Paraguay remilitarized Fuerte Olimpo, a colonial-era fort on the Río Paraguay, in August of 1886, to help protect Paraguay's interests in the area; Bolivia protested and rejected Paraguay's exercise of sovereignty in the area. In December 1887 and January 1888, Paraguayan military authorities seized Puerto Pacheco and declared the entire west bank of the Río Paraguay up to Bahía Negra to be Paraguayan, creating a serious international incident and blocking timely ratification of the 1887 Tamayo-Aceval Treaty (Rout 1970; Warren 1985).

The Paraguayan remilitarization of Fuerte Olimpo and seizure of Puerto Pacheco aroused war fears in both Argentina and Brazil, prompting both to offer their good offices to ease the situation. Neither Bolivia's nor Paraguay's leaders apparently felt ready for war, though, and neither side's public appeared to desire war. Paraguay's press treated Bolivia in a conciliatory fashion, referring to Bolivian chargé Claudio Pinilla as a modest and prudent diplomat and a perfect gentleman. Even Paraguayan Foreign Minister Juan Crisóstomo Centurión, while publicly defending the Paraguayan actions, was privately annoyed by the Pacheco incident (Warren 1985: 156–57).

The Tamayo-Aceval Treaty had been signed in February of 1887 after a smooth round of negotiations, and was even more favorable to Bolivia than the 1879 treaty had been. This treaty divided the Chaco into three segments, with the middle segment to be submitted to King Leopold of Belgium for arbitration; even with a favorable arbitral decision, Paraguay would receive only one-third of the total area of the Chaco. Bolivia's legislature ratified the treaty in November of 1888, although apparently after the time limit for ratification had already passed. Paraguayan President Escobar strongly defended the treaty, but it was rejected overwhelmingly in 1889 by the legislature as "an outrageous giveaway of Paraguayan territory" (Warren 1985: 155). After waiting in vain for Paraguay's ratification, Pinilla wrote a scorching January 1889 letter in the Paraguayan newspaper *La Razón* that claimed for Bolivia the entire Chaco region, far beyond any previous Bolivian claims; Warren (1985: 157) notes that the Chaco dispute "had taken an ugly turn."

In 1891, the Paraguayan press openly editorialized in favor of new diplomatic efforts to settle the Chaco issue, prompting Bolivia to dispatch another envoy to Asunción. The envoy, Bolivian Vice President Mariano Baptista, was unable even to convince the Paraguayan government to discuss the Chaco. Despite additional editorials favoring negotiations and even Paraguayan concessions in the name of peace, the government refused to meet with Baptista, who left Paraguay in October after several fruitless months (Warren 1985).

Renewed talks in 1894 led to the Ichazo-Benítez treaty in November. As in previous treaties, Paraguay agreed to surrender a large portion of its Chaco claim, an unpopular decision. Paraguayan President Egusquiza recommended ratifica-

interests and the cause of American fraternity" (Warren 1985: 159; Rout 1970). Paraguay's legislature only agreed to appoint a commission to study the treaty, though, and Bolivia's president then refused even to send the treaty to the Bolivian legislature. Paraguayan press and opposition sources blamed Argentina or Brazil for the terms of the treaty, with the editor of *El Pueblo* charging that the Colorado Party had allowed Paraguay to become a Brazilian protectorate (Warren 1985). An 1896 attempt by Bolivia to obtain ratification of the treaty failed due to opposition from the Liberal Party and opposition newspapers. Paraguay's legislature stalled when pressed on the issue, appointing a commission to study Paraguay's title to the disputed territory and postponing future negotiations. The commission issued its report in April of 1898, recommending rejection of the treaty and opposing any concession to Bolivia (Warren 1985).

