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## Identifying the pathways to permanent leadership

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# Identifying the Pathways <br> to Permanent Leadership 

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It used to be much easier to become a chief. In the late 1980s and 1990s, archaeological models for the evolution of sociopolitical differentiation tended to emphasize an inherently competitive nature for humanity, describing processes of self-aggrandizement and political factionalism as rampant in small-scale societies and inexorably pushing them to greater levels of social and political differentiation (for example, Boone 1992; Clark and Blake 1994; Diehl 2000; Flanagan 1989; Hayden 1995; Hayden and Gargett 1990; Kantner 1996; M aschner and Patton 1996; Spencer 1994). These viewpoints were in large part a reaction against the unmitigated adaptationism of the 1970s and early 1980s, which regarded the emergence of leadership positions as necessary sociocultural adjustments to environmental or demographic crisis (for example, Dean et al. 1985; Flannery 1972; Johnson 1978; Lightfoot 1983; Peebles and Kus 1977). According to both perspectives, leaders were regarded as emerging rather routinely, either to fulfill their self-interest or to sustain group interests.

New research, in contrast, is identifying an apparently powerful human desire to maintain sociopolitical equity. Despite abstract models in decision theory that predict competitive behavior and a drive toward inequity, experiments in the lab and field are revealing over and over again that people cooperate-or at least favor equity-much more readily than abstract

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mathematical models of rationality would otherwise suggest (Caporael et al. 1989; Dawes et al. 2007; Fehr and Rockenbach 2003; H auert et al. 2007; Ostrom 1998). As a result, several researchers are attempting to identify modifications of agent-based models of rational self-interest that can accommodate the higher levels of egalitarianism and cooperation that seem to characterize human social interactions (for example, Bowles and Gintis 2003a; Henrich et al. 2006; Hruschka and Henrich 2006; Jensen, Call, and Tomasello 2007; Millinski, Semmann, and Krambeck 2002; Nowak and Sigmund 2005; Stanish this volume). Other scholars are developing evolutionary scenarios that propose the existence of evolved moralistic propensities and innate prosocial behaviors beyond kin selection (for example, Boehm 1999, 2000; Bowles 2006; Fehr and Fischbacher 2003; Fehr and Gächter 2002; Fehr, Bernhard, and Rockenbach 2008; Haidt 2007; Herrmann et al. 2007; Wood et al. 2007).

All of this work leaves us with the question of how and why incipient levels of inequity and decision-making differentiation could ever develop, a topic tackled by all the chapters in this book. In the face of so many ways to enforce cooperation, how could centralized and institutionalized leadership ever emerge? This chapter considers this issue by starting at the most basic level: by first defining "leadership" and "leader" in abstract terms. This is followed by a consideration of the factors that determine how, when, why, and in what contexts leaders emerge. Next the chapter explores mechanisms by which more permanent forms of leadership become established and the archaeological signatures of this process. The chapter ends with a case study from the U.S. Southwest that illustrates the process by which deci-sion-making inequities emerge in an otherwise egalitarian society.

## DEFINING LEADERSHIP

Leadership can be described in many ways, and different disciplines variably emphasize the political, economic, psychological, social, and cultural aspects of the concept. The most essential definition of leadership, however, is that it is decision making in which decisions are made, or at least heavily guided, by one individual or a small number of individualsthe leader(s) - on behalf of other people who are likely to be affected by the outcomes of those decisions-the followers. Such decisions are typically about the allocation of resources and/ or power, broadly conceived to include not only material goods essential for somatic and reproductive success but also intangible resources such as knowledge and materialized ideology. Insofar as leaders do not exist without followers, a critical element of leadership is the faith by followers that the leader can provide the decision-
making benefits that the followers desire, especially in situations that are not routine (Bailey 2001:37). Because routine decision making is largely culturally prescribed and predictable, a population is less likely to value leadership in those situations. Instead, the value of leaders to potential followers is a leader's ability to dispel the uncertainty and indecision that unusual circumstances create and that therefore are especially problematic when collective action is needed.

Most leaders enjoy some combination of authority and power, as articulated by Weber (1958) and many others (for example, Mcl ntosh 1999a; O'Donovan 2002; Roscoe 2000a; Wolf 1999). At one end of this classic continuum is authority, a quality based on charisma or tradition that endows a leader with the ability to influence-but not overtly and directly controlgroup decision making. At the other end is power, the ability to coerce people into adhering to the leader's decisions through the threat of either physical or supernatural sanction. An important point of departure for the arguments presented in this chapter, however, is that complete physical domination of followers will not lead to sustainable leadership, especially since many forms of resistance to despotic rule are possible. Leaders must maintain some degree of legitimacy through which followers consent to be led. Even the most despicable leaders in human history-including those who met unpleasant ends-had a contingent of supportive followers. The tyrant-powerless relationship builds upon the leader-follower dynamic; no individual has ever developed despotic rule without the followers needed to establish and maintain that rule, and the growth of power usually consists of the construction of legitimizing ideologies that enhance political authority and sustain the support of followers even while coercive measures are employed (Brown 2006; Kopytoff 1999; Smith 2003:105-09; Vansina 1999). For the purposes of this chapter, therefore, the initial construction of decision-making authority and the creation of positions of leadership are emphasized, and issues of coercive and hegemonic or structural power are discussed only as relevant for understanding the emergence of institutionalized political positions. As in other chapters of this book, of particular interest is how the former contributes to the latter.

## Skills and Abilities of Leaders

Discussions of leadership often focus on the necessary qualities of authoritative leaders. Clearly, leadership requires some combination of essential skills and abilities (for example, Boehm 1999:70-72, 106-08; Kusimba and Kusimba this volume), but less clear is the relative importance of any particular quality. Charisma is one of the most often invoked

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leadership traits. Defined as the capacity to inspire devotion and enthusiasm, and thereby build faith in the leader's capabilities among followers, charisma can be created in two ways (Bailey 2001:56-57; see also Weber 1968). One strategy is to come across as "godlike"- not necessarily by actually demonstrating qualities and abilities that are beyond those typical of humans but by generating the belief that the charismatic leader possesses such superhuman characteristics. As Pauketat describes in this book, such charisma is often constructed through the creation of narratives that establish the legitimacy of leaders. The second strategy for building charisma is for the aspiring leader to present him- or herself as everyone's "friend," "sister," or "brother," generating fraternal identification. Both strategies likely are components of displays of exceptional generosity, such as those described by Bird and Bliege Bird, in which one's renown is demonstrated through selfeffacing magnanimity. For all forms of charisma, the outcome is the creation of what Bailey (2001:132-33) calls direct or unanimous consensus, in which the consent of followers is provided to the leader simply because people believe that it is the "right thing to do." The result is the authority that allows the leader to make decisions on behalf of followers.

Diplomacy is another quality identified as promoting successful leadership. The aspiring leader needs to appear to be advice-seeking while still coming across as resolute and decisive. Such diplomacy ensures followers that the leader is well informed and not despotic. This creates what Bailey (2001:133) calls brokered or pluralistic consensus, in which consent for leadership decisions is given because each follower has been led to believe that he or she will benefit. For this process to work, the leader must have some mastery of, and perhaps control over, information about what people want and the potential outcomes of alternative decisions. Open confrontation that might rend consensus needs to be avoided by a diplomatic leader. And the effective application of delayed and discounted reciprocity often must be employed to diplomatically build brokered consensus (Boehm 1999:184-85). In their chapters, Bowser and Patton, as well as Wiessner, identify a potential gendered component to diplomacy (see also Passes 2004). Bowser and Patton in particular detail the role of women in sustaining diplomatic relations across factional boundaries. Women with large households and less strongly defined kinship with particular factions emerge as especially influential political brokers, even as the husbands of these women tend to have the strongest alliances within particular factions. For the people in Conambo at least, this "division of labor" provides a route to political status for both wife and husband, with the benefit of greater access to cooperative labor and garden resources, at least for the women.

