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What Do We Know about Warfare on the Great Plains?

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The archaeology of the Great Plains provides some of the clearest and most dramatic archaeological documentation of warfare anywhere in the world: there has been violence on the grasslands for millennia, and there is no doubt that this affected many aspects of human lives in the region. This volume brings together work on major aspects of Plains warfare that have important implications for studies of warfare in general. The topics we consider here include artistic evidence of the role of war in the lives of indigenous hunter-gatherers on the Plains prior to and during the period of Euroamerican expansion, archaeological discussions of fortification design and its implications, and archaeological and other information on the larger implications of war in human history on the Plains. My goal here is to offer a bird's-eye view of warfare on the Plains as a frame for the chapters that follow.

WHAT IS WAR AND WHY DOES IT MATTER?

LeBlanc (2003) has argued that war is essentially a constant in human history: it is always present in some form. This is likely true, at least in the sense that human groups always are, and always were, capable of choosing to go to war. But it is also true that human groups do not always make this choice, and seeing where in human history they did and did not make it is important. Anthropology in general, and archaeology in particular, has paid varying amounts of attention to social

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conflict. Keeley (1996), for example, argues that archaeologists have often pacified the past, creating romanticized views of idyllic periods in human history; widespread denials that war existed in Neolithic Europe and in North America prior to European contact are particularly well known. As we have become more willing to grapple with the reality of war, we also encounter the trap of assuming that all societies are equally warlike and engage in war in more or less the same ways. Should we worry about this? Or, more precisely, do either of these equally false perspectives compromise our ability to see the past accurately, in North America, Neolithic Europe, or elsewhere? It is difficult to argue they do not. Archaeology's value lies in its potential for telling human history as it really happened, not as we wish it happened. As Keeley (1996) notes, "the weight of the evidence" has a literal meaning in our field that requires us to attend to that evidence, and war can leave dramatic traces that demand our attention if we are to approach a truthful account of the human past.

In part, understanding human choices about war and peace depends on what we mean by "war." Formal war in the modern sense—organized violence sanctioned by explicit government decisions and involving combat between standing armies—reflects the organization of modern state societies and thus does not necessarily help us to understand organized social violence in other times and places. If we use a definition like this, we can simply define war out of existence for many past societies, despite the fact that these societies manifestly bore the immense costs of violence. Beyond an aversion to seeing war in the past, the major issue underlying the problem of defining war is the absence of formal decision-making hierarchies in many ancient and modern social groups. Furthermore, a view of war focused on such hierarchies misrepresents the variety even of modern patterns of social violence, which increasingly involve smaller-scale combat by non-state actors.

If we define war more broadly as community-level violence sanctioned by whatever recognized social or political units exist in a particular time and place, it is clear that it takes a variety of forms in non-state societies like those on the indigenous Great Plains. This variety includes raids by small groups (seeking captives or other specific targets, to avenge individual affronts, or in search of glory and status), largely ceremonial and low-casualty confrontations between more or less equally matched forces, and full-scale assaults by massed attackers that can result in the total destruction of large communities. Used in this way, the term "war" subsumes a continuum of violence and a range of relatively distinct kinds of conflict with differing logistic, social, and other implications and requirements. But it does not subsume all violence, and this is especially important in an archaeological context (as I discuss in more detail below).

All of these forms of war are and were important in the lives of people today and in the past. Observations of war in a range of recent societies leave no doubt that it shaped those lives in fundamental ways that we do not always take account of in our discussions of the human past (Allen 2008; Arkush 2011; Cameron 2008, 2011; Keeley 1996; LeBlanc 1999; McCabe 2004; Roscoe 2008). Conflicts that produce small numbers of deaths in any single engagement can have serious aggregate demographic effects in small social groups; construction of even simple defenses takes time, resources, and labor that have significant opportunity costs; and the natural and constructed features that prevent attackers from entering settlements (and from escaping if they do enter and are discovered) are also inconvenient for the people who live in those settlements. Archaeologists typically consider human use of the landscape entirely or almost entirely in terms of the distribution of favorable settlement locations and needed resources, but proximity to enemies can keep residential groups from using even the best land that they might otherwise have access to. Aggregating into larger groups for defense also requires access to larger food supplies, demands longer travel to important locations (such as agricultural fields), and depends on social mechanisms for maintaining order that small social groups do not need. Such aggregations also often bring together previously geographically dispersed kin groups who, when dispersed, might have been able to share geographically dispersed resources in hard times. Fortified aggregations have larger social implications as well: independent defended communities are often isolated from one another, potentially inhibiting the formation of larger regional social groups, and effective fortifications make it possible for such communities to resist the formation of such groups if they choose to do so. Defeats in conflict, whether due to a series of cumulative small losses or to a single massive loss, can also result in the loss of social identity, as survivors integrate into other communities or subservient social groups, and the involuntary movement of captives among groups changes labor and other relations and can introduce new ideas and skills.

But war also has benefits and creates opportunities. Groups who are victorious in war can claim land, resources, and control of trade and labor; successful individual warriors can raise their prestige and enhance their political, economic, and reproductive success. War can also benefit groups who are not themselves principals in a particular conflict. To take just one particularly relevant example, LeBlanc (1999) argues that there was a shift around AD 1300 in the Southwest from self-bows to more powerful compound recurved bows. Arrows fired from such bows penetrate wicker shields easily, but cannot penetrate bison-hide shields. Access to the Great Plains, and the bison on them,

thus became much more important with increasing violence and new weaponry in the Southwest, offering a market for specific products to Plains groups willing to invest in shield production.

Social violence—war—thus often has effects that can drive important aspects of social, demographic, cultural, and economic change over time. Any process that can do this is a process that has been important in human history.

HOW DO WE SEE WAR?

Despite this, though, archaeological evidence of war can be ambiguous, and this is important: if telling truthful history means that we need to attend to conflict, it also means that we need to know what conflict looks like in the archaeological record. This is not always easy. The most direct evidence of social violence takes the form of defensive features in settlements and battle wounds visible on human skeletons, but we cannot always assume that we will see either of these. It is unlikely that there were more warlike social groups in native North America than the Lakota or the Comanche during the 1700s and 1800s. However, evidence of this can be difficult to find: these tribes built no fortified communities (although they destroyed them) and they disposed of their dead in ways that are archaeologically largely invisible, making combat wounds hard to see. Seeing combat wounds in cemeteries also requires that victims of violence were buried, and we know in many cases that they were not. This is because not all societies dispose of their dead in archaeologically visible ways and because circumstances, particularly defeats, often result in the bodies of combat victims being left behind on the battlefield (see Hollinger [2005:118], Riley [1973], and Greer and Greer's [chapter 2, this volume] quote from Zenas Leonard's observation of a battle between the Crow and the Blackfoot for examples of this). This can leave evidence even of large-scale attacks on permanent settlements difficult or impossible to detect (Hoffecker et al. [2012] note an Inuit example of this).

Absence of evidence for war is thus not necessarily evidence of absence, especially in the case of mobile hunter-gatherers. In contrast, settled farmers create durable communities that are archaeologically visible today and that would have been visible and immobile targets during times of conflict in the past. Horticultural communities also often built fortifications to keep attackers out, or located themselves on landforms that are difficult to get access to ("defensible" locations). These communities also often interred their dead in formal cemeteries, increasing the potential visibility of combat wounds. There is thus an inherent difference in the archaeological visibility of social violence

between farmers and hunter-gatherers that we need to keep in mind. This difference is not absolute, as we will see below and in subsequent chapters (also see Allen and Jones 2014), but it is real. Other kinds of evidence, particularly rock art, can help with this problem, but this evidence is not always available and can be ambiguous when it is available.

As these issues might suggest, archaeologists generally focus on two kinds of evidence for social violence: direct osteological evidence of attacks on individual people and evidence for the construction of defenses against attack or of construction of settlements in naturally defensible locations (e.g., Golitko and Keeley 2007; Keeley et al. 2007; Lambert 2002; Milner 1999; Walker 2001). We can infer war on other grounds in some cases—for example, houses abandoned and burned with their contents intact, unusual patterns in the age distribution of burials, or artistic depictions of warriors or of combat—but these two indicators are both the most common basis for inferring war and the strongest evidence that is usually available. But strong evidence and perfect evidence are not the same: people damaged their skeletons in more than one way and dug ditches for more than one reason.