An American developer, E. F. Swan, obtained a Bolivian concession in early 1897 to build a railway and communications lines from the Río Paraguay to Santa Cruz, prompting immediate Paraguayan protests. Paraguay then sent reinforcements to Fuerte Olimpo and Puerto Pacheco, Congress secretly authorized calling out the national guard, and many young Paraguayans volunteered for military duty. Brazil's minister to Asunción reported that there was no war fever in the air, although Warren (1985: 160) notes that the Chaco question was now taking a more serious turn, with both Bolivia and Paraguay adopting more extreme positions that would be difficult to modify. Bolivia replied to the Paraguayan protests in a relatively conciliatory manner, leading to a series of talks, but Paraguay continued reinforcing its positions and encouraged new efforts to populate the Chaco with missionaries and agricultural colonies. Bolivia's press began a serious campaign against Paraguay, using insulting language and charging that it was useless to negotiate with a country that resorted to such means as Paraguay had been using. Some Bolivian journalists went so far as to recommend attacking Paraguay, leading to equally bellicose statements in the Paraguayan press (Warren 1985). In this tense atmosphere, both governments continued to encourage exploration, settlement, and development of the Chaco, and newspapers on both sides continued to publish jingoistic articles (Warren 1985).

New movement came under Paraguayan President Benigno Ferreira (1906 to 1908), whom Lewis (1993: 101) describes as "the first president, save for Egusquiza, to recognize that Bolivia had designs on the Chaco and to begin preparing Paraguay for the upcoming fight." Ferreira took a strong line with Bolivia, leading to the 1907 Pinilla-Soler Protocol, which ceded about one-fourth of the Chaco to each side and provided for arbitration over the remaining half. Bolivia also promised not to advance any further into the Chaco, and Argentina guaranteed the status quo. The Paraguayan Congress quickly ratified this protocol, but the Bolivian Congress refused to ratify it. Bolivia then demanded modifications that Paraguay found unacceptable, and efforts to revise the protocol

Renewed talks in 1913 led to the Ayala-Mujía Protocol, in which both Bolivia and Paraguay promised to maintain the status quo established in the 1907 accord and agreed to submit their claims to arbitration if a bilateral settlement could not be reached within two years. Paraguay's Foreign Minister, Eusebio Ayala, intentionally overlooked recent Bolivian violations of the status quo in an attempt to reach a peaceful settlement by being conciliatory, but many Paraguayan citizens felt that the government was giving away too much. One of these critics, former president Emilio Aceval, formed a nonpartisan "Patriotic Union" to raise awareness and opposition among people from all political parties and factions (Lewis 1993). The terms of this treaty (involving foreign arbitration) were never carried out, and a series of additional treaties (in 1915, 1916, 1917, 1918, 1919, and 1921) extending the time for implementation similarly failed to be carried out (Rout 1970; Lewis 1993).

Given the history of past ratification troubles on both sides, the final peace treaty of 1938 was accompanied by careful planning on both sides. Paraguay's chief representative at the final peace talks in 1938 was General José Félix Estigarribia, the war hero who had led Paraguay's military in the Chaco. Estigarribia "knew the advantages of a definite settlement" to the Chaco conflict and "did not hesitate to sign a treaty when opposition was certain to appear in Asunción"; Warren (1949: 324) considered his involvement to have "saved the treaty from going the way of all previous efforts." Similarly, Rout (1970: 211) argues that the war hero Estigarribia was "perhaps the only person with sufficient prestige to make concessions and still escape denunciation as a traitor." Estigarribia replaced Gerónimo Zubizarreta, who had opposed any Paraguayan concessions at the conference, frustrating the neutral conference participants (Argentina, Brazil, Chile, Peru, and the United States) and leading Bolivia to threaten a renewal of the war. Once the treaty was signed, the combination of Estigarribia's involvement and a strong public desire for peace overcame opposition from Zubizarreta and others, and a plebiscite ratified it by an overwhelming margin.