Although charisma and diplomacy promote different forms of consensus among followers, effective and sustainable leadership requires both qualities. To be able to generate and balance both direct and brokered consensus, therefore, effective leaders need a third quality-intelligencewhich in turn can be broken down into "sociopolitical acumen" and "actuarial problem-solving" (Boehm 1999:182-85), as well as access to and control of knowledge that make both effective. On the one hand, successful leaders are intimately aware of the normative social and political arenas in which they operate, including the ability to anticipate the unintended and unforeseen results of their actions on the sociopolitical landscape. On the other hand, successful leaders are also effective at rational decision making, or what Bailey (2001:10) defines as "the considered allocation of scarce resources to given ends." This form of intelligence is an especially important quality from the perspective of followers; an aspiring leader who acts irrationally is not one who dispels uncertainty and indecision in the face of abnormal circumstances that require collective action, as the morality tale of Nero "fiddling" while Rome burned evokes.

Sociopolitical and problem-solving intelligences relate to the fourth, oft-maligned leadership quality: manipulative skills. To generate charisma and diplomacy, a leader can manipulate contextual circumstances and unusual opportunities to his or her advantage to build direct and brokered forms of consensus (for example, Arnold, this volume). For example, an intelligent and manipulative leader can appeal to emotions surrounding particular events to shape both the goals of collective action and the calculi that people use to evaluate decision making. This process can result in the construction of brokered consensus around perceived rather than actual values, costs, and benefits, further promoting the leader's authority (for example, Roscoe 2000b; Wiessner 2001). The resulting collective action can serve the ends of the group, as well as the desires of the leader, by mobilizing labor and creating economies of scale that benefit everyone but might especially benefit the leader, as detailed in the chapters by Arnold and Stanish (see also Adams 2004). Of course, once institutionalized leadership is established, such unexpected events are just as likely to jeopardize authority, unless context and circumstances can be turned to advantage by quick-thinking leaders.

Manipulation has its limits, however. Bailey (2001) usefully distinguishes between the normative, strategic, and pragmatic rules of behavior that guide the efforts of leaders to create authority. Normative rules are the culturally prescribed, proper forms of interaction; they define the acceptable limits of leadership behavior. Strategic "rules," in contrast, describe

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what needs to be done to come out ahead, even if it means violating normative prescriptions. Leaders who act purely strategically, with no acknowledgement of normative rules or in clear violation of them, are very unlikely to be able to build consensus. Pragmatic rules, on the other hand, describe how to manipulate the normative setting to achieve strategic goals. They fulfill strategic goals without openly defying normative rules, even if they subtly violate the spirit of normative prescriptions. The trick for an aspiring leader is to master pragmatic rules most effectively through the creation of what Bailey calls a normative facade, in which the normative characteristics of pragmatic leadership activities are touted.

Despite the role of manipulation in the establishment and maintenance of leadership, all consensus building is based on some level of trust (Ostrom 1998; Ruttan 2006). Charisma and diplomacy enhance the trustworthiness of the leader, while manipulation generates and sustains a veneer of trustworthiness. Followers are not dupes, however, and they engage in "tit-for-tat" evaluations of leadership behavior (Axelrod 1984, 1997); if the leader cannot come through at least some of the time, and build and sustain a positive reputation, his or her charisma, diplomatic abilities, and manipulative prowess eventually fail, followers become suspicious, and the leader's authority is compromised. Such checks on leadership, and the desire for autonomy that drives them, may inhibit the coordination needed to maintain cooperative labor and economies of scale (Stanish, this volume).

## Related Socioeconomic Q ualities

Leadership, as defined above, emphasizes authoritative decision making by the few on behalf of the many. In much of the archaeological literature on leaders, however, the characteristics of leadership are conflated with other socioeconomic qualities, such as status and wealth (Renfrew 1982; Roscoe 2000b:105-07). While any holistic consideration of leadership should acknowledge the interrelated nature of all these characteris-tics-particularly in their respective roles in influencing charisma and diplomacy and reflecting intelligence-an analytical separation is important for understanding what leadership is and how it forms.

Wealth is often correlated with leadership. In small-scale societies, however, wealth often has no relationship with decision-making authority, or if it does, it frequently possesses an inverse relationship in which a leader's wealth decreases as his or her authority increases (for example, Bird and Bliege Bird, this volume), at least until the point at which it is institutionalized. The possible reasons for this will be discussed later, but
suffice it to say that the definitions of wealth are as nuanced as those for leadership. Wealth can be measured in a variety of culturally contextualized ways, including by physical accumulation of critical resources, influence over others and their labor, or, as detailed in Vaughn's chapter, control of esoteric material culture (Ames 1995; Earle 1991; Graves and Spielmann 2000; H ayden 1995:67-69; Potter and Perry 2000). Specialized knowledge, or what Arnold (this volume) generalizes as "intellectual property," provides a related form of wealth that often is the only differentially distributed resource, as in the case of the M artu "ritual gerontocracy" (Bird and Bliege Bird, this volume). In all cases, as described in the chapters by Eerkens, Arnold, and Wiessner, as well as by Fried (1967), Sahlins (1972), and Earle (1991), wealth and its political utility are contingent on privatization and heritability-one cannot practice magnanimity, fund centralized authority, or ensure intergenerational continuity without the ability to control resources.

Similarly, status and prestige suffer an imprecise relationship with leadership. Both terms refer to social relationships between people, with status emphasizing group-level social divisions that may be ascribed through kinship (Carneiro 1998), and prestige referring to an individually achieved quality (Redmond 1998b:4). Certainly, the ability for an aspiring leader to establish decision-making consensus for collective action is situated within the social settings of status relationships and prestige building (Spikins
 2008). Charisma, for example, can be founded upon status differences between a leader and followers that promote a sense of trust or idolization of the authority figure. As in the case with wealth, however, an analytical separation of status, prestige, and leadership is of value for determining any meaningful causal relationships between these qualities. Rather than focusing on ascribed decision-making status, discussions in this chapter, as well as in the book as a whole, emphasize the creation and maintenance of individual prestige as it contributes to authority.

## SCALES OF LEADERSHIP

Leadership exists at multiple social and temporal scales. From the nuclear family to empires, the need for decision making for effective collective action occurs at all social scales and can be hierarchically nested even in small-scale societies (for example, Frangipane 2007; Redmond 1998b). Decision making accordingly is situated both among and between social groups (for example, Kusimba and Kusimba, this volume), and factionalism will develop when, for any particular scale, multiple leaders strive for authority over the same decision-making realms and therefore compete

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for followers from the same social group. Alternatively, heterarchical political relationships in which decision making is normatively shared or distributed at one particular scale and consensus building typically precedes any action theoretically can develop (Crumley 1987, 2001).

Leadership also varies along a temporal scale, as variously identified in all chapters in this book. Transitory leaders enjoy a realm of decision-making authority that is generally limited to specific temporally and culturally constrained contexts, such as a healer who makes decisions on behalf of others regarding individual or community ailments but who enjoys no authority on a hunting excursion or in intergroup diplomacy. Transitory leaders achieve their authority by building charisma and trust within a particular, limited arena of expertise. Permanent leaders, in contrast, extend their authority beyond specific contexts and practice decision making at larger social and temporal scales, such that decision making is increasingly centralized among fewer leaders. The roles of institutionalized leaders, on the other hand, are normatively defined, such that the leadership position exists no matter the quality or permanence of any individual who might fill that role. This situation in turn contrasts with hereditary leadership, which is based on the lineal passage of authority and is not necessarily limited to a particular realm or sensitive to the qualities of the individual. A king, as an obvious example, enjoys expansive and permanent authority, even if he has no aptitude for effective decision making. Like social scale, the temporal and contextual scales of decision making are relevant for understanding the evolution of leadership.

## ROUTES TO LEADERSHIP

Leaders do not simply spring forth in every social setting. Instead, the route to leadership requires complex and costly negotiations between aspiring leaders and potential followers. So why would anyone want to become a leader? Two fundamental perspectives on human nature provide potential answers to this question. Although often presented as opposing viewpoints, fundamental elements of both explanations are compatible and arguably contribute to a third possible answer that, while more nuanced, is more difficult to evaluate.