As graphic as osteological evidence for violence can be, it is important to distinguish three kinds of evidence. Hand-to-hand combat can result in broken bones and fractures to the skull, but other activities can produce these injuries as well, and so can interpersonal violence outside of any context that we might call war (Walker 2001). For example, victims of violence can break their forearms warding off a blow from above ("parry factures"), but any number of accidents can break a forearm as well. Similarly, both socially sanctioned hand-to-hand combat and drunken Saturday night bar fights can result in broken facial bones. Not all violence is war, under our definition or any other reasonable definition, and making sense of ambiguous data of this kind often depends on contextual evidence: unusually high frequencies of forearm fractures among young men, for example, might imply organized combat.

In contrast, attacks with projectile weapons can leave undoubted marks on skeletons, most spectacularly embedded points, and these are difficult to interpret as anything except evidence of violence. Projectile points *embedded in* the bone, though, are one thing; points *associated with* a bone are something else. Milner (2005) discusses this on the basis of medical reports on projectile injuries and notes that stone points often fragment within a victim's body and remain inside it even when the shaft of the projectile is removed; he argues that discoveries of such fragments associated with a skeleton, particularly in the abdominal area, are often good evidence for an attack. Milner also emphasizes a critical matter in addressing the implications of osteological evidence

of violence: many—in fact, most—victims of violence do not bear evidence of the way they died on their skeletons. His data indicate that rates of embedded projectile points are likely to underrepresent the number of projectile wounds in a population by as much as two-thirds. As Keeley (1996) and Walker (2001) also note, this indicates that even low levels of direct evidence for violent death in archaeological data imply significant levels of conflict.

A third category of osteological evidence consists of marks on bones caused not by the way a person died but by how their body was treated by their attacker(s). These include cutmarks on the skull resulting from scalping and cut or blow marks documenting mutilation of the head or body, often while taking trophies. Deterioration of the surface of the skull due to infection when individuals were scalped but not killed unambiguously indicates non-lethal violence. Marks like these are evidence of war, but they often also imply an ideological or ritual component to war that goes beyond the simple documentation of organized and socially sanctioned combat.

And practical issues impact our ability to grapple with the ambiguity inherent in even osteological data. For example, data gathered over many years in different research settings are often not perfectly comparable, and reexaminations of collections have sometimes documented evidence of violence that earlier examinations did not identify (e.g., compare Bass and Berryman [1976] with Hollimon and Owsley [1994]). More specific to this volume, and more disturbing, many important collections on the Plains remain unpublished decades after they were excavated and, apparently, studied: the Plains literature refers informally to data from a number of important sites that are nowhere reported publically or systematically (e.g., Blakeslee 1999; Hollinger 2005; Pringle 1998). In an era when archaeological objections to the reburial of human skeletal material depend substantially on how much we can learn from that material, the volume of analyzed but unpublished material from the Great Plains is shocking.

In addition to direct evidence of violence obtained from human skeletons, archaeologists generally take the presence of fortifications as evidence for war, often suggesting that the presence of defensive works implies active warfare while its absence suggests peace. Most commonly, archaeologically visible fortifications include palisades and ditches, often (but not always) built to enclose a residential area. Keeley et al. (2007) point out, though, that people build walls and dig ditches for a variety of reasons other than defense and that even overtly defensive features can serve a variety of other purposes. As in the case of many osteological patterns, archaeologists need to make the case that ancient people built particular potentially defensive features for protection. Keeley et al. (2007) argue that the presence of bastions and baffle gates are unambiguous evidence

of defensive architecture and that ditches with V-shaped cross-sections are likely evidence as well, especially when they are backed by a palisade. All of these are present on the Plains: for example, palisades, ditch forms, and bastions are well documented for any number of sites in the Middle Missouri; Kay (1995:figure 39) documents a simple baffle gate at the Helb site in northern South Dakota, and Anderson (1985:figure 4) shows a more complex causeway and controlled entrance at the Wittrock site in northwestern Iowa.

A NOTE ON CHRONOLOGY

My goal here is to present a broad-brush view of warfare in human history on the Plains, emphasizing the major kinds of evidence (combat wounds, mutilation, and fortifications) that I have just discussed. I do this in terms of a fairly small number of purely chronological periods: Paleoindian/Archaic (from the peopling of the Plains to 500 BC), Woodland (Early Woodland: 500 BC–AD 1; Middle Woodland: AD 1–400; Late Woodland: AD 400–1000), Plains Village (AD 1000–1600), and Contact (AD 1600–1890). Plains archaeologists do not all organize the past using these periods; instead, local chronologies and research traditions have produced an array of regional chronological frameworks. Furthermore, Plains archaeologists often synthesize our data in terms of culture-historical constructs that combine time, space, and archaeological patterns into single taxonomic units. My discussion focuses on chronology in the interests of simplicity and brevity, but also in order to highlight large-scale regional patterns that other frameworks can obscure.

In general, the periods I use here are easy to accommodate to regional chronological sequences. However, local chronologies in two areas of the Plains (the Late Prehistoric I period, AD 500–1100/1200, on the southwestern Plains [Boyd 1997] and the Woodland/Late Prehistoric interval on the northwestern Plains [Scheiber 2008]) span the transition from what I am calling Late Woodland to what I am calling early Plains Village times. For sites in these intervals with radiocarbon dates there is no great difficulty with my organization, but sites placed into this period on the basis of diagnostic artifacts are inevitably chronologically slightly ambiguous. Presently available data offer no solution to this.

WHAT IS THE GENERAL COURSE OF WAR ON THE PLAINS?

Caution in dealing with osteological evidence matters on the Plains because, although there is possible evidence for *violence* fairly early on the Plains, it is

not certain that we are looking at *war*. None of the very few individuals known from Paleoindian burials on the Plains appears to have died violently, but one adult woman from the Early Archaic Gore Pit site in southwestern Oklahoma shows evidence of blunt-force trauma to the right side of her skull that likely caused her death (ca. 6000–5000 BC; Hammatt 1976; Keith and Snow 1976). It is not clear, though, how this woman sustained her injury. With this possible exception, there is close to no evidence for any form of war on the Plains prior to about AD 1, during Middle Woodland times. Most areas of the Plains have produced very small numbers of burials dated prior to this time, so the absence of evidence for violence could be due to inadequate data. However, in the one case where we can see a substantial number of individuals that are clearly dated to this period—the Middle Archaic Gray Burial site in Saskatchewan—evidence for violent death is also absent (Millar 1978), although one adult male in a burial in southern Manitoba dated to approximately 1800 BC bears a point embedded in his femur, fired from behind (Hoppa et al. 2005). The early occupants of North America certainly tried to kill each other at times—like the individual from Manitoba, Kennewick man carried a spear point embedded in his hip when he died some 9,000 years ago (Chatters 2000)—but it is difficult to argue for extensive conflict on the Plains from Paleoindian through Early Woodland times.

This pattern changed over the last 2,000 years, though. Fortified sites are unknown on the Plains until later, but Middle- and Late Woodland–period osteological data suggest increasing conflict. Initially, this does not appear to have been widespread: substantial samples of excavated Middle Woodland burials from mounds and ossuaries on the central Plains and along the Missouri River in the Dakotas show no unambiguous cases of battle trauma (Neuman 1975; Phenice 1969). However, this may be misleading; there are hints of violence in Sonota-complex mortuary samples along the Missouri River. Bass and Phenice (1975; also see Olsen and Shipman 1994) note that the vast majority of marks on this material relate to the preparation of bodies for burial, but they also record at least two healed cranial wounds, an example of apparent decapitation, and a green-bone ulna fracture (possibly a parry fracture) on an adult male. One adult male in the Truman Mounds, associated with pottery that is of either Middle or Late Woodland age, had a broken projectile point in his rib cage (Neuman 1960). Neuman (1975) also describes a series of worked human mandible and maxilla fragments from Boundary Mound that are effectively identical to objects in Hopewell sites to the east, and Seeman (1988) makes a strong case that these eastern objects are trophies taken from defeated enemies. Scalping marks on crania from the

Hanging Valley site in western Iowa indicate fairly unambiguously that the Middle Woodland Great Plains were not universally peaceful (Tiffany et al. 1988). More dramatically, a Middle Woodland–age burial of three individuals in a single pit at the Sullivan-Carpenter site in western Oklahoma includes one individual who was decapitated and two others killed by dart points that remained embedded in their bodies (Boyd 1997:255).