On the Bolivian side, the government of Colonel Germán Busch had also recognized that compromise would be necessary for any lasting peace settlement. Previous Bolivian leaders had demanded a useful littoral on the Río Paraguay, and public opposition to any major concessions would likely have meant the loss of political power after signing an agreement that failed to produce such a littoral. Busch, in contrast, recognized that what was most important was the psychological value of a littoral on the Río Paraguay (rather than a length of coast that could actually be useful economically), and expressed a willingness to pay for it. Additionally, a top priority for Busch was the withdrawal of Paraguayan forces safely beyond Bolivian oil fields, which was accomplished without the need for Bolivia to pay an additional sum (Rout 1970). In short, the final 1938 treaty "was neither moral, impartial, nor faithful to previously state goals; instead it was an

DISCUSSION

This brief examination of the Bolivian-Paraguayan rivalry fits very well with the general model presented earlier. The rivalry centered around a territorial issue, competing claims to the Chaco Boreal region, which is consistent with the expectation that most rivalries will require a highly salient issue. This issue changed in salience over time, though, beginning as a largely unpopulated and unknown area and later developing a vital attachment to the two states' economies and national psyches. This increasing perceived salience of the Chaco also generally corresponds with leaders' willingness to risk more aggressive policies in pursuit of their goals, and appears to have contributed to the political activation of large segments of both societies.

Interactions over the Chaco also appear to have contributed to political activation, as suggested by the evolutionary model. Early in the competition over the Chaco, attempts to settle the territorial question peacefully generally failed due to legislative opposition, occasionally backed by popular criticism. For example, after the aggressive incidents of the late 1880s and the subsequent failure of negotiations, the public and media on both sides generally appeared to oppose a military solution. As further negotiations failed, though, the media began to lobby for more aggressive actions and against any appeasement of the adversary. This media pressure, when combined with the militarized clashes of the late 1920s, helped to create very interested—and very bellicose—public sentiments on both sides.

Both military and diplomatic interactions over the Chaco produced international evolutionary challenges to each side's chief executives, as the other side prevented each leader from accomplishing his goals over the Chaco (through a peaceful settlement or through the simple occupation of claimed territory). The political activation of domestic actors compounded these international evolutionary challenges by offering additional domestic challenges to the environment. Several leaders on each side were removed because of their management of the rivalry (particularly once it had led to full-scale war), and many others found themselves under serious political pressure from domestic opponents displeased with their lack of firmness (or lack of success) in dealing with the rival.

Even when leaders were not directly threatened with removal from office, chief executives on both sides encountered great difficulties with policy ratification, particularly when attempting to manage the rivalry or to settle the Chaco issue peacefully. For every Salamanca who attempted to use aggressive action in the rivalry for personal political benefit, there were several Guggiaris or Ayalas who encountered strong domestic pressure to abandon their more accommodative stances in favor of a stronger defense of national interests in the Chaco. As might be suggested by this evolutionary model, many leaders in such a position

domestic pressures—which usually kept them in power until the term of office had ended (or at least prevented their removal on the basis of foreign policy issues), although it failed to produce enlightened policy-making that might have avoided the one-hundred thousand or more deaths suffered during the Chaco War. It is also worth noting that these constraints existed in two political systems that never approached modern standards of democracy during the rivalry, with very small electorates and the frequent use of violence or intimidation to control elections, and with the only changes of power between parties coming through coups or revolutions. Although constraints might be greater in fully functioning democratic political systems, the Bolivia-Paraguay case indicates that they can still affect policy-making in important ways in much less open systems.

QUANTITATIVE EVIDENCE ON EVOLUTION AND RIVALRY

The Bolivia-Paraguay case suggests that this evolutionary model appears to be quite useful as an explanation of the development of militarized interstate rivalry. Yet a single case study, particularly one as brief as this, should not be taken as scientific evidence of the overall validity of a model. The final section of this paper examines the results of more scientific research on rivalry, in order to determine the extent to which these results support or oppose the evolutionary model of rivalry (as well as its competitors). As will be seen, several recent quantitative studies have addressed questions related to the evolutionary and BRL models of rivalry, producing limited evidence in support of each model but being unable to reject either approach in favor of the other. This section reviews evidence on the two models of rivalry, including studies of the origins of rivalry and of conflict behavior within rivalry.