The first explanation is that aspiring leaders are martyrs who recognize a societal need for effective collective action through centralized decision making in the face of unusual circumstances. A key assumption behind this explanation is that leadership is a costly and thankless job that only the most socially responsible members of society would ever take. The presumed costs of leadership take many forms, from the investments needed
to build charisma and engage in diplomacy to the costs of competing with other aspiring leaders (for example, Redmond 1998a; Stanish this volume; Vaughn this volume; Wiessner this volume). Costs include material expenditures for activities such as political gifting and feasting (see contributions in Dietler and H ayden 2001), as well as the social costs of activities such as calling in favors and becoming indebted to others, especially to the kin whose labor so often supports these activities (Strathern 1969, 1982). Leadership is also risky, for if a leader's decisions lead to bad collective outcomes, particularly on a consistent basis, the consequences can be punitive actionstaken against the leader (for example, Poyer 1991). The premise of this perspective is that all of these costs outweigh any potential socioeconomic benefits for leaders.

The second explanation for why people strive to become leaders is that they are "M achiavellian princes" looking out for their own self-interest, and that centralized decision-making authority provides substantial benefits to leaders that outweigh the costs (Hayden 1996). At least some leaders receive direct material benefits in the form of tribute or gifts of food and other needed or valuable resources. Leaders also often receive other indirect material benefits, such as the ability to mobilize labor on their behalf, as described in Bowser and Patton (this volume) for Conambo women with high political status, and in Arnold (1996b, this volume) for the Chumash. Finally, there are also indirect social and reproductive rewards for leadership, such as preferential access to potential mates, the ability to funnel benefits to relatives and descendants, and opportunities to exact proactive and punitive revenge on potential competitors-all of which enhance one's direct and indirect fitness.

A third explanation says that people strive for positions of leadership not because of responsibilities they feel to society as a whole, or because leadership provides them with an avenue toward unadulterated self-interest through the extraction of benefits. Instead, leaders understand that collective action will benefit both themselves and others, and they perhaps believe, even if erroneously, that they have the skills and qualities for effective decision making. The aspiring leader is not Machiavellian in the sense that he or she is going to use a position of authority to aggressively extract resources to the detriment of others. Instead, aspiring leaders enhance collective action in such a way that the resource base grows or is maintained for everyone-including themselves (Arnold 1995a, 2000a; Feinman 1995). They might recognize, for example, that a particular public goods problem requires centralized leadership to avert a "tragedy of the commons" (Hardin 1968; Ostrom 1998) - which in fact may be a proportionally

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greater threat to the aspiring leader than to the followers. As discussed in the chapters by Arnold and Stanish, leaders can mobilize the collective labor needed to achieve mutually beneficial economic and sociopolitical goals (Adams 2004; Arnold 1996b, 2000b; Dietler and Herbich 2001; Saitta 1997; Stanish 2004), such that everyone is receiving benefits of leader-ship-even if a leader is disproportionately benefiting from his or her decision-making role.

## Limitations on Leaders

Assuming that leadership does provide benefits to those in decisionmaking positions, why do so few leaders actually exist in any given social setting? Several answers are possible. First, to successfully attain a decisionmaking position, no matter what the motivation for doing so, someone needs a set of essential skills and abilities, and presumably not everyone has these qualities. Through enlightened self-awareness or painful trial and error, most people have some idea as to whether or not they can effectively lead (for example, Boehm 1999:55). And for those who know they lack the talent, the best strategy for achieving their interests is to support someone who has the skills to be an effective leader and whom they trust to support their personal interests. Similarly, some people may fear the destabilizing consequences of leadership competition and prefer to promote their interests by following an aspiring leader of their choice rather than contribute to sociopolitical instability. Of course, plenty of individuals do not have the requisite skills, recognition of their abilities, and understanding of the potential costs of political factionalism, leading to situations in which they try and fail, often miserably, to achieve and maintain positions of leadership.

While self-selection might limit the number of aspiring leaders, the most significant check against unbridled leadership is what Boehm (1993, 1999) refers to as a reverse dominance hierarchy, in which leveling mechanisms are employed by a population to ensure that the actions of a leader are conducted with the consensus of those who will be impacted by those actions (Bowles and Gintis 2003a). Although people recognize that leadership is needed to guide effective collective action (Ostrom 1998), and that not everyone can be a leader, they do not want to be completely disenfranchised from decision making. As described in Bird and Bliege Bird (this volume) and Wiessner (this volume), the ultimate purpose of leveling mechanisms is not to stamp out leadership completely but to sustain some measure of individual autonomy and maintain individual self-interest (Boehm 1999:67-69, 87-88; Friesen 2007). Leaders are evaluated accord-
ing to a socioculturally mediated code that defines the contexts of appropriate leadership and limits centralized decision-making behavior to what Bailey (2001) refers to as dutiful action-the normative expectations of leadership. Ridicule, gossip, disobedience, banishment, and even assassination are oft-cited leveling mechanisms employed to punish individuals in positions of leadership who appear to be pushing the limits on such "dutiful action" (Boehm 1999:74-84; Roscoe 2000b:91; Spikins 2008:177-79).

Reverse dominance hierarchies often create a society that appears "acephalous"; the limitations on leadership make it seem as if the society has no leaders at all. Leadership is restricted to particular contexts and temporal limits maintained to ensure that the authority of a leader is limited to unusual circumstances of crisis and novelty in which centralized decision making benefits everyone. During normal conditions, established cultural mechanisms guide decision making, and leaders are not needed, so they effectively "disappear." Bailey (2001:48) describes the classic example of Nuer society, which is traditionally strongly egalitarian, with severe leveling mechanisms that maintain an egalitarian ethos. Leaders are rare when circumstances are predictable and normal. However, in times of crisis, influential Nuer "prophets" emerge to guide collective action. Their authority, while temporary, is sustained by a powerful divinity that can even be inherited by their sons, providing the seeds for ascribed leadership (see also Wiessner, this volume). In the absence of crisis, Nuer prophets lose their larger decision-making responsibilities, and the society again appears acephalous and comparatively egalitarian (see also Redmond 2002).

## Establishing Permanent Leaders

If small-scale societies can contend with crisis and novelty through transitory leadership positions, and if reverse dominance hierarchies successfully restrict leaders from overstepping the limits of their authority, how do lasting forms of leadership and inequities in decision making ever develop? Assuming that aspiring leaders-as well as their followers-do have the potential of benefiting from positions of authority, they must overcome three limiting factors to establish themselves as permanent leaders with broad decision-making authority. First they must demonstrate the appropriate skills and abilities for effective leadership, as described earlier. Second they need to win competitions against other aspiring decision makers, either by directly vanquishing opponents, allying with them in political coalitions, or some combination of defeating and allying with competitors (Beck 2006; Boehm 1999:25, 155-62). Finally, and most importantly, aspiring leaders who seek greater permanence and benefits from their authority

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must overcome the powerful leveling mechanisms whose very design is to maintain an egalitarian ethos.

To overcome all three challenges to the establishment of permanent leaders, the solution is in principle quite simple: the aspiring leader demonstrates to people that at the very least they will not suffer from his or her leadership, and more likely they will benefit. If this point can be established, the egalitarian ethos is relaxed, the behaviors that constitute "dutiful action" are expanded, and authority is not as closely monitored. However, while in principle the solution to overcoming limited authority is simple, in practice the situation is much more complex, because there are relatively few opportunities for someone to break the limits on centralized leadership without exacting some cost on other individuals, evoking reverse dominance sanctions. While not exactly a zero-sum game, in which a benefit to one is an equal and direct cost to another, the struggle between aspiring leaders and wary followers often approximates this kind of tension (Feinman 2001). Accordingly, the following arguments treat the development of increasingly inequitable leadership as a cost-benefit contest between aspiring leaders and self-interested followers (Boehm 1999:169; Stanish 2004).

Egalitarian societies with transitory leaders and strong reverse dominance hierarchies are the starting point from which increasingly permanent leaders with inequitable decision-making authority emerge. For this to happen, the context has to change in such a way that cost-benefit calculations are modified and new opportunities emerge for aspiring leaders. Three possible interrelated contextual situations are likely important: demographic change, environmental change, and sociocultural opportunity. Changes in these contexts can occur in such a way that aspiring leaders can overcome leveling mechanisms and build inequities in decision making-and potentially build wealth, status, and even power (for example, Friesen 2007).