It is difficult to be sure that this represents a real change in patterns of conflict on the Plains: as just noted, samples of human skeletal material are rare in most parts of the region prior to the Middle Woodland and persistent low levels of violence might simply have become visible around AD 1 because of a substantial increase in the number of known burials. But the available data suggest, at least, that small-scale raiding occurred on the northeastern edge and southern portion of the Plains by the Middle Woodland and that this raiding involved trophy-taking, at least in the form of scalping and possibly also in the taking of heads or portions of skulls.

If changes in warfare are sometimes ambiguous across the transition to Middle Woodland times, though, they are not at the transition from Middle to Late Woodland. This period has produced a smaller sample of burials but dramatically higher frequencies of violent death: interpersonal violence became much more widespread and much more common after about AD 400, during Late Woodland and transitional (or possibly early) Plains Village times. In some areas, violence may have developed gradually. On the northwestern Plains, burials dated to the earlier part of the interval (primarily Scheiber's [2008; Scheiber and Gill 1997] Woodland burials) bear few marks of combat. Two adult male burials at the Benick Ranch site in Wyoming (with calibrated radiocarbon ages between AD 400 and 700) show evidence of violence, including a V-shaped cut on the right frontal of one and two depressed cranial fractures on the other (Davis and Miller 2008). However, 17 percent of burials later in this period (the earlier group of Scheiber's [2008] Late Prehistoric burials) have embedded points, most spectacularly one burial in Wyoming with 14. The only Avonlea burial known in Canada, the Bethune burial (Dawson and Walker 1988), is an adult male who sustained and recovered from a serious fracture to the area of his left eye, the area of the head most often struck by right-handed attackers. On the northeastern Plains, the Bahm, Blasky, and Fordville mounds produced evidence of scalping, and a woman in the Jamestown mounds has a projectile point in her lower back (Owsley 1994; Snortland 1994; Williams 1994).

Arrow wounds are very common in burials of this age in Texas and adjacent areas (Boyd 1997), including in the Loeve-Fox site, an Austin-phase cemetery

in central Texas where 6 of 24 individuals were killed by arrows, all of them shot in the back (Prewitt 1974) and a mass burial at the McCutchan-McLaughlin site in eastern Oklahoma (Powell and Rogers 1980). Chronologically ambiguous burials that are likely, but not certainly, of this age in central Texas also show removal of the hands and feet, embedded projectile points, and missing mandibles, these last apparently taken as trophies and sometimes apparently worn as pendants (Boyd 1997:280–281). Milner's (2005) observation that the frequencies of arrow wounds substantially underrepresent rates of combat mortality implies that these data indicate extraordinarily high rates of violence in at least some parts of the Plains, and the McCutchan-McLaughlin burial suggests that the scale of this violence may have increased from small-scale raiding to somewhat larger-scale attacks, at least in the south.

The appearance of Ceremonial-tradition rock art in the region from western Kansas and eastern Colorado northward well into Alberta underscores this shift. Ceremonial-tradition art is fairly diverse, but it commonly depicts human beings holding large, decorated, circular shields and, often, weapons (Keyser 2004a:58–61, 81, 93–97; Keyser and Klassen 2001:191–221; Ray 2007). Rock art is always difficult to date, but Ceremonial-tradition art includes at least one depiction of an individual with a shield, atlatl, and darts. People on the northern and northwestern Plains used dart points (e.g., Besant points) well into Late Woodland times, and this image could be of that age or older. Bows are far more common in this art, though, implying that most of it dates from the Late Woodland through Euroamerican contact; the most recent shield-bearing warriors depicted using the artistic canons of this tradition carry flintlock muskets and ride horses. Most of the weapons that artists depicted in this art—for example, spears, bows, and clubs—could have been as useful in hunting as they were in war, leaving interpretations of them in non-combat scenes potentially ambiguous. However, shields have no use other than protection in combat, and Sahkomaupee's account of pre-horse/pre-gun warfare on the northern Plains documents this use unambiguously (Keyser recounts his story [chapter 3,this volume; also see Keyser 2004a:9–10], which Sahkomaupee originally told to David Thompson in 1787).

In the aggregate, images of shield-bearing warriors on the Plains document offensive and defensive weaponry (bows and arrows, lances, clubs, and maces for attack; body-sized shields for defense) and battle formations (lines of warriors protected by shields, for example), and they sometimes show warriors in the midst of combat (see Greer and Greer, chapter 2, this volume; Keyser, chapter 3,this volume). However, two aspects of this imagery take us beyond simple description. The first is the undoubted evidence that warfare was socially and

ideologically important to western and northwestern Plains hunter-gatherers. Organized shield lines suggest some kind of organized approach to combat, and recurrent associations among specific shield heraldry and other depictions may imply the relatively ancient existence of warrior societies similar to those known on the Plains during the eighteenth and nineteenth centuries (Keyser and Kaiser 2014; Keyser and Poetschat 2014; Ray 2007). Depictions of pre-Contact warriors counting coup suggest that this component of male status has pre-Contact roots as well. Similarly, Ceremonial-tradition art appears to show warriors seeking spiritual power and calling on it through their shields in combat, power that is likely symbolized in the images on their shields.

Second, though, Ceremonial-tradition art likely has its roots in Woodland times, but it clearly persists throughout the subsequent Plains Village period and into the earliest years of Euroamerican contact, and it changes over this interval (especially see Keyser, chapter 3, this volume). Ceremonial-style art appears to have become much more common after about AD 1000 or 1100, at the same time that settled farming spread onto the Plains. Furthermore, after the mid-1400s, when farmers along the Missouri River and elsewhere aggregated into large and fairly heavily fortified towns (see below), the people who created Ceremonial art began increasingly to show warriors armed with shock weapons such as clubs and lances rather than bows, and increasingly depicted these warriors in group battle formations. Scenes of actual combat appear to date late in the period leading up to the appearance of Europeans on the Plains.

These changes mirror shifts in evidence for social violence in other parts of the Great Plains. The least ambiguous evidence for warfare on the Plains appears in sedentary horticultural sites, as it does in many parts of the world. This may not mark a real increase in violence, for reasons of archaeological visibility that I noted earlier, and as the remarkable rate of arrow wounds in Late Woodland contexts in some areas indicates. Nevertheless, settled horticultural communities (Plains Village communities) appeared throughout the eastern portions of the Plains and, in many cases, visible mortuary practices make it possible to assess variation in levels of violence among Plains farmers more accurately than among Plains hunter-gatherers.

Measured by fortifications and osteology, the earliest horticulturalists on the Plains (Great Oasis groups in northwestern Iowa and adjacent areas; Lensink and Tiffany 2005) were relatively peaceful: their communities were open and unfortified and the burial samples studied to date show only a tiny handful of individuals with evidence of violence (Schermer 2003; Tiffany and Alex 2001). However, this changed dramatically along the Middle Missouri

and the lower James River in South Dakota and along the Missouri and Little Sioux Rivers in northwestern Iowa (Mill Creek sites), during the twelfth century, with the appearance of large, compact, fortified communities. Between roughly AD 1100 and AD 1300, farmers in these areas came together to form much larger and more compact or densely packed communities than in earlier times, and often fortified these communities with varying combinations of palisades, ditches, and steep natural topographic features (archaeologists refer to these communities collectively as "Initial Middle Missouri" and, after AD 1200 in more northern areas, "Extended Middle Missouri"; see Johnson 2007a; Mitchell 2013). At least some of their Late Woodland neighbors who had not yet taken up farming fortified themselves as well (Ahler 2007). Excavations at one Initial Middle Missouri site—the Fay Tolton site in South Dakota—produced graphic and unambiguous evidence of a massacre that appears to have terminated occupation at the site; certainly, the victims of this massacre were never formally buried and occupation of the site seems to have been very short (Hollimon and Owsley 1994; Wood 1976). There are reports of a similar pattern at the thirteenth-century Tony Glas site (Howard 1959; Johnson 2007a; Pringle 1998), but osteological evidence of this remains unpublished. Apparent trophy skulls in at least one Mill Creek site (Hollinger 2005; Miller 1994) also suggest violence.