Origins of Rivalry

Several empirical studies have examined the sources of rivalry, in order to determine whether the origins of rivalry are more consistent with the evolutionary or BRL models. With regard to Goertz and Diehl's BRL model, very few empirical tests of the origins of rivalry have been possible because of the lack of explicit theoretical expectations about the sources of rivalry. In one of the few empirical tests of this approach, Goertz and Diehl (1995) find that 87.7 percent of all enduring rivalries begin within ten years of a political "shock," or a dramatic change in the internal or external environment. Particularly important shocks are the political independence of one or both rivals (45.5 percent of all rivalries in their study began within a decade of independence), civil war within one or both (28.9 percent), and world wars (28.9 percent).¹¹ Diehl and Goertz (2000: chapter 11) find similar results with updated data on militarized disputes and rivalries, with 95.2 percent of

Another test of the BRL model involves identifying specific factors that might contribute to a dyadic basic rivalry level, and thus account for the outbreak of rivalries. Sowers and Hensel (1997) examine all dyadic relationships that included at least one militarized interstate dispute, in order to distinguish those that went on to become enduring rivals from those that stopped short. Contention over territorial issues proves to be a powerful predictor, accounting for the probability of eventual enduring rivalry as well as for such other measures as the eventual number of militarized disputes between the adversaries, the duration of the conflictual relationship, and the probability of at least one full-scale war. Relationships beginning less than a decade after the independence of one or both states are also significantly more likely than other relationships to become full-fledged enduring rivalries, although the effect is somewhat weaker than for contention over territory. Similarly, Hensel and Sowers (1998) find that dyads contending over territorial issues and dyads composed of two major power adversaries are significantly more dangerous than other types of adversaries, with more than twice the probability of fighting at least one war and three times the probability of reaching the intermediate or advanced phase of rivalry (analogous to the levels of "proto-rivalry" or enduring rivalry). It appears, then, that factors at the start of a conflictual relationship are very helpful in predicting the course of that relationship, which is consistent with the expectations of the BRL model.

Yet these empirical tests of the BRL model generally fail to control for factors associated with the evolutionary approach. Hensel (1996, 1998a, 1999) finds evidence of evolution in militarized interaction along the path to rivalry. In particular, two adversaries are more likely to become involved in recurrent militarized conflict after the conclusion of one militarized dispute when they have a longer history of past conflict. Recurrent conflict occurs after around half of all disputes in the "early phase" of rivalry, as compared to over two-thirds of all disputes in the "intermediate phase" and almost ninety percent of all disputes in the "advanced phase" (with the phases determined by the number of recent militarized confrontations between the same adversaries and the advanced phase corresponding to the time that a relationship begins to qualify as an "enduring rivalry"). The likelihood of experiencing a tenth dispute after the conclusion of the ninth dispute between two rivals is much greater than the likelihood of a fourth dispute after the conclusion of a third, which in turn is greater than the likelihood of a second dispute between two adversaries that have just concluded their first confrontation. A longer legacy of conflict thus contributes greatly to the renewal of conflict, making it more difficult over time to resolve the contentious issues, tension, and hostility that separate two adversaries.

Beyond simply establishing that subsequent conflict becomes more likely as two adversaries accumulate a longer history of past conflict, Hensel (1996, 1999) attempts to account for the evolution of adversaries toward full-fledged enduring

that ended in a stalemated outcome than after a dispute that ended in a compromise or decisive outcome, and much more likely after a dispute that involved territorial issues than after a dispute over nonterritorial issues. Even after controlling for the impact of specific details of past conflict and for other relevant variables such as military capabilities and political regime type, the general rivalry context remains important; dispute recurrence is much more likely between adversaries with a longer history of militarized conflict.¹² Furthermore, Sowers and Hensel (1997) find that evolutionary factors such as past conflict outcomes and severity levels remain important in the hypothesized directions after controlling for the impact of supposed BRL factors (contention over territory, recent independence, major power status) and other relevant control variables.