Population growth provides the first and in some ways the most important contextual change for promoting inequity. Smaller numbers of people make leveling mechanisms most effective, because violations of egalitarian ethos are easier to monitor in small groups of regularly interacting individuals, and appropriate leveling mechanisms can be enacted at the slightest sign of inappropriate behavior (Bowles and Gintis 2008; Gächter, Renner, and Sefton 2008). This is more difficult to do in larger groups, where individual behavior is harder to monitor. From another demographic perspective, leveling mechanisms require investment in collective action, which sets up a situation referred to as a second-order collective
action problem-the groupsor individuals who are depended upon to support the enacting of leveling mechanisms themselves have to be monitored to ensure their contribution to and support of the reverse dominance actions ( O strom 1998). As populations grow, therefore, not only does monitoring the behavior of aspiring leaders become more challenging but so does the monitoring of the monitors (but see Bowles and Gintis 2003a; Hauert et al. 2007; Panchanathan and Boyd 2004).

One possible solution to population growth, at least in the abstract, is to establish scaled or nested social groupings, such that groups of individuals effectively act as individuals in a reverse dominance hierarchy (for example, Frangipane 2007). For example, as opposed to having one hundred people trying to monitor one another's behavior, ten groups of ten people can emerge. Each group internally monitors its members while the groups as a whole monitor the other groups, creating a scaled reverse dominance hierarchy (for example, Kusimba and Kusimba, this volume). The problem, of course, is that the establishment of such scaled demographics is a collective-action problem itself, and insofar as the structuring element of such scaling is likely to be kinship, this introduces complicating factors such as inclusive fitness and the influence of kin-based identity. In fact, the ethnographic record suggests that the formation of scaled social groupings is more likely to lead to greater rather than lesser levels of competition for centralized leadership. For example, kinship groups often become ranked based on perceived, culturally constructed, or real ancestral claims to place, resources, and ceremony (for example, Kusimba and Kusimba, this volume), often situated within the authority of "founding families" (for example, Frangipane 2007; Gezon 1999; Kopytoff 1999; Kunen 2006). Demographic change, therefore, provides many openings for aspiring leaders to centralize authority.

The physical environment is the second context in which a change can alter the cost-benefit assessments of leadership activities and the leveling mechanisms that keep them in check. Note that this perspective is not advocating a deterministic relationship between environmental conditions and decision-making structure (a criticism well summarized in Boehm 1999:35-38 and illustrated in Eerkens's example from Owens Valley). Rather, environmental conditions provide one of many sets of factors that humans consider when evaluating individual behavior in group contexts. The structure of the environment at any given moment in time is itself significant (Boone 1992; Frangipane 2007; Pauketat 1996; Smith and Choi 2007). Researchers observe, for example, that physical settings in which needed resources are equitably and homogeneously distributed contribute

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to equity in wealth and authority, since no one can gain economic advantage over anyone else. Contexts in which resources are patchy and heterogeneously distributed in time and space, on the other hand, provide the seeds for inequity, due to "despotic distributions" whereby some individuals are always ahead of others in producing food and other basic resources. While even in these situations, leveling mechanisms keep excessive economic and political competition in check, despotic distributions tend to promote incipient inequities in social obligations and debt formation as those individuals in prime settings consistently produce more food-and thus give away more through sharing, gifting, and feasting (for example, Adams 2004:72-73; Boehm 1999:46, 138-39), which in turn promotes the centralization of authority in fewer and permanent leaders.

In considerations of the physical environment, especially important is when unusual changes occur. As an example, imagine a climate marked by interannual instability in rainfall; some years there is plenty of rain, while in others not enough falls, and the good and bad years do not follow a predictable pattern. People are going to expect that the good times will not last, and normative expectations of appropriate sociopolitical behavior will be structured accordingly. If the rain keeps coming year after year, however, those same normative rules no longer apply, memories of the potential for bad years fade, and the calculi by which people set goals and evaluate their strategies and the behaviors of others change. Aspiring leaders in these situations can benefit. Whereas before, their behaviors were evaluated in reference to the riskiness of the environment, now everyone is doing comparatively well, and strong measures enforcing equity may be relaxed as people discount the potential costs of risky competitive behavior and the loss of their decision-making autonomy. If a leader can tie the positive contextual changes to his or her own past leadership decisions-such as might be the case for a leader with religious authority who can claim influence over the climate (for example, Fowles 2002; Lucero 2006) -the reverse dominance hierarchy can begin to fall apart. Thus environmental change can provide opportunities for leaders to cement their authority (for example, chapters by Arnold, Eerkens, and Vaughn, this volume).

Sociocultural opportunity is the third context that can contribute to increasingly permanent leadership. Inequities in decision making do not emerge in a social and cultural vacuum, and clearly some sociocultural contexts in which aspiring leaders can leverage demographic and/ or environmental changes to their advantage exist. An obvious situation would be the chronic threat of warfare, in which leaders can establish some permanence to their positions, since followers need the centralized decision-
making authority to contend with the external threat (for example, Boehm 1999:94; Carneiro 1998; Redmond 2002). Of course, an aspiring leader might also exaggerate the threat and build emotionsin such a way that the perceived benefits of his or her authority-as well as the perceived costs of not having a leader-are inflated (Roscoe 2000b).

Religion and ceremony represent another arena of sociocultural behavior in which an aspiring leader can overcome restrictions on authority, particularly if his or her role is engaged with or legitimized by religion. Bailey (2001:150) notes that ceremony creates "spectacles" and promotes what he calls diseducation, through which a religious leader can appear "bigger than life" and therefore more godlike and charismatic, important qualities for building permanent consensus around decision-making authority. Religion and ceremony also provide contexts in which an aspiring leader can claim some level of responsibility for positive demographic and/ or environmental changes (for example, Fowles 2002). And religious leaders may have the ability to invoke supernatural powers against potential competitors and enemies (for example, Boehm 1999:83; Redmond 2002) or control access to essential ceremonies and ritual objects (for example, Bird and Bliege Bird, this volume; Vaughn, this volume). This sociocultural context also gives aspiring leaders some level of influence or control over esoteric, ritual knowledge-Arnold's "intellectual property" (this volume)-based in the society's ideological system (for example, Brown 2006; H ollimon 2004).

Religious specialists are often in the best position to build consensus and guide collective action through their special associations with supernatural forces (Aldenderfer 1993; Redmond 1998a). Since such specialists are the spokespeople for or conduits of power, rather than the holders of power themselves, they receive special exemptions from the criteria that guide reverse dominance hierarchies. At the same time, recent experimental and cross-cultural studies demonstrate how religiosity within a social group reduces the individual self-interest that might lead to reverse dominance behavior (Norenzayan and Shariff 2008). Religious leaders enjoy an intimate knowledge of-and potential control over-the normative rules of leadership and the ideological legitimation of those rules (for example, McAnany 2001, 2004; Roscoe 2000b; Smith 2000). This is not to say that a religious leader "makes up religion" to enhance his or her deci-sion-making authority, but rather that the leader, even as a believer, is responsible for ideological interpretation and religious dogma and can manipulate these to achieve his or her individual goals. (See, for example, Bailey's description [2001:82] of how Gandhi manipulated religion.)

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Religion also provides the rubric for simple messages that can help a leader unify culturally and socially diverse groups, thereby increasing the number of followers who support his or her decision making (Bailey 2001:91; Smith 2000). In their chapters, Pauketat and Kusimba and Kusimba further identify how the construction of historical narratives, often based on religious understandings and shaped by religious leaders, is critical for institutionalizing leadership and its sustaining practices.

When combined with inequitable resource productivity, religion and ceremony provide aspiring leaders with unparalleled opportunities to change how people evaluate the leader's behavior and their own self-interest (Bowles and Gintis 2008), particularly when combined with other contextual changes that present unusual situations and undermine existing normative rules. It is perhaps for this reason that Feinman and $N$ eitzel (1984) identify ceremonial responsibilities as the most ubiquitous function of leaders in western North American native societies. And, as described by Bird and Bliege Bird (this volume), this is also possibly why aspiring M artu leaders sacrifice much as young hunters, thereby building charisma and trust so that later they can join the ritual leadership, where real authority lies.