In contrast, horticultural communities were small, scattered, open, and unfortified on the central Plains of Kansas and Nebraska during the eleventh through thirteenth centuries, and archaeologists have generally seen peace in this area during this time. However, Blakeslee (1999) has compiled osteological data, much of it from excavations early in the twentieth century, that suggest widespread violence, albeit probably low-level violence, most clearly indicated by evidence of scalping. However, he also notes unpublished, and unspecified, evidence that at least one structure near Omaha that was excavated in the early twentieth century contained the cannibalized remains of an uncertain number of individuals, as Gilder (1913) suggested long ago (also see Hollinger 2005). There are few examples of curated human remains from the Plains that highlight more clearly than this one the immense gap between the argument that research on such remains offers important insights into human history and the meager insights that have actually found their way into the published literature. South of Kansas onto the southern Plains, horticultural communities of this age show a pattern similar to that on the central Plains, with occasional examples of violent death (Brooks 1994; Brues 1957), and some of the Late Prehistoric I hunter-gatherer casualties on the southern Plains noted earlier probably date to this period.

After AD 1300, and especially after AD 1450, violence in at least some parts of the Plains appears to intensify. In the Middle Missouri, many sites of this age are large, compact, and heavily fortified. Bastioned defenses are common, the Helb site (Kay 1995) shows an entry through overlapping wall segments that appears to be a simple baffle gate like those at some Mississippian sites (e.g., Birmingham and Goldstein 2005), and encircling ditches are typically V-shaped (see, for example, Caldwell 1966; Kivett and Jensen 1976; Wood 1967). The people who built these features piled the fill from the fortification ditches on the inside of the ditch, as expected in a fortification, and at Arzberger (Spaulding 1956) and Huff (Wood 1967) also used the fill to raise the level of the ground surface within the bastions, perhaps to make it easier to fire from the bastion at attackers along the walls. Early in this interval, farmers abandoned northwestern Iowa and much of southeastern South Dakota (e.g., the lower James River valley) and there is evidence of substantial movements of people, including movements of central Plains groups into the Middle Missouri (the Coalescent tradition in archaeological terms) and movements of Oneota groups into western Iowa and southeastern Nebraska from adjacent areas of the Midwest (Pugh 2010; Ritterbush 2007).

Away from the Middle Missouri, though, fortifications are absent, with war implied by such evidence as scalping at the Sargent Ossuary and in Nebraska-phase and St. Helena sites in northeastern Nebraska, embedded arrow points in skeletons at Andrews Lake in western Texas, dismembered bodies and trophy skulls at the Footprint site northwest of Amarillo, five beheaded and otherwise dismembered bodies in a single grave at the Dillard site in Texas, and arrow wounds in a handful of skeletons in Plains Village sites in Oklahoma (Bovee and Owsley 1994; Collins 1968; Lintz 1986; Martin 1994; Miller 1994; O'Shea and Bridges 1989; Owsley et al. 1994). Embedded points are particularly common in later Late Prehistoric burials on the northwestern Plains (Scheiber 2008; Scheiber and Gill 1997). At least one Puebloan community (Bloom Mound) near Roswell, New Mexico, which apparently served as a middle point in trade in bison between the Plains and the Southwest, was burned at this time. Excavations there have revealed unburied bodies as well as deliberate interments of noncombatants (including infants) with clear evidence of violent death and mutilation (Speth 2005; Speth and Newlander 2012).

The Crow Creek site in central South Dakota overshadows every other site of this age on the Plains in this context. Farmers left a complex record of occupation at Crow Creek spanning centuries (Bamforth and Nepstad-Thornberry 2007a; Kivett and Jensen1976). Initial Middle Missouri farmers founded what was probably a large community at the site during the eleventh

century, although we know relatively little about this early settlement because subsequent occupation buried it under as much as 2 m of midden. By the 1300s, a Coalescent group occupied Crow Creek, initially founding an unfortified town but later enclosing it with multiple bastioned fortification lines. Excavation in one of these revealed the skeletons of roughly 500 men, women, and children, apparently the victims of a massacre that took the lives of virtually everyone who lived at the site (Willey 1990). I return to this event below, but for present purposes it highlights both the real danger of violence on the Plains and the scale of the combat that could occur in at least some parts of the Plains within the last millennium.

Where we have sufficiently fine-grained chronological evidence to look, these data imply that the frequency of fortifications and combat victims varied in space and in time: violence was widespread but not constant. By the mid-1400s and later, though, horticultural communities in at least some regions (particularly the Middle Missouri) were fortified extremely frequently, as were some hunter-gatherer sites on the northeastern edge of the Plains (Michlovic 2008). On the central and northern Plains, this continued into the Contact period, but most recent horticultural sites in the south were generally open and unfortified until after Euroamerican contact. The principal exception to this is in the westernmost group of Great Bend (ancestral Wichita) communities in Kansas and in related communities south and west into the Texas Panhandle. Features called "Council Circles" in fifteenth- and sixteenth-century Great Bend sites are identical to fortifications built by the colonial-period Wichita (Drass et al., chapter 8, this volume) and likely served similar purposes (not always successfully, as dismembered bodies in one of them suggests; Baugh 2007; Wedel 1967). To the south, large circular enclosures built at the same time suggest a similar sense of danger (Baugh 2007). The geographic distribution of these suggests danger from the west, most likely from Apachean bison hunters on the western Plains. Coronado's conversations with the occupants of Pecos pueblo in 1540 indicate that Plains groups were quite willing to attack their southwestern neighbors (Hammond and Rey 1940) and we should assume they were equally willing to attack other Plains groups, but archaeological evidence of this is not obvious. Pueblo groups, well organized for conflict after some 300 years of intensive war (LeBlanc 1999), generally repelled these attacks but remained wary of their Plains neighbors.

The appearance on the Plains of Europeans like Coronado had two particular effects for our purposes. As the Pecos case illustrates, it provides written documentation of direct observations of conflict that can underscore the limitations on purely archaeological data. For example, Obregon's *Historia*

observed in 1584 that Pecos "is enclosed and surrounded by a palisade, large houses, and by rows of walks which open out to the country. Here they keep their offensive and defensive arms, bows, arrows, shields, lances, and clubs" (Hammond and Rey 1928: 18). This suggests that warriors at Pecos left their weapons in a constant state of readiness and easy access, as if they might be needed at any time. This habit is consistent with a more or less constant state of danger but would almost certainly be invisible in the archaeological data.

Second, though, the appearance of Europeans (and, later, Americans) changed the conditions of life on the Plains. Europeans brought war with them—often, particularly in the case of the Spanish, utterly unprovoked and spectacularly brutal war—and written histories from the sixteenth through the nineteenth centuries offer a well-documented litany of conflict between indigenous people and in-migrating whites. But whites also altered the relations among indigenous groups, by creating differential access to technology that shifted previous military balances of power, by introducing new and valued trade goods to the region and thus fostering competition for access to these goods, and by actively recruiting particular groups to fight against those groups' traditional enemies (Lewis 1942; O'Shea and Ludwickson 1992; Secoy 1953). The slaughter in 1873 of some 70 Pawnees in a surprise attack by Brule and Oglala warriors at Massacre Canyon in southwestern Nebraska is among the best-known examples of interethnic violence linked to processes like this, but it was simply one of many such attacks by many groups (Riley [1973] recounts this event and the pervasive smaller-scale violence immediately preceding it). Movements of social groups from their traditional territories into the territories of their neighbors as the American frontier moved west also fostered conflict: many groups entered the Plains essentially as refugees fleeing attacks that have been recorded by both documentary and archaeological evidence (e.g., Wood 1971).