The rivalry context in which a confrontation occurs thus has a large effect on subsequent relations between the adversaries. As two adversaries accumulate a longer history of confrontation, they become much more likely to engage in renewed conflict in the immediate future. In other words, conflict begets conflict, and adversaries that are not careful to resolve their differences early face a great risk of becoming trapped in a protracted string of conflict. These results are very consistent with the evolutionary model of rivalry, with its emphasis on change over time due to previous interactions and confrontations between two adversaries. Overall, the available evidence on the origins of rivalry offers support for both the BRL and evolutionary models. Indeed, in the only study so far to take both models into account (Sowers and Hensel 1997), factors from each model remain highly significant in the expected directions after controlling for the effect of factors from the other model. Although future research should attempt to identify conditions under which each model is more useful, it seems clear that both models are useful and neither can be rejected on the basis of the current evidence.

Conflict Behavior within Rivalry

Several additional studies focus on conflict behavior within relationships that eventually become enduring rivalries, in order to identify patterns or trends in conflict severity. Diehl and Goertz (2000: Chapter 9) find that most enduring rivalries do not appear to develop through an evolutionary pattern of ever-increasing conflict severity. The majority of Goertz and Diehl's cases fit the null model of no secular trend in conflict severity, consistent with the BRL model, with relatively few cases fitting the "volcano model" (a pattern of rising conflict severity culminating in war). Additionally, Hensel (1996) finds little evidence of a pattern of ever-increasing conflict severity within rivalries, and both Hensel and McLaughlin (1996) and Diehl and Hensel (1998) find that militarized disputes in later phases of rivalry are significantly less escalatory than disputes in earlier phases. These results appear to offer little systematic support for an evolutionary

interstate rivalries—although the finding of significant decreases in escalation is equally inconsistent with the BRL model's general prediction of stability in conflict patterns across the duration of rivalry. Furthermore, many of the specific effects hypothesized by the evolutionary approach appear to be relevant, with previous conflict outcomes and severity levels affecting subsequent conflict escalation patterns in the hypothesized ways (Hensel and McLaughlin 1996; Sowers and Hensel 1996).

On the basis of the above results, it seems clear that not all rivalries show evolution in the sense of ever-increasing conflict severity, at least with the indicators that have been studied so far. More likely, there are probably several different patterns of evolution, each involving different dynamics and having different effects on conflict severity. It may be, for example, that major power rivalries involve different dynamics than do minor power rivalries. It may also be that rivalries involving certain types of issues (perhaps those involving territorial issues) are especially likely to show rapid escalation in their early years and throughout the period of rivalry, while rivalries over less inflammatory stakes may take longer to reach high levels of escalation (if they reach these levels at all).

It should also be noted that empirical analyses are not limited to only the militarized dimensions of world politics. Focusing on relations below the threshold of militarized conflict, Hensel (1997) finds that nonmilitarized interaction between rivals shows evidence of evolution in several ways. Disaggregated analysis of the conflictual and cooperative dimensions of interstate relations reveals that relations between rivals become both more intensely cooperative and more intensely conflictual in later phases of rivalry. Additionally, when conflictual and cooperative relations are aggregated together, overall relations between rivals become much more conflictual in later phases of rivalry.

Moving from conflict behavior to the continuation or termination of rivalries, the current evidence offers support for both the evolutionary and BRL models. Goertz and Diehl (1995, Diehl and Goertz 2000) find that most rivalries end shortly after a political shock, and that the impact of shocks is particularly strong for civil war in one of the rivals and for periods of large-scale global territorial change. In a more rigorous research design, Bennett (1998) finds that periods of global territorial change or world war increase the probability that rivalries will end, although other shocks such as civil wars have little impact.¹³ Issue salience appears closely connected to rivalry continuation, with contention over highly salient issues such as territory lengthening the expected duration of rivalry in rivalry-level analyses (Bennett 1998) as well as in analyses of annual interactions within individual rivalries (Hensel 1996, 1999). This importance of shocks and of issues suggests support for the BRL model, because certain types of issues appear to produce more conflictual "basic rivalry levels" that make rivalry more difficult to end and because external shocks may be needed to disrupt the stabil-