The results of these contextual circumstances-demographic change, environmental change, and sociocultural opportunity-allow aspiring leaders to avoid leveling mechanisms, subvert reverse dominance hierarchies, and build greater permanence to their positions of authority. Such changing contingencies and their effects are difficult to build into predictive models for the evolution of leadership, but clearly they are important factors in any explanation for why increasingly inequitable forms of leadership develop (Pauketat 2004b). The essence of the problem is that reverse dominance hierarchies and the leveling mechanisms they so effectively employ have to be subverted before aspiring leaders can establish institutionalized and hereditary positions. Clearly, there are structural problems shared in all contexts that must be overcome, but equally clear is the importance of contingency in creating the right opportunity for leadership to evolve beyond its egalitarian foundations. Once this threshold is crossed, greater institutionalization of leadership and hereditary positions of power are much more easily attained (Redmond 1998a). It is perhaps for this reason that so-called middle-range societies feature such intense gifting and feasting, coalition behavior, and ceremonialism.

## ARCHAEOLOGICAL IDENTIFICATION OF LEADERSHIP

Research on the identification of leaders in the archaeological record almost universally focuses on societies in which leadership is institutional-
ized and hereditary. Archaeologists are quite good at identifying chiefs and kings, using measures such as investment in mortuary treatment, monumental architecture, and differences in domestic settings (for example, Peebles and Kus 1977; Spencer 1998:106-08; Wason 1994). Until very recently, comparatively fewer scholars considered the identification of either transitory leaders in egalitarian societies or incipient leaders moving toward greater institutionalized roles and hereditary ascription (but see Feinman and Neitzel 1984; Hayden 1995, 2001). By their very nature, such leaders are nearly invisible sociopolitically-and certainly archaeologi-cally-for they lead through authority and face leveling mechanisms that prevent the formalization of their leadership in individualizing material culture (Spikins 2008:179-81). How can archaeologists investigate this important transition in human history if it is not readily accessible in the archaeological record? While challenging, three interrelated strategies might provide us with insight into this process: First, we can identify the changing contexts in which leadership likely was valued by other group members. Second, we can identify transitions in leadership rather than try to find the remains of individual leaders in the archaeological record. Finally, we can identify the contextual changes that would have provided aspiring leaders with the opportunity to expand and centralize permanent authority.

In what contexts would leadership be valuable or at least appreciated? As discussed earlier, centralized decision making and the collective action it facilitates are most valued by followers in those circumstances that are uncommon and therefore not anticipated and remedied by existing cultural institutions. Through their guidance and consensus building, leaders dispel the uncertainty and indecision that unusual circumstances create and that confound collective action at a time it is most needed. If this premise is accepted, archaeologists can look for material evidence of these unusual circumstances, which might include abnormal environmental changes, such as extended drought, excessive flooding, or new crop or livestock diseases (Arnold 1992, 2001b), all identifiable archaeologically. Other uncommon events might be social, such as rampant internal factionalism or the appearance of new groups, both of which are frequently recorded as changes in material culture (for example, Bowser 2000; Kantner 1996). Ideological crises, in addition to those potentially created by environmental change-such as unexplainable human disease or worrisome astronomical events-might also call for the guidance of a leader.

For archaeologists, identifying whether leadership would have been valuable in a particular context requires an assessment of whether the

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circumstances were typical from a historical perspective. Paleoclimatic records beginning well before the period of interest can be assessed, for example, to look for unusual changes in the amount, type, and seasonality of rainfall that might have caused socioeconomic stresses requiring new forms of concerted collective action. The osteological record similarly might reveal the appearance of new human pathogens-such as those introduced by new populations-that could have created uncertainty and confusion and necessitated centralized guidance. No simple formula for predicting the need for leadership exists, but archaeologists can build compelling circumstantial argumentsidentifying when an otherwise egalitarian society might see the need for sustained decision-making authority.

Of course, simply identifying that a context would have benefited from centralized leadership does not mean that it existed. In the absence of institutionalized leaders with their comparatively clear archaeological signature, archaeologists might instead attempt to identify evidence of the practice of centralized leadership. H ow do transitory leaders establish some authority while avoiding leveling mechanisms? They must build their charisma, guide effective group decisions, and manipulate circumstancesto their advantage. Archaeologists accordingly should look for evidence for these behaviors, or at least for the contexts in which these would have occurred. Feasting, as described by several authors in this book, provides an ideal opportunity for aspiring leaders to accomplish many of these goals, for feasts hosted by them and their supporters demonstrate their generosity and their organizational capabilities (Adams 2004; Clark and Blake 1994; Godelier 1986; Godelier and Strathern 1991; Kirch 2001; Rosenswig 2007). Fortunately, feasting leaves substantial material signatures that archaeologists have become skilled at identifying and assessing (for example, Adams 2004; Dietler and Hayden 2001; Potter 2000a; Twiss 2008).

Religious and ideological contexts provide additional avenues for an aspiring leader to build authority, as described earlier, for they possess what Pauketat (this volume) calls a "materiality and spatiality" that can be assessed archaeologically. For example, ceremony occurs in particular places that are archaeologically identifiable, including special infrastructure. Religious leaders often are involved in the production, gifting, and/ or possession of valuable items that represent materialized ideology, such as staffs, masks, lithic "eccentrics," or vessels imbued with material wealth, historical resonance, and/ or special supernatural qualities (for example, Inomata 2007; Vaughn 2006, this volume). And insofar as ceremonial contexts include feasting and gift-giving events, religious specialists enjoy special opportunities for ideological manipulation, providing addi-
tional payoffs for such "spectacles" (Dietler 2001; Wiessner 2001), which often are the centers of the political economy (for example, Vaughn, this volume; Wiessner, this volume). Archaeologists can assess the contexts of both feasting and religious ceremony for evidence of the practice of leadership and related efforts to build authority (for example, Kirch 2001; McAnany 2001). An important caution is that religious practitioners may not themselves achieve positions of leadership with widespread influence and instead are often "attached" to aspiring leaders who are more secular and whose separation from supernatural power protects them from its imagined dangers and potential political burden (see also Hollimon 2004; Kelekna 1998).

Evidence for other behaviors also can provide insight into the changing practices of leadership. Bowser and Patton (2004, this volume) describe how changes in the size of and access to public spaces in household settings provide insight into less formal arenas of gendered political decision making. Low-intensity warfare and raiding also need not indicate centralized decision making, but as the scale of violence increases, the organizational needs of both offensive actions and defensive preparations call for centralized leadership. Ritualized warfare such as Wiessner describes in this book also provides opportunities for the rise of leaders whose authority can be quite extensive. Irrigation or similar infrastructural projects requiring coordinated labor are also often identified as evidence of centralized decision making, although again the scale of such efforts needs to be considered to determine whether they reflect the guidance of authoritative leadership (for example, Fash and Davis-Salazar 2006; Nichols et al. 2006; Scarborough 2003).

The final archaeological problem to address is the identification of the contextual changes that would have provided the opportunity for leaders to centralize and extend their authority. This was discussed previously, but the important question is whether archaeologists can identify the contextual changes that allow aspiring leaders to build inequities without invoking leveling mechanisms (Boehm 1999:215). An evaluation of demography and the social structure is needed to identify changes in the potential effectiveness of reverse dominance hierarchies (Smith and Boyd 1990). Assessments of productive potential for the area in question are important for identifying the presence of a despotic resource distribution, which in turn necessitates reconstruction of the subsistence base (Boone 1992). An understanding of the impact of paleoclimatic change on subsistence distributions across a population also is needed, as is identification of new technologies or cultigens that might change productive capacity and relations,

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as Wiessner (this book) describes for the Enga with the introduction of the sweet potato. Finally, and perhaps even more challenging, is the identification of changes to the sociocultural context. H ave new religion movements been introduced? $H$ ave climatic changes stimulated migration and the new sociopolitical contexts it creates, with new immigrantsjoining existing populations? To what degree are resources becoming privatized and thus eligible for accumulation and use in a political economy (for example, Eerkens 2004, this volume)? Although often challenging, all these factors can be identified archaeologically and assessed for their impact on leaders and leadership.