Euroamerican contact also altered the role that warfare played in indigenous society on the Plains. Plains anthropologists have long recognized the importance of small-scale raids to get horses once these were widely available and the accompanying strengthened connections between valor in combat and male status (Ewers 1975; Keyser 1979). Northern and northwestern Plains rock art offers a particularly graphic record of this process of change (Greer and Greer, chapter 2, this volume; Keyser 2004a, chapter 3 in this volume; Keyser and Klassen 2001). Raids for horses often resulted in violence, although raiders worked hard to take horses without being detected. However, direct links to important aspects of the Euroamerican economy also drove violence on the Plains, and in some cases did so directly and inevitably. Some of this violence

involved competition for access to the fur trade, especially after traders moved out of native communities and established their own trading centers (Fenn [2014] discusses the effects of changes like these on the Mandan). This must also have led to competition among tribes for beaver and for bison-hunting territories, the latter important both because of the economic importance of the trade in hide and meat and because of its direct subsistence importance, as Newcomb (1950) argued long ago.

But if this component of postcontact economic activity *contributed* to war, other components *required* it. Plains groups—especially, but not only, the Comanche of the southern Plains—forged economic relations with their white neighbors by the eighteenth century that moved large numbers of slaves and stolen domesticated animals, the former captured both from Mexico and from other native Plains communities. Furthermore, increased involvement in trade with the Spanish, French, and Americans in meat and hides and greater dependence on large horse herds greatly increased labor demands among groups like the Comanche, demands that they met by taking slaves for themselves as well as for trade (Brooks 2002; Hamalainen 2009). And there may be a much deeper history of this on the southern Plains and perhaps elsewhere. Habicht-Mauche (2000, 2008) suggests that fifteenth- through seventeenth-century pottery in west Texas and eastern Oklahoma that is made from local clays but in styles linked to Pueblo groups in the Southwest and Caddoan groups to the east was likely produced by captive women from those areas. Perhaps more intriguingly, bone-chemistry data from women in thirteenth- and fourteenth-century Antelope Creek sites in roughly the same region document variation in diet consistent with the possibility that some individuals were outsiders (Habicht-Mauche et al. 1994): slavery, or at least captive-taking, may have a deep history on the Plains.

There is an archaeology of postcontact war, and it tells us both how much archaeological data can show us even about well-known events and also how often we lack those data. Fortifications around eighteenth- and nineteenth-century towns on the Middle Missouri reflected the need for defense, and documentary evidence leaves little doubt that this need arose especially, although not exclusively, from attacks by the Lakota. We know of one such attack in stark detail: the Larson site, an Arikara town in South Dakota, appears to have been overrun and its inhabitants killed and mutilated during the late 1700s (Owsley et al. 1977; also see Sundstrom, chapter 4, this volume). An increase in the frequency of evidence for scalping in eighteenth- and nineteenth-century Arikara skeletons relative to earlier periods also implies increased violence against this group (Olsen and Shipman 1994; Owsley 1994). Archaeological

work on known battlefields related to Indian/white conflict has brought interpretations of specific events more in line with the reality of those events (Fox 1997; Scott et al. 1989, 2011; McDonald et al. 1991). Field investigations support Cheyenne, not military, accounts of the route Dull Knife's Cheyenne band took in their escape from captivity at Fort Robinson in 1879 and suggest that both Indians and cavalry distorted events in fighting along the North Platte River in 1865. Most spectacularly, archaeological data strip away all vestiges of a glorious or romantic "last stand" at the battle of the Little Big Horn, leaving a story of terror and slaughter.

There is thus structured spatial and temporal variation in war on the Plains. Data on very early periods of occupation are too few to say much, but, at least within the last 2,000 years, the aggregate evidence for war concentrates first in the southern and northwestern Plains and, slightly later and more spectacularly, in the Middle Missouri area. Problems of archaeological visibility make it difficult to compare mobile and sedentary groups, but the history of sedentary communities suggests that violence was most pervasive and destructive in the north and that communities in many areas defended themselves more and more frequently over time, particularly after the mid-1400s. Warrior imagery in hunter-gatherer art likely shows a similar pattern of change, with its post–fifteenth century emphasis on shock weapons and compact shield lines suggesting fairly large-scale battles, perhaps with their horticultural neighbors, perhaps with each other, and perhaps with both of these.

We can also see some of the organization and effects of war on the Plains. The scattered evidence of combat injuries in hunter-gatherer graves suggests a pattern of intermittent small-scale warfare, perhaps like the one that Lekson (2002) refers to as "raiding and feuding" in the early Puebloan Southwest; arrow wounds in the back particularly indicate this. Patterns of horticultural site fortifications, though, imply larger scale combat. But these patterns also imply variation in this among regions and over time. Definite fortifications are relatively rare on the southern Plains until recent times, as are densely nucleated communities. Instead, sites in the parts of the southern Plains with the clearest evidence for violence—the Antelope Creek area and Puebloan sites like Bloom Mound—are almost all fairly small, with some larger sites located in difficult-to-access locations like Landergin Mesa, although Lintz (2001) suggests that Landergin Mesa may have been a temporary refuge used in times of danger rather than a real residential center. Antelope Creek populations, then, spent most of their time in very vulnerable settings, as did other horticultural groups on the southern Plains, perhaps suggesting a relatively low probability of being attacked at any given moment; Solometo (2004)

argues that communities do not build defenses unless they expect more or less annual attacks.

This stands in stark contrast to the Middle Missouri, where obviously permanent communities defended themselves with fortifications ranging from a ditch and palisade across the neck of a steep promontory into the floodplain to elaborate bastioned walls incorporating *chevaux-de-frise*. The labor invested in these defenses in some cases is astonishing: the bastioned ditch and palisade at the Arzberger site are 2.5 km (1.5 mi.) long (Spaulding 1956). But the design of these fortifications developed over time, with more elaborate defenses, particularly bastioned perimeters, more common after AD 1300, contemporary with a substantial influx of migrant farmers from the central Plains. This pattern of change in fortifications implies a change in the kind of warfare in that region, perhaps particularly in the size of attacking groups: bastioned defenses are designed to prevent massed attacks from breaking down or setting fire to palisades (Keeley et al. 2007; Mitchell 2007), and the absence of such fortifications in earlier times suggests a different kind of attack, perhaps by smaller groups. Sites like Fay Tolton (Wood 1976; Hollimon and Owsley 1994) tell us that these were no less deadly than those in later periods, but this difference in scale suggests a different organizational basis for combat: it is one thing to mobilize 30 warriors, and quite another to mobilize 300.

WHY WAR?

> Comanches embraced battle and built vast hinterlands for raiding because their nation needed pasturelands, buffer zones, slaves, commodities, and commerce, but they did so also because their young men needed to prove their worth as providers and husbands. (Hamalainen 2009:269)

Understanding why people go to war is difficult even in recent conflicts, let alone in conflicts where we do not have direct access to the thoughts and motivations of the participants. This is particularly true because specific conflicts often arise out of specific local events, often personal events (insults, theft, etc.; Diamond 2008; Keeley 1996) that are invisible in archaeological contexts and also because war interrelates so complexly with so many aspects of human ways of life. Anthropologists specifically interested in Plains warfare have argued for a wide range of causes for social violence there (e.g., Albers 1993; Biolsi 1984; Bamforth 2006; Ewers 1975; Hamalainen 2009; Jablow 1951; Lowie 1963; Mitchell 2007; Newcomb 1950; Secoy 1953), focusing on such factors as unpredictable access to important resources resulting from historical

and environmental processes, the drive for male status, revenge, cultural attitudes toward outsiders, and competition for control over trade.

Anthropological debates over many topics often have much in common with the argument among the blind men who were each convinced that the particular part of the elephant they encountered could stand for the whole animal. Academic blindness in contexts like this tends not to distinguish between the variety of factors essential to making sense of human affairs and the particular research interests and experiences of individual scholars, and often confuses *explaining something about things* with *explaining things*. As this might suggest, the essential point is not that one or another of the "explanations" of Plains warfare is right and the others are wrong; it is that war is extraordinarily complex and that different explanations of it tend to be partial and context dependent. Different perspectives examine different parts of the elephant that is war, but none of them by itself accounts for the elephant as a whole.