Yet additional evidence suggests that the continuation or ending of rivalries is also strongly affected by interactions between the rivals, as the evolutionary model suggests. Focusing on the aftermath of specific militarized confrontations, Hensel (1996, 1999) finds that both compromises and decisive outcomes to militarized disputes increase the likelihood of rivalry termination (or decrease the likelihood of conflict recurrence) relative to stalemates; dispute severity appears to have little systematic impact. These results hold both for interactions along the road to rivalry (that is, in the “early phase” or “intermediate phase” of a conflictual relationship) and for interactions once enduring rivalry has been reached (that is, in the “advanced phase”). Additionally, while Bennett (1998) finds an increasing hazard rate for the termination of enduring rivalries that have lasted for a number of decades, Hensel (1996, 1999) finds that a longer history of conflict—as indicated by the number of past militarized confrontations—makes rivalry more difficult to end at any given point in time.¹⁴ The available evidence, then, supports the evolutionary model’s arguments about both the general contextual effect of past relations and some of the more specific details of past conflict (particularly conflict outcomes).

Summary

In conclusion, recent research offers some empirical support for both the BRL and evolutionary models of the origins and dynamics of rivalry. Many rivalries appear to begin within a decade of one or more political shocks, supporting the punctuated equilibrium model. Yet the approach to rivalry—whether or not a shock has recently occurred—appears to be influenced heavily by evolutionary considerations, with the overall history of past conflict and specific effects of previous confrontations both significantly increasing the likelihood of renewed militarized conflict. Similarly, most rivalries do not appear to emerge through increasingly escalatory militarized confrontations, with little systematic trend in conflict severity along the road to many rivalries. Yet evolutionary analysis has shown that conflict behavior within enduring rivalries is not necessarily constant over time, with general (nonmilitarized) relations between adversaries becoming more conflictual with a longer history of conflict, and with the outcomes and severity levels of previous confrontations affecting conflict severity levels along the road to rivalry.

One difficulty in evaluating the BRL/punctuated equilibrium and evolutionary models of rivalry is that few of the studies discussed here have considered potential explanatory factors from both models. Sowers and Hensel (1997) and Hensel and Sowers (1998) have begun to do so, examining several factors that are consistent with the BRL model as well as factors drawn from the evolutionary model, in order to study whether or not each model’s effects hold up while con-

trolling for factors from the other model and whether or not certain BRL-type factors lead to evolutionary behavior while others produce a simple BRL with little subsequent variation. Future work along these lines is necessary, both to test the two models head-to-head and to refine each model (for example, by indicating situations in which it is expected to be most important or situations in which it is expected to play little role).

CONCLUSIONS AND IMPLICATIONS

This chapter has used evolutionary concepts to develop an evolutionary model of interstate rivalry. Notions of fitness, adaptation, and natural selection have helped to formulate a model of rivalry that focuses on the identity and policy preferences of state leaders. Before rivalry begins, foreign affairs are unlikely to play much of a role in the selection of state leaders; domestic considerations are likely to be most important. As conflict begins to accumulate between two states, though, relations with the rival are likely to become important in domestic political debate. A leader with unpopular or unsuccessful policies must attempt to adapt his or her policy preferences in order to deal with the changing (international and domestic) environment, or the leader may be selected out of office; specific outcomes of past confrontations and the salience of the issues under contention between the rivals may exacerbate or mitigate this effect.

The evolutionary approach suggested herein appears to tell a plausible story about some of the domestic political processes that accompany (and help to guide states along) the road toward or away from rivalry. A brief case study suggests that the course of the Bolivia-Paraguay rivalry was largely consistent with this model, with early events in the rivalry activating the political scene in both rival states and thus complicating later efforts to manage or resolve the rivalry. This evolutionary model is also very different from the competing basic rivalry level or punctuated equilibrium model, offering a very different view of the world and very different hypotheses on the origins and dynamics of rivalry. A review of evidence from recent studies of rivalry suggests that many expectations of this evolutionary model are supported by the empirical evidence, although many expectations of the BRL model also receive support, particularly with regard to conflict behavior within rivalry.