## CASE STUDY: THE CHACOANS OF THE PUEBLOAN

 SOUTHWESTHaving outlined a detailed model for how leadership emerges and becomes more permanent, this section takes the perspective on leadership developed in this chapter and applies it to a well-known case from the Puebloan Southwest, the Chacoan tradition of the tenth through early eleventh centuries ad Emerging out of a sociocultural context characterized by ephemeral and likely transitory positions of authority, the Chacoan tradition is probably the first in the Puebloan Southwest to see the emergence of permanent, and perhaps even institutionalized, leadership.

Chaco Canyon in northwestern New M exico haslong been the subject of intense archaeological interest (for example, Fagan 2005; Kantner 2004; Lekson 2005, 2006; Reed 2004). Situated in the center of the desolate San Juan Basin (figure 11.1), the broad and shallow canyon, with its intermittent wash, low rainfall, and short growing season, does not appear to be a prime location for establishing farming villages. Yet this did happen around the ad 700s, when Puebloan people who had long used Chaco Canyon on a seasonal basis began to live in more permanent villages at points where side canyons enter the main drainage (Windes 2001). Except for the challenging location, these early Chacoan communities were not appreciably different from the multitude of contemporaneous Puebloan villages found across the northern American Southwest.

By the late ad 800s, however, clearly something new was developing in Chaco Canyon (figure 11.2), most obviously characterized by the appearance of an architectural form-the so-called great house-that differed from the typical Puebloan domestic structures (Lekson 1984; Windes 2007; Windes and Ford 1996). In the ad 1000s, great houses grew to remarkable sizes, eventually reaching several stories and containing hundreds of rooms, all in an environment devoid of trees large enough to roof these


Figure 11.1
Location of Chaco Canyon in the American Southwest, including the surrounding San Juan Basin and the larger area influen ced by the Chacoan tradition.
buildings. The corresponding explosion of religious and economic activity, including the construction of ceremonial causeways and the import of copper bells and even live macaws from Mesoamerica, accompanies compelling evidence for centralized and perhaps even hereditary leaders (Lekson 1999, 2006). One burial room in the famous great house of Pueblo Bonito contains around four times as much turquoise as has ever been recovered from all prehistoric contexts in the Southwest (Snow 1973). Although the height of the Chacoan "phenomenon" did not exceed two or three generations, its impact on the trajectory of Puebloan history is unquestionable (Kantner 2004).

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Figure 11.2
Location of great houses within Chaco Canyon in the first decades of the ad 1100s. Peñasco Blanco, Pueblo Bonito, and Una Vida were the earliest great houses to be built in the ninth century. M ost of the others were not constructed until more than a century later.

## Evidence for Pre-C hacoan Leadership

How can these developments be explained, particularly regarding the evolution of Chacoan leadership? To answer this question, we need to return to the small farming villages of the eighth century, which emerged during an extended climatic downturn in rainfall beginning in the mid-ad 700s (Force et al. 2002; Grissino-M ayer 1996; Gumerman 1988). Although the archaeological record in Chaco Canyon unfortunately is dominated by the later developments of the ad 1000 s, existing evidence from the earliest villages in Chaco can be fleshed out with evidence from contemporaneous Puebloan settlements elsewhere in the northern Southwest.

In Chaco Canyon (figure 11.2), early villages such as the one around Fajada Butte were loosely aggregated clusters of extended-family households that exhibit very few material differences (Mathien 2005; McKenna

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and Truell 1986). Each household likely produced its own food through akchin farming, which takes advantage of rainfall runoff, and perhaps with small-scale water-control features (Vivian et al. 2006). Archaeologists agree that early Puebloan villages were geared toward overproduction to contend with climatic instability, storing and sharing surpluses through delayed reciprocal exchanges with neighbors (Hegmon 1991, 1996; Kohler, Van Pelt, and Yap 2000). While limited authority may have helped to moderate sharing networks, no evidence of extensive irrigation works, sizable ceremonial infrastructure, or endemic warfare exists to suggest the need for-or presence of-centralized decision making.

In other areas of the Puebloan world during the eighth and ninth centuries, large subterranean structures spatially associated with particular households presage the ceremonial great kivas of later Chaco-era villages (Van Dyke 2007; Wilshusen and Van Dyke 2006). In the Mesa Verde region to the north, early protokivas notably are associated with evidence of feasting (Blinman 1989). Similar oversized pit structures are identified in early villages in and around Chaco Canyon, although the remains of feasts have not yet been identified (Lekson, Windes, and McKenna 2006; McKenna and Truell 1986; Roberts 1929). While this evidence of ceremony and feasting is suggestive of the presence of religious authority (Potter and Perry 2000), attempts to identify differences in individual or family wealth and status have come up empty (for example, Lightfoot and Feinman 1982; Schachner 2001). What this reveals is a sociopolitical setting in which reverse dominance hierarchies maintained equity, likely employing leveling mechanisms to keep aspiring leaders from engaging in self-aggrandizement and asserting too much decision-making authority. Transitory leaders almost certainly did exist in a variety of sociocultural contexts, not the least of which would have been part-time religious authorities whose existence is attested to by the ceremonial kivas associated with some households in these villages.

## Ninth-Century Changes in Chaco Canyon

The late ad 800 s mark the emergence of great house architecture (Lekson, Windes, and McKenna 2006; Windes 2003, 2007; Windes and Ford 1996; Windes and McKenna 2001). Scholars still do not agree on the function of these structures, an issue complicated by later additions and remodeling that obscure their earliest uses. However, early great houses such as Pueblo Bonito (figure 11.3) are associated with important material patterns: they exhibit ceremonial features that include sizable kivas (for example, Van Dyke 2003) ; many unusual artifacts with apparent religious

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Figure 11.3
Pueblo Bonito, showing construction sequence and burial rooms. Shaded areas were completed by AD 1040. Expansion and reorientation of the great house from southeast to south occurred in the AD 1080s.
significance have been recovered from great houses (for example, Durand 2003); and they reveal some evidence for feasting and related communal events (for example, Toll 2001; Wills 2001), suggesting that they were centers of community activity and arenas for leadership activities (Kantner 1996; Lekson 1999; Sebastian 1992). Whether or not they had residential or purely ceremonial functions, the thick walls, oversized rooms, multiple stories, and imported timber that characterize great houses required collective action to construct, and thus some degree of guidance and consensus building by leaders would be expected.

What contextual changes in the ad 800 s might have stimulated the appearance of these new forms of authoritative decision making? The archaeological and paleoclimatic reconstructions suggest two possibilities: first, the climate becomes wetter in the Chaco region (figure 11.4) and, second, substantial numbers of new immigrants may have arrived in Chaco Canyon from the Mesa Verde region north of the San Juan River. These two developments likely are related. After an extended drought through the mid-ad 700s, rainfall was increasing by the early ad 800s, especially in Chaco Canyon and areas to the south, making the ninth century especially beneficial for farming in this region (Force et al. 2002; Grissino-Mayer


Figure 11.4
Paleoclimatic reconstruction of August-through-July precipitation for the Chaco Canyon region (from Force et al. 2002:fig. 3.5b).
1996). This improvement, however, was not seen everywhere in the Puebloan Southwest. To the north, the latter half of the ad 800 s was characterized by an extended drought that was further exacerbated by a cold period in the final two decades of the ninth century, truncating an already short growing season (Petersen 1987, 1994). Wilshusen and Van Dyke (2006) note the correlation between the depopulation of the Mesa Verde region and the apparent growth of population in the Chaco area, and they identify architectural similarities between Mesa Verde and Chaco that they believe reflect immigration into the canyon.

In accordance with the model outlined in this chapter, the result of these two developments was first to introduce stress and uncertainty and second to positively impact farming productivity. Villages in Chaco Canyon had to decide how to contend with arriving immigrants; should they accept them, and if so, in what capacity? Should they drive them away, or was their labor useful? Should they be accepted but relegated to less desirable areas for living and farming? The need for consensus building and guided decision making on these issues provided opportunities for preexisting yet transitory authority figures to enhance their roles. Meanwhile, the greater farming productivity would have led to greater stores of food, particularly in a society long geared toward overproduction. Although the largely homogeneous resource structure of Chaco Canyon is not conducive to a despotic distribution-soil quality is uniform throughout the canyon (Mytton and Schneider 1987) - subtle differences in productivity may have benefited aspiring leaders and their supporters. For example, some parts of the canyon are ideal for capturing rainfall runoff from the sandstone cliffs, while gaps in the south wall of the canyon funnel rainstorms into particular areas (Force et al. 2002; Vivian et al. 2006).