And the elephant likely was not a static creature: the causes, organization, and consequences of social violence on the Plains shifted over time and in space. For example, Euroamerican expansion onto the Plains severely impacted bison herds, certainly exacerbating existing conflicts over access to hunting grounds. Similarly, Mitchell (2007, chapter 11 in this volume) notes that warfare in the Middle Missouri—the most spectacularly violent area of the precontact Great Plains—likely resulted from different processes at different times, perhaps reflecting competition for control of economic networks during the earlier and later periods of horticultural occupation and competition for land and other resources when new populations moved into the region during the fourteenth century. Furthermore, as the Comanche example above illustrates, specific material causes must constantly have interacted with social issues, ideology, and status, and these latter forces may sometimes by themselves have been enough to precipitate violence.

We can begin to grapple with this complexity by asking targeted questions about warfare on the Plains instead of trying to "explain" it as a single phenomenon. The strongest pattern in the data on Plains warfare is undoubtedly its increase over time and its apparent spike in frequency and scale in the last 1,000 years. There was violence on the Plains for millennia, but it increased, first, after AD 500 in the south and west and, second, after AD 1100 throughout essentially the entire region, especially in the Dakotas. What might account for this? This overall pattern parallels another long-term trend on the Plains: intensification of subsistence production (Bamforth 2013, n.d.). Plains hunter-gatherers first intensified subsistence production after 8000 BC in the south

and southwest by turning to hot-rock cooking of plants and after 3000 BC in the northwest by increasing labor investments in bison hunting (Bamforth 2011; Thoms 2009). Limited horticulture appeared on the eastern edges of the Plains after AD 100 and incorporated small amounts of maize in that area after AD 500, with settled maize agriculture appearing adjacent to the Plains after AD 1000 and spreading over large parts of the Plains after AD 1100.

The similarities in these trends suggest that they are related, and that one underlying material cause for collective violence on the grasslands is competition for resources, perhaps driven by long-term increases in human population. Population/resource imbalances are often manifest most clearly in bioarchaeological data on human health. However, as is true for osteological data on warfare, despite years of collection and analysis, there has been virtually no synthesis of bioarchaeological research on the Plains. However, the limited published information hints at increasing material stresses among hunter-gatherers in the south and west during the Late Woodland, consistent with a link between population/resource imbalance and violence: skeletal indicators of stress increased in the south at that time (M. Taylor 2001) and mean age at death dropped precipitously in the northwest (Scheiber and Gill 1997).

If this is correct, it underscores the importance of material forces in more specific conflicts on the Plains over shorter periods of time. Scholars have often argued that access to either stores of food or potentially productive pieces of the landscape controlled by other groups was important in Plains warfare as a result of unpredictable local access to critical resources caused by drought or the movements of bison herds. This argument fits well with Ember and Ember's (1992) classic analysis of cross-cultural data that linked warfare, at least in part, to unpredictable resource shortages. The fairly detailed record from the Middle Missouri over the last 1,000 years speaks most clearly to this. In this region, there is evidence that violence can be linked to droughts on a decade-to-decade scale: between AD 1000 and 1650, Middle Missouri sites appear to have been fortified during large-scale or extended periods of drought and unfortified in other times (Bamforth 2006). Stuart et al. (1981) make a similar argument for conflict between southern Plains groups and Spanish and Pueblo communities during the seventeenth and eighteenth centuries, arraying written records of attacks against droughts identified in tree-ring sequences.

The details of analyses like these are subject to the precision of our available chronologies and the adequacy of our paleoenvironmental data, though, and the Crow Creek example illustrates both of these issues. There are two radiocarbon dates on the Coalescent levels at the site, one on charcoal associated with the massacre victims (610 ± 55) and one on a burned post from a house

within the innermost fortification line (560 ± 75). Bamforth and Nepstad-Thornberry (2007a) incorrectly suggested that the charcoal from the first of these could have come from burned debris that was older than the massacre; in fact, it came from a hearth burned on the layer of clay that capped the bone bed. Regardless, though, these dates are statistically indistinguishable, and the standard errors for both of them fall directly on a plateau in the radiocarbon calibration curve that runs from roughly AD 1300 to AD 1400. Even their calibrated one-sigma ranges thus span fairly long periods of time. The two dates are statistically identical (t = 0.29, df = 2, p > 0.5), and their average spans a similar time range. The individual dates calibrate to a one-sigma interval of calendar years between AD 1305 and AD 1427 and a two-sigma interval from AD 1280 to AD 1452; their mean calibrates to a one-sigma interval from AD 1305 to AD 1403 and a two-sigma interval from AD 1293 to AD 1417 (Bamforth and Nepstad-Thornberry 2007a:table 1).

Osteological evidence for the nutritional status of the Crow Creek victims leaves no doubt that they had been malnourished for some time (Gregg and Zimmerman 1987), suggesting that they were killed during a drought (Bamforth and Nepstad-Thornberry 2007a:155). However, the paleoenvironmental data we relied on (Fritz et al.'s [2000] detailed analysis of lake sediments from North Dakota) showed evidence of major droughts in the late 1200s/early 1300s and the mid-1400s, within the two-sigma ranges of the individual and average dates. The archaeology of the Coalescent levels at Crow Creek is too complex to fit an attack in the first of these, and we suggested that the massacre is more likely to have occurred in the later of them. More recent work based on continent-wide data on tree rings (Stahle et al. 2007; Cook et al. 2010), though, documents a severe drought in the Middle Missouri in the late 1300s, comfortably within the one-sigma range of both dates, and this may perhaps be a more likely date for the massacre. The inherent ambiguity of radiocarbon dates that fall onto the fourteenth-century calibration plateau means that we need other kinds of chronological information if we are ever to obtain a precise estimate of the date of the Crow Creek massacre, although improved paleoenvironmental information can at least help to plausibly narrow the window around its likely date. In a larger context, though, the chronological ambiguity of the Crow Creek case exemplifies a problem for all analyses of Plains warfare that depend on precise control over chronology: in many cases, radiocarbon by itself simply cannot provide such control, and we have precious few well-developed alternative chronological tools at our disposal.

Changing settlement distributions in the Middle Missouri and adjacent areas also suggest that war in the north may have been linked to competition

for land: violence played a role in how communities gained and lost territory in at least some times and places. In South Dakota, in-migration of population from the central Plains after AD 1300 may have displaced indigenous horticultural groups, although this is not certain. This migration may have resulted from the combination of widespread regional drought during the late 1200s and the movement of substantial Oneota populations into parts of the central Plains from the adjacent Midwest at about the same time (Hollinger 2005, chapter 10 in this volume; Pugh 2010; Ritterbush 2006, 2007). Most recently, there is no doubt that hunter-gatherer groups on the Plains, most spectacularly the Lakota and the Comanche, drove other groups out of their traditional lands by force of arms during the Contact period and possibly earlier.

Furthermore, communities throughout the Plains relied on each other to provide the material basis for their existence just as they relied on themselves; especially in the Middle Missouri, but also elsewhere, settled communities served as critical nodes in economic networks that moved large amounts of goods over long distances (Brosowske 2005; Jablow 1951; Wood 1980). Mitchell (2007, chapter 11 in this volume) argues that competition for control of trade was important at several times in human history of the Plains, and there is little doubt that it drove violence there in the eighteenth and nineteenth centuries.

However, we know that material conditions are only one of the important forces that drive collective violence: war has ideological as well as material links. Ideology is difficult to see archaeologically, particularly in the archaeology of a region like the Plains, where societies were small-scale and obvious iconography is relatively rare outside of rock art. But there are telling hints of what we might be able to see if we look. Eighteenth- and nineteenth-century Plains warriors took scalps and other body parts from combat victims both as a way of achieving status and as a way of marking their victims in the afterlife. Mutilations at the Crow Creek site—scalping and removal of hands and feet, for example (Willey 1990)—anticipate in detail the kinds of mutilations known from more recent times, suggesting similar links between status, ideology, and war as early as the 1300s or 1400s, and I have noted above that scalping on the Plains extends at least as far back as the Middle Woodland. Keyser's (1979, 2004a; Keyser and Klassen 2001) analysis of rock art suggests that the link between war and male status may have developed especially in the centuries just prior to white contact and accelerated after that, although this art does unambiguously depict precontact hunter-gatherer combat (also see Keyser 2004a, chapter 3 in this volume; Greer and Greer, chapter 2, this volume).