DIRECTIONS FOR FUTURE RESEARCH

What is needed next is more detailed work to follow up on the preliminary tests that have been conducted thus far, in order to distinguish better between the two models of rivalry and to help identify areas where each model can be refined. One area for improvement in the evolutionary model involves the question of how

long it takes for evolution to take effect. Past studies of evolution have measured the evolutionary rivalry context simply by the number of recent militarized disputes between two adversaries, implicitly assuming that each dispute carries equal weight in the evolutionary process and that each dyad reaches the "advanced phase" of rivalry after the same number of disputes. Yet the evolutionary hypotheses laid out here suggest that certain factors may hasten or impede this process, including conflict outcomes, severity levels, and changes in the nature of the issues between two rival states; political shocks may also play a similar role. Ideally, the evolutionary model can be improved to provide better guidance on the expected time frame of evolution, taking into account characteristics of past conflicts as well as their frequency.

A second area for improvement involves the question of the specific makeup of the domestic political situation, including both the chief executive and other political actors. The present evolutionary model leaves these details unresolved, treating the preferences of the selectorate and other political actors only implicitly and ignoring the possibility of variations in political settings. A hard-line, militaristic leader at the beginning of a potential rivalry relationship may produce very different evolutionary dynamics than a more pacifistic, accommodationist leader, and popular support for the leader may depend on the specific political views of the selectorate (or as suggested earlier, the specific views of several selecting agents within the political system). Future extensions of this model should address the impact of specific policy preferences of leaders and other domestic political actors.¹⁵

A third area in which the model can be extended involves the deescalation and termination of rivalry. The present model emphasizes the path to rivalry, focusing on processes that lead two states to enduring rivalry or that allow these states to stop short of rivalry. Once two adversaries become rivals, this model would primarily suggest that domestic politics would make a resolution of the rivalry difficult to achieve. To the extent that resolution is possible, this model would suggest that interactions during the rivalry (such as the outcomes or severity levels of confrontations) may offer the needed incentives to end it. The Rasler and Thompson contributions in this volume offer much greater detail on the processes and factors that can help produce rivalry deescalation or termination than has been possible here; future research would do well to integrate such ideas more closely with the present model.

Beyond militarized interstate rivalry, this model can also be extended to non-militarized dimensions of world politics. There is no reason that evolutionary dynamics in domestic politics must be confined to militarized conflict and rivalry. Similar dynamics would appear likely to affect such processes as international economic relations or negotiations over any number of potential issues between states (whether or not there is a threat of militarized action). The case study in

this chapter appears to suggest an evolutionary dynamic in the negotiations over the Chaco that existed even before Bolivia and Paraguay began their climactic series of confrontations in the 1920s. Elsewhere (Hensel 2000) I apply the basic outlines of this model to study both militarized and nonmilitarized interactions over territorial claims, and find evidence that the history of both militarized conflict and peaceful settlement attempts between two adversaries affects their prospects for settling their issues peacefully.

It is possible that such improvements may introduce overwhelming complications in the basic conceptual model, outweighing the benefits of a simplifying model. It is also possible that such improvements may exacerbate the (already great) difficulties of testing the model empirically in a meaningful and appropriate fashion. Yet future theoretical and empirical work on evolution is strongly encouraged, both with regard to interstate rivalry and in the study of world politics more generally. There have already been great payoffs in terms of theoretical contributions beyond competing models and empirical support in a variety of tests; it is to be hoped that scholars will help to advance the evolutionary study of world politics even further in the future.