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Sebastian (1992) suggests that with the climatic conditions during the late ninth century, aspiring leaders could have invested their growing surpluses in feasting and debt-building activities that benefited them in the long run. Continuing instability could have been leveraged for building debts, especially with newcomers who had no stored supplies and who were probably relegated to marginal farmlands. The combination of new immigrants to be dealt with - and taken advantage of-as well as the improving climate likely endowed aspiring leaders with both additional decision-making authority and the material surpluses for cautiously self-aggrandizing activities. In this light, the early great house form might have served as the locus for feasting, ceremonial activities, and consensus building among the increasingly disparate social groups in Chaco Canyon, as well as the perfect arena for building narratives that sustained the changing sociopolitical situation. The expansion of the earliest great houses was, for aspiring leaders, a comparatively safe means for investing accrued social debt in indirect self-aggrandizement, particularly for those with existing ceremonial responsibilities (Brandt 1994; Kantner 1996, 2004).

Who were these "aspiring leaders"? We might expect them to have been charismatic and diplomatic kin leaders. They probably possessed ceremonial responsibilities, since Puebloan society historically does not separate the secular from the sacred. Yet, since authority was couched in communal ceremony, leaders are not individually visible in the archaeological record (Hegmon 2005:218). Scholars have tended to avoid the issue of gender-or have assumed that early Puebloan leaders were men-but changes in domestic spaces during this time provided many gendered yet public spaces in which political activity very likely occurred (for example, Hegmon, Ortman, and Mobley-Tanaka 2000; Mobley-Tanaka 1997). Furthermore, although from later periods of Puebloan history, several studies have identified evidence of female leadership ( for example, H owell 1996; Neitzel 2000), suggesting that antecedents to this pattern could have existed during the Chaco era. Ultimately, while we are not able to identify leaders in ninth-century Chaco Canyon, we do see compelling evidence for the practice of leadership.

After the initial great house construction in the late ad 800 s and early decades of the ad 900 s, more than one hundred years pass before any significant new developments in Chaco Canyon (figure 11.5). In the intervening four or five generations, little additional construction occurred at the early great houses (Lekson 1984; Windes and Ford 1996). Neither did any of the other famous Chacoan features-such as roadways, solar and lunar observatories, and Mesoamerican imports-definitively emerge dur-


Figure 11.5
Intensity of construction events in Chaco Canyon. The dotted line shows Chaco Canyon great house construction labor estimates (L ekson 1984:263; values estimated from figure 5.2).
ing this period (for example, Kantner 1997b; Nelson 2006; Windes 1991). This situation seems consistent with the lack of new opportunities for leadership to develop any further. In essence, the changes characterizing the late ad 800s and early ad 900s became integrated into the Chacoan cultural milieu, and the emerging differentiation in leadership stabilized. Environmental conditions also became more challenging during the tenth century (Force et al. 2002:28), with greater temporal instability in rainfall that would have heightened the sensitivity of the canyon's population to costly aggrandizing activities. A shallow lake at the west end of Chaco Canyon also disappeared when the natural dune dam that created it was breached by flooding, leading to a gradual but significant degradation of farming soils (Force et al. 2002).

## Institutionalizing Leadership in the Eleventh Century

A new contextual situation emerged in the ad 990s. After a few years of good rainfall, the ensuing twenty years were characterized by consistently below-normal rainfall (figure 11.4). Decent conditions prevailed again between approximately ad 1015 and 1030, but this interlude was followed

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by a terrible drought that lasted twenty-five years (Force et al. 2002:28). Facing a substantial collective-action challenge, the population of Chaco Canyon seems to have been mobilized; the broken natural dam at the end of the canyon, for example, was repaired with a masonry wall, and the canyon's soils once again began to aggregate. However, perhaps surprisingly, the greatest investment of collective action was in great house construction, especially during the extended drought. Pueblo Bonito was modestly expanded, and initial construction at the nearby great houses of Chetro Ketl and Pueblo Alto occurred in the first few years of the ad 1040s (figure 11.5), a period with very low precipitation (Windes and McKenna 2001).

What was happening during this period? One notable factor is that the nature of climatic instability in the first half of the ad 1000s differs from the instability of the ad 900 s (figure 11.4). In the tenth century, temporal variability in rainfall was more predictable, especially when considering only the bad years; droughts never lasted longer than a couple of years. In their predictability, poor climatic conditions would have evoked less stress and uncertainty among the population, providing aspiring leaders with little opportunity to leverage their decision-making prowess into any kind of lasting authority. The nature of instability in the early ad 1000s, however, is almost the opposite, with extended yet inconsistent droughts interspersed with wet periods of equally uncertain longevity. This situation would have created considerable indecisiveness about farming and storage strategies, promoting the need for the consensus-building and decision-making strengths of leadership. Interestingly, the strategy adopted in the late ad 1030s and 1040s was to expand the great houses. The ceremonial nature of this new strategy-and thus the religious nature of leadership - is apparent from the cardinal orientations and landscape alignments of the new great houses (Doxtater 2002; Sofaer 1997, 2007). Considering what happens next in Chaco Canyon, this ceremonial emphasis likely was a very fortuitous decision for priestly leaders.

In the early ad 1050s, two important events occurred. First, in the space of only a couple of years, annual precipitation increased to levels not seen since the ninth century (figure 11.4). This wet period would last almost two decades (Force et al. 2002). Second, in April or May of ad 1054, the Crab Nebula supernova appeared in the daytime sky, and it continued to be visible for at least two years. This event, and the appearance of H alley's Comet ten years later, arguably was recorded in canyon rock art (Malville 1994; Malville and Putnam 1993). The ideological and religious importance of these events, especially for emerging priestly leaders in Chaco Canyon, would have been extremely significant in the evolution of

Chacoan leadership (Reyman 1987). Most of the major construction in Chaco Canyon and expansion of its influence occurred in the second half of the eleventh century (figure 11.5). Great houses were rapidly expanded and new ones built (Lekson 1984; Windes 2003; Windes and Ford 1996; Windes and McKenna 2001); the famous road "system"-almost certainly ceremonial causeways-was established (Kantner 1997a, 1997b; Vivian 1997a, 1997b; Windes and Ford 1996; Windes and McKenna 2001); and great volumes of materials were imported into the canyon from as far away as Mesoamerica (Nelson 2006), albeit probably indirectly through down-the-line trade and/ or as pilgrimage offerings. Casa Rinconada, the huge great kiva located across the canyon from Pueblo Bonito, may have been constructed in ad 1054, the year of the supernova. A brief dry period around ad 1060 seems only to have intensified activity in Chaco Canyon, with the absolute height of construction occurring between ad 1075 and 1085-representing an estimated 23,428 person-hours per year just at Pueblo Bonito (Metcalf 2003).

Directly identifying the shift in leadership in the latter half of the ad 1050s from transitory authority to something more permanent has proven challenging. Tantalizing clues abound, especially in the so-called burial rooms of Pueblo Bonito (figure 11.3) (Akins 1986, 2001, 2003; Palkovich 1984; Schillaci 2003). Known details of both burial clusters are comprehensively described in Akins (2001, 2003). The four rooms of the North Burial Cluster are in the oldest section of the great house and contain the remains of twenty-four to twenty-eight individuals, mostly males but also several children. Unfortunately, because the burials were excavated in the late 1890s (Pepper 1920), associations between the human remains and the material culture are difficult to reconstruct, and the burials had been disturbed at some point in the distant past. But what is clear is that a tremendous wealth of imported material and ceremonial paraphernalia was found in these rooms, particularly accompanying two males placed in elaborately prepared burials. Reconstructions of the original stratigraphy of the rooms suggest that most individuals were interred over a number of years rather than all at once.

Like the North Burial Cluster, the West Burial Cluster consists of four adjacent rooms in one of the older areas of Pueblo Bonito's western wing (figure 11.3). A total of ninety-five individuals, including twenty-nine children and a small majority of adult females, were interred here (Akins 2003). Again, because the excavations occurred approximately eighty years ago, interpretation of the West Burial Cluster archaeological record is difficult. While not exhibiting as much wealth as the burials in the North

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Burial Cluster, investment in the mortuary treatments still was substantial. The evidence shows that these burials also were added to the rooms over many years.