But war and status may have been linked strongly among farmers before they were similarly linked among hunter-gatherers (also suggested by trophy

skulls at a Mill Creek village). It is interesting, though, that there is somewhat less evidence of mutilation on the Fay Tolton victims than at Crow Creek: the recent emphasis on taking these kinds of trophies and the quite formal relations between such trophies and male status may have developed as war became more common. With this in mind, the occasional recovery of isolated human bones in Central Plains-tradition sites is suggestive. We know that Plains warriors took body parts and displayed them in the short term (and, in the case of scalps, in the longer term). But we do not know much about how they disposed of those body parts when they were done with them (but see Owsley et al. 2007).

The clearest ancient archaeological linkages among war and male status that have implications for the Plains are evident in falcon-warrior imagery at the Caddoan Mississipian site of Spiro in eastern Oklahoma. Like other Mississippian elites, the elite at Spiro displayed symbols of warriorship prominently, implying that they were themselves warriors, or wanted to be seen as warriors. An engraved-shell depiction from Spiro of what looks very much like a Morning Star sacrifice (Hall 1997) also suggests a motive for at least a low level of raiding of neighbors. This makes it surprising that there is so little evidence of violence in Spiroan sites: although virtually all other Mississippian centers are fortified, Spiro is not, nor are other Caddoan Mississippian sites, and combat victims are rare or unknown in Spiroan cemeteries, also in contrast to many other Mississippian cemeteries (see, for example, Brown 1996).

Climate, subsistence, and ideology, of course, do not by themselves cause war or peace, although they often tip the scales in favor of one or the other of these. Patterns of socialization are essential to creating a heritage or ideology of war, and people go to war against someone. Violence can erupt in many contexts, but war requires a socially defined enemy. As we turn to these topics, we enter a domain where it is harder to say what we know and easier to say what we are not sure of.

WHO WAS THE ENEMY?

The Spiroan data raise any number of interesting questions, but they particularly turn us to the problem of "the Other." If the Spiroan elite defined themselves as warriors, who did they go to war with, and what groups elsewhere were responsible for the mayhem that is so visible in so many other times and places on the Plains?

Plains archaeologists have traditionally answered questions like this in terms of conflicts between archaeologically defined culture-historical taxa:

Antelope Creek people fought against Washita River people, Coalescent people fought against Middle Missouri people, and Oneota people fought against everyone. Like the widespread recognition of a link between Plains violence and resource shortages, this answer fits well with Ember and Ember's (1992) analysis, which also highlighted the importance of socialization for mistrust of outsiders. Violence across ethnic or cultural boundaries is well documented in North America, perhaps most spectacularly, and sometimes horrifically, between Inuit groups and their interior Athapaskan neighbors (e.g., Hoffecker et al. 2012:147; Melbye and Fairgrieve 1994). But this kind of inference on the Plains assumes a social reality to archaeological culture-historical units that we know is often unwarranted. The unit designated "Post-Contact Coalescent" in the Middle Missouri region, for example, certainly includes sites occupied by multiple social or ethnic groups who were at least intermittently hostile toward one another (Lehmer 1971) and the huge geographic extent and long temporal span of the occupations we subsume under the term "Oneota" suggest a similar pattern. Furthermore, inferring conflict between the kinds of groups that may be represented by archaeological traditions implies decision-making at a level somewhere above that of the individual community, suggesting a kind of pan-tribal organization for which we have no evidence.

Despite this, though, there are at least some large-scale patterns on the Plains that make sense in terms of well-known culture-historical units. Most clearly, Boyd (1997) notes a general concentration of victims of violence during Late Woodland and early Plains Village times along the area of contact between groups in the southwestern Texas and their neighbors to the north and east. These Texas groups show clear ceramic links to the Puebloan Southwest and not to the Plains, while their neighbors show the opposite, and this area may have been a border of some kind between mutually hostile groups. The absence of skulls and mandibles in central Texas burials of about this age (see, for example, Krieger 1946) also parallels the burial of isolated skulls and mandibles in some Caddoan centers in adjacent areas of the Southeast, perhaps indicating a similar pattern (Barnes 1992; Dial and Creel 2012). Indeed, skulls and mandibles at the Crenshaw site in Arkansas do appear to have been taken from nonlocal individuals (Schambach 2014).

However, the history of warfare in the Middle Missouri illustrates how complicated this issue can be. Defenses appear there by the eleventh or twelfth century and are scattered throughout the distribution of horticultural sites. In addition, sites just north of these early farmers, like Menoken (Ahler 2007; Krause 2007), occupied by hunters and gatherers, but with pottery clearly influenced by farmers, were also fortified. If the distribution of fortifications tells us

something about who was in danger, this suggests that anyone could be in danger anywhere along the river, possibly implying that these communities may sometimes have gone to war against each other. During the 1300s, though, outsiders moved into the Middle Missouri, and at least some sites shifted toward larger sizes and more complex fortifications. This is widely taken as evidence for conflict between indigenous groups and newcomers. However, the Oneota were also newly arrived on the eastern Plains at about this time, and Oneota sites show no known evidence of fortification, although some of them were very large and other evidence suggests that the western Oneota were as war prone as other Oneota groups (Hollinger 2005; Pugh 2010; Ritterbush 2006).

By the early 1400s, newly established horticultural sites in the Middle Missouri were open and unfortified, and patterns of ceramic variation suggest that there was substantial interaction among neighboring communities regardless of their ethnic identification (Ahler 1993; Bamforth and Nepstad-Thornberry 2007b). This changed again during the mid- to late 1400s, when many communities in the region aggregated into large, fortified towns, and some elements of ceramic design imply a significant reduction in interaction (Bamforth and Nepstad-Thornberry 2007b). At this time, along the Missouri itself, a cluster of sites in South Dakota corresponds to the distribution of the Caddoan-speaking Arikara observed by Europeans a century or two later. An empty area—perhaps a buffer zone—separates this cluster from a second cluster that corresponds to the Contact-period distribution of the Siouan-speaking Mandan and, later, the Hidatsa (Johnson 2007a; Mitchell 2013). This kind of site distribution and postcontact records of Siouan/Caddoan hostilities have suggested ethnic warfare between these two tribes. However, at exactly the same time, fortified hunter-gatherer sites like the Shea site appear on the northeastern edge of the Plains, possibly marking occupations by the ancestors of the Lakota (Michlovic 2008). We know that there were other hunter-gatherer groups to the west and north, in and around the Black Hills and northward into Canada, and it seems likely that these groups were intimately involved with the hostilities we can see to the east, as they certainly were during the eighteenth and nineteenth centuries. As I discuss above, Ceremonial art leaves no doubt that northwestern Plains hunter-gatherer groups went to war, and Walde (2006) argues that military resistance by northern Plains hunter-gatherers limited the northward expansion of Middle Missouri farmers, although there is little direct evidence for this.

But we might also wonder about alliances among social or residential groups including mobile hunters and gatherers. There is no doubt that cultural, adaptive, and linguistic differences did not prevent groups from joining together

to attack other groups on the Plains: to take only one example, European observers reported an assault on a Mandan town in 1796 by a combined force of Lakota and Arikara warriors; Hidatsa fighters came to the town's rescue (Lehmer 1971:177). Changes in the organization of violence over time would also have altered the social basis for constituting combat units: small-scale raiding and feuding, which may have been common over much of the Plains and which may have been more prevalent in earlier periods in the Middle Missouri, does not require the same number of attackers as massed attacks on strongly fortified towns with large populations.

Going beyond these possibilities can be difficult, but there are concrete lines of evidence that can be useful. To take only one, projectile-point styles and raw materials might provide some insights into who attacked whom in some cases. For example, the projectiles found in bodies in a mass grave at the Late Woodland–period McCutchan-McLaughlin site in southeastern Oklahoma were made from material that outcrops north and east of the site, material that is otherwise not present in the stone-tool assemblage there, suggesting that the victims were killed by attackers from that area (Powell and Rogers 1980). Similarly, projectile-point style and material suggest that the people who killed some of the Puebloan victims at Bloom Mound came from central Texas (Speth and Newlander 2012) and a scalped male at the thirteenth-century Nagle site in Oklahoma, apparently a member of a group from the east, had four arrow points in his abdomen, all made from Alibates agate, found to the west, in styles that are common to the west (Brooks 1994:319–320; Brues 1957).