NOTES

1. Useful natural-science sources on evolution that were consulted include Darwin (1859/1968), Eldredge (1985), Keller and Lloyd (1992), Mayr (1988), and Minkoff (1983).
2. Goertz and Diehl describe this as a "punctuated equilibrium" model, largely because of its explanation for rivalry termination. Once a rivalry has been established by exogenous factors, the stability of interactions within rivalry lasts until the rivalry is terminated abruptly by some type of environmental "shock" in the international system, a specific geographic region, or one or both rival states.
3. Hensel (1996) suggests several other potential determinants of BRLs and thus sources of rivalry, including geopolitical position (along the lines of Mahan and Mackinder), superpower status in an anarchic system (following neorealists such as Waltz), and disagreement over territorial and ethnonationalist issues.
4. Indeed, future research might profitably address the linkages between structural and evolutionary factors, covering questions such as whether evolutionary paths can be "bounded" by previously existing structural conditions, and under which conditions evolutionary paths can overcome structural constraints on the adversaries. Hensel and Sowers (1998; Sowers and Hensel 1997) have begun to investigate such linkages in the origins and dynamics of rivalry.
5. See Hensel (1998b) for more detail on the domestic political aspects of this model. The chief executive is also responsible for making domestic policy decisions, although the purpose of this model is to study foreign policy. It should be noted that this assumption of a single chief executive is common in political science research, and is meant to include any type of political system (whether a democracy, monarchy, dictatorship, or other type).
6. Even in the presence of term limits that prevent a given leader from remaining in power indefinitely, such a leader is more likely than an ineffective leader to see his

- or her preferred successor come to power, which will maximize the continuity of the leader's preferred policies.
7. Although leaders (or candidates) may show variation on many policy dimensions, including domestic social, political, or economic policies, the dimension of interest here involves policies relating to the rival. Some leaders favor hard-line policies toward the rival, preferring the risks inherent in coercion to the possibility of negotiations or accommodation, while others favor more accommodative policies (see also Vasquez 1993).
 8. During a rivalry, the leader's policies vis-à-vis the rival are not the only influence on his or her prospects for remaining in office, but they are important. If the leader is unable to please the selectorate with policies regarding the rival, then removal from office is likely. Even if the leader is able to please the selectorate, he or she can still be removed from office for other (social, economic, political, or other) reasons.
 9. It should be noted that several different "selectorates" may exist for a given leader or political system, each of which may have different policy preferences. For example, a leader in a weak democratic system may be voted out of office in the next election, or may be overthrown by a coup or revolution. Policies that please the voting public may alienate the military or other groups with the power to select leaders (and vice versa), resulting in a greater probability of losing office. For now the model assumes the existence of a single unified selectorate, but future research could benefit by expanding this assumption to consider multiple selecting actors.
 10. If the issue at stake is highly salient and the bloody confrontation did not result in overwhelming defeat, losses of life may actually product the opposite impact, as leaders and other actors decide that the deaths of their countrymen must not be in vain. Such an effect is likely to be rare, though, depending on a sufficiently salient issue and sufficiently low-expected future costs that the issue is seen as worth risking further bloodshed.
 11. It is useful to keep in mind, though, that political shocks are common events. Using Goertz and Diehl's (1995: 41) list of shocks, only forty-three years between 1816 and 1976 (26.7 percent) did not fall within ten years of a system-level shock, and many of these forty-three years fall within ten years of the 225 national-level independence or civil war shocks that Goertz and Diehl study.
 12. By the time two adversaries reach the advanced phase of rivalry, the legacy of past conflict comes to dominate their relationship, with dispute outcomes and contentious issues showing greatly reduced effects on subsequent conflict behavior. Even the least conflict-prone outcomes or issues in Hensel's (1996, 1998a, 1999) "advanced phase" of rivalry are more likely to be followed by recurrent conflict than the most conflictual outcomes or issues in the "early phase."
 13. Bennett (1998) also finds that the impact of shocks depends heavily on specific measurement issues, including both the time period after the shock and the potential of high collinearity among the various shocks included in the model.
 14. Part of the difference may be accounted for by different units of measurement. Bennett (1998) examines rivalry termination in five-year periods, while Hensel (1996, 1999) examines the probability of conflict recurrence in each year after the end of the previous militarized confrontation between two states, for up to fifteen years (the time in which a new militarized dispute would be considered to extend the period of rivalry).
 15. It is also possible that different types of political systems may work differently, as well. Although democratic and authoritarian systems in all of their variants feature some type of selectorate and some set of actors that may be able to ratify or veto

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