Several osteological studies indicate that the individuals interred in the two Pueblo Bonito burial clusters were generally healthier than individuals recovered elsewhere in Chaco Canyon. Comparisons of femur lengths rank the members of the North Burial Cluster as the tallest in the canyon, followed closely by the individuals in the West Burial Cluster; individuals recovered from non-great house burials were significantly shorter (Akins 1986). Other indicators of nutritional health and infectious disease further reveal that the individuals from the Pueblo Bonito burial rooms enjoyed access to superior nutrition and worked less hard than other Chaco Canyon residents (Akins 2003; Nelson, Kohler, and Kintigh 1994; Palkovich 1984). Recent isotope analyses of skeletal material s suggest that individuals interred in Pueblo Bonito enjoyed greater access to meat and less reliance on maize than their contemporaries outside the canyon (Coltrain 2007).

Even more interesting is recent research demonstrating biological kinship among the people buried in the Pueblo Bonito burial rooms. Statistical analyses of osteometric data conducted by Akins (1986) and more recently by Schillaci (2003; Schillaci, Ozolins, and Windes 1998, 2001; Schillaci and Stojanowski 2003) indicate that the individuals from each of the two burial clusters-especially the males-are more closely related to one another than they are to the members of the opposite cluster. Each burial cluster also shares some relationship with other non-great house populations in Chaco Canyon. Whether each mortuary cluster represented the burials from a single residential group is unknown-the interments may have come from outside Pueblo Bonito and the rooms used as mortuary chambers-but the osteological evidence indicates that the burials were of biological kin, and especially of related males. The exceptional nature of the burial rooms suggests the presence of incipient levels of ascribed status and wealth in Chaco Canyon.

When were the interments in the North and West burial clusters made? Researchers agree that the burial rooms were established at some point after the rooms had served other functions, and they also agree that some of the early pottery associated with the burials could have been "heirloom" pieces. Clues for dating the rich mortuary rooms include the eastern orientation of the interments, a consistently later pattern throughout Chaco Canyon (Akins 2001, 2003). The presence of many imports from Mesoamerica, including copper bells, also reflects a later date; Nelson (2006) proposes that such imports into the canyon occurred after ad 1040.

While far from definitive, the chronological placement of these burials is consistent with the argument that the mid-eleventh-century climatological and astronomical events contributed to the establishment of permanent, perhaps even institutionalized religious leaders with hereditary decisionmaking roles.

## The Demise of Chacoan Leadership

Perhaps because it was founded on priestly authority rather than physical control over people and resources, permanent leadership in Chaco Canyon did not last. The wealthier of the two Pueblo Bonito cemeteries, the North Burial Cluster, was centered on the interments of two adult men between twenty-five and thirty-five years of age who were buried with items such as ceremonial staffs and a shell trumpet. If we consider the establishment of permanent and hereditary leadership to have occurred after the ad 1050s, and the demise of Chaco to have started with two decades of sustained drought in the ad 1080s and 1090s ( figure 11.4), these two men may represent the temporal extent of this form of leadership. It is noteworthy that one of these two men exhibited several chop marks on his cranial bones, as well as his left thigh, indicating a violent and presumably involuntary demise (Akins 2003). Apparently, the extent of his authority could not prevent the (re)emergence of a reverse dominance hierarchy or factional competition in the face of environmental crisis. By the early ad 1100s, despite a rebound in precipitation, construction in Chaco Canyon had slowed down substantially (figure 11.5), with new "McEImo-style" great houses requiring a fraction of the labor seen in the preceding century (Lekson 1984).

A ten-year drought beginning in ad 1130 and another beginning in ad 1145 ended the ambitions of Chaco's leaders once and for all ( figure 11.4), and although the canyon saw sporadic use for several more generations, its glory days were over. Why should its end have been so precipitous? After all, the late-eleventh-century and mid-twelfth-century droughts were not that terrible. But after the apparent excesses of the latter half of the ad 1000s, with the tremendous demands on regional labor, growing inequities in wealth, and beginnings of hereditary decision-making status, religious leaders were especially vulnerable to the reemergence of a reverse dominance hierarchy. After all, they had no control over resources or coercive power; they enjoyed religious authority promoted only by a series of unique circumstances. When deteriorating conditions challenged that authority, Chacoan leadership could not be sustained and the entire "phenomenon" collapsed like a house of cards. Particularly telling is the pattern

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of collapse, starting first in Chaco Canyon and then expanding into nearby communities that apparently were most directly engaged with Chaco (Kantner and Kintigh 2006). More distant communities with less direct connections to the central canyon, in contrast, continued to exist, almost unfazed by Chaco's ending (Kintigh 1996). Nevertheless, the struggle between aspiring leaders and cautious followers in Chaco Canyon set the foundation for the future of Puebloan leadership, and still today oral histories recount the events of the eleventh century (for example, Hegmon 2005; Kantner 2004).

## CONCLUDING THOUGHTS

As in the case study from Chaco Canyon, the emphasis of this chapter, like the others in this volume, has been on the most incipient levels of emerging differentiation in decision making. With the collective force of reverse dominance hierarchies and the leveling mechanisms that enforce them, the challenge is explaining how individuals with transitory decisionmaking authority could ever extend the scale and temporality of leadership. The chapters in this book have tackled the theoretically challenging and archaeologically elusive point at which this significant reversal in human relationships occurs. Once the egalitarian ethos is compromised and reverse dominance hierarchies broken, the development of increasingly permanent forms of leadership-and the inequities in wealth and status that often accompany them-is not a surprising outcome, for structural power and hegemonic relationships develop much more easily when leaders can shape the ideologies that determine appropriate sociopolitical behavior. This is not to invoke neo-evolutionary explanations and suggest that leadership develops in progressive stages. In the case of the Puebloan Southwest, the Chacoan sequence did not inexorably lead to chiefs and kings, and in fact egalitarian reactions and the likely reemergence of reverse dominance hierarchies followed the events of the eleventh century (Kantner 2006; Kintigh 1994).

The chapters in this book mostly avoid classificatory schemes, although Kusimba and Kusimba do invoke the popular dual-processual theory in which two modes by which differentiation emerges-network and corporate strategies-are outlined (Blanton et al. 1996; Feinman, Lightfoot, and U pham 2000). Many criticisms of dual-processual theory have been published (for example, Adler 2002; H eitman and Plog 2005:81-84; King 2006:77-78; Yoffee 2006:400), expressing concerns that applications of the corporate-network models tend to classify societies at one extreme or the other or to see a society as changing from corporate to network strategies
over time, without explaining why this should be the case. While elements of dual-processual theory are useful for answering certain questions about the past, the chapters in this book emphasize the individual dynamics of human behavior in group settings at the archaeological moment when sociopolitical checks on authority were transcended, exactly the point where we might be able to understand why sociopolitical competition eventually takes on the characteristics of network or corporate strategies.

This book has emphasized the role of individual decision making in the evolution of leadership. Accordingly, the focus is on the causes of increasingly centralized and permanent leadership from an emic perspective rather than on the evolutionary reasons why particular forms of leadership might persevere (for example, Roscoe 2000a) or be selected for in a sense advocated by selectionism. The majority of contributors to this volume regard agentive behavior in the face of social and structural forces as the explanatory foundation for reconstructing the development of leadership, with several of us explicitly or implicitly assuming an evolved human capacity for making calculated, self-interested decisions in social settings. The fact of the matter is that we live today in a sociopolitical world characterized by great differences in decision-making power and dynamics of leadership that appear very similar everywhere. Equally true is the fact that this situation did not emerge in one place and diffuse across the world. Instead, evolutionary trajectories guided by individual cost-benefit assessments within sociocultural contexts appear quite similar everywhere. But because individual cognition is shaped as much by cultural forces as by evolutionary history, a central theme in this book is that emic evaluations of one's place in the sociopolitical world reflect ideological concerns as much as they do evolved propensities (Kantner 2003). Only by reconciling the two positions can we fully understand how, after a million years of successfully sustaining reverse dominance checks on decision-making inequity, hierarchical sociopolitical systems emerged and persevered.

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