THE PRESENT VOLUME

There are thus strong patterns in evidence for warfare on the Plains in time and space and much still to learn about the ways it developed and impacted human societies there. The chapters here help with this second effort at the same time that they often force us to look more closely at what we already know, or hope that we know. These essays fall into three general categories. The first examines records of warfare made by the people engaged in it, including nineteenth-century ledger art and pecked and painted rock art. The second examines fortifications, and the third considers the place of war in the larger social history of people on the Plains.

Triggers of specific attacks, particularly personal/emic triggers, are rarely evident in archaeological data, although active malnutrition of the victims at Crow Creek suggests that conflict at that site was linked to subsistence problems. However, the chapters here by the Greers (chapter 2), Keyser (chapter

3), and Sundstrom (chapter 4) on rock art and on records kept by northern Plains people in the eighteenth and nineteenth centuries offer insights into some of these issues. Continuity in the conventions and meaning of art on the northern Plains into the nineteenth and twentieth centuries makes it possible to interpret much of this art very specifically, as Sundstrom discusses, although these authors do not all agree with one another in all aspects of their interpretations. Regardless of these disagreements, these chapters document important temporal changes in patterns of violence (including weaponry, tactics, and the size of fighting units, all topics that Bleed and Scott [chapter 14, this volume] help to understand) at the same time that they give us critical insights into the reasons why Plains groups chose conflict over peace.

However, patterns in the emic evidence also highlight the difficulties of using self-representation to understand real human actions. The Greers address this specifically, pointing out that some aspects of war—capturing women, for example—are much less frequent in rock art than the events depicted in that art likely were in the past, and this kind of observation is probably true for more ancient patterns of conflict as well. For example, Ceremonial-tradition rock art (Keyser 2004a:58–61; Keyser and Klassen 2001:191–223) does not appear to focus on actual events—specific battles, for example, or captive-taking—despite the fact that such events must have taken place. In this case, warfare entered into the domain of life in which people produced rock art, but its depiction in that art reflects something other than, or in addition to, efforts to celebrate or record particular actions.

The distinction between what people did from day to day and what they chose to represent in ideologically charged art also implies that we need to temper inferences about preferred weapons and typical combat formations that depend on those artistic or ideological choices. Chapters here note that northwestern Plains rock art often emphasizes shock weapons like clubs and lances and, particularly in earlier periods, often depicts combat between massed warriors. We can see the outcome of combat like this at the Crow Creek site, where the majority of the massacre victims were killed by blows to the head (sometimes many more blows than would have been necessary to kill them). As I discuss above, though, archaeological data from the northwestern Plains, presumably linked to the same societies that produced this art, tell us that remarkable numbers of people died violently from arrow wounds, often wounds that were likely received in ambush. Locations where communities fought in large, massed groups may be poorly preserved in the archaeological record, but mortuary data leave no doubt that people died from other kinds of violence at rates that must have had serious demographic implications. Public,

presumably ritual, art does not celebrate this kind of violence, but osteological data leave no doubt that it must have been a major factor in people's lives.

Fortifications loom large in the essays in this volume, which raise central issues about how archaeologists have used this line of evidence in the past and what we can learn from it in the future. Most fundamentally, as LeBeau (chapter 6) discusses, we cannot assume that every ditch people dug on the Plains (or anywhere else) was a fortification. The long-standing debate over "council circles" (Wedel 1967) on the southern Plains illustrates this unambiguously (as Drass et al., chapter 8, point out here), but this is true in all times and places. This is particularly important here because both Drass et al. and Schroeder (chapter 9) document variation in fortification design that goes beyond the range that most archaeologists expect to see. The strong cross-cultural similarities that Keeley et al. (2007) document for defensive architecture suggest that there ought to be a limited array of ways to build effective fortifications, but the data from these chapters challenge this in some ways. It is not clear whether this variation reflects the time or materials available, specific defensive tactics, experimentation with defensive architecture, or some other factors, but the simple fact that it exists underscores LeBeau's basic point.

Dye (chapter 5, this volume) and Vehik (chapter 7, this volume) also push our approaches to fortified sites in important new directions. We often note that fortifications are costly to build, but we rarely focus on the ongoing costs of maintaining them. Dye's discussion of this has obvious implications for resource use on the wood-poor Great Plains, and the need for ongoing maintenance of ditches and palisades has social implications as well. Assessing the condition of palisades and other defensive works and organizing labor to repair them offer opportunities to aspiring leaders and help to make concrete the links we often hypothesize between warfare and the development of social differentiation. Perhaps most important, though, Dye's contribution should focus us on the implications of the enduring presence of fortifications once they are built. We should remember that the simple existence of defensive architecture provides a constant reminder of the possibility of future violence. This, in turn, underscores the experiences and memories of individuals who participated in past violence at the same time that it requires a continuing labor investment. In long-lived communities, walls may stand for decades even in the absence of attacks, with people refurbishing them when needed. At Cahokia, people refurbished their defenses during drought intervals (Benson et al. 2009), apparently taking care to be sure that they remained effective while repairs were in progress, as Dye discusses. In contrast, the occupants of the Crow Creek site allowed their ditch to fill with trash and may have

substantially dismantled their palisade in the course of building new defenses, and this may have played a role in their defeat.

In this context, Vehik's chapter challenges us most of all. Most fundamentally, her arguments from the literature on military theory make it clear that the absence of archaeologically visible fortifications, often taken as evidence for peace (e.g., Bamforth 2006), does not by itself tell us that communities felt no danger of attack. In some cases it certainly does mean this, but, as Vehik shows, in others it simply means that these communities did not believe that they were in danger of an attack by overwhelming numbers, with "overwhelming" perhaps implying a ratio of attackers to defenders of 3 to 1 or higher. But this is not a simple cautionary tale about problems with the way we see war: when we have other evidence for collective violence, the absence of fortifications tells us about the scale of combat. To take a single example, we see clear fortifications in horticultural sites on the southern Plains very late in time, but there is undoubted evidence of combat in burials centuries earlier, and some sites (e.g., Landergin Mesa) may have served as local refuges. Overall, this pattern suggests a real risk of attack, but not necessarily of an attack by a large force. As Mitchell (2007, chapter 11 in this volume) notes in reference to fortification design, arguments like Vehik's help us to delve more deeply into the organization and logistics of collective violence.

The final group of chapters shifts focus from the details of studying war to larger issues of how and why Plains groups and their neighbors fought and how fighting affected people's lives. Both Hollinger's (chapter 10) and Clark's (chapter 12) essays emphasize regional rather than site-specific analyses, conceiving the "region" at very different scales but showing at both scales how war was woven into both the distributions of human settlements and the social relations among them. Clark's analysis requires contemporaneity among sites in his time periods that, as he notes, may not always be exact. However, his results suggest alliances both within and between linguistic groups, and his data on the shifting locations of fortifications within his study area have important implications for understanding patterns of conflict and cooperation. Hollinger's history of Oneota expansion and contraction documents how central warfare can be in the long-term history of a social group. We need to remember the blind men and the elephant—a variety of social, ideological, and material factors conditioned the choices that Oneota communities made (Theler and Boszhardt 2006). However, Hollinger's argument that collective violence was an integral part of the long-term development of Oneota society emphasizes again why our analyses of the human past need to attend to war as often as they attend to subsistence, political development, and religion.

Mitchell's arguments in chapter 11 about the underlying causes of war in the Middle Missouri area have similar implications. On one hand, they focus us on the diversity of these causes: as alluring as explanations for violence that focus specifically on subsistence factors are to many of us, we all know that the world is too complex to suppose that such factors offer a "complete" explanation. But the elephant matters here as well. Mitchell's discussion focuses on the general cultural context within which we see evidence for war in the Middle Missouri, and there is little doubt that, at the chronological level of his analysis, it is closely associated with the development of large-scale trade networks. In fact, the evidence for this may be stronger than he asserts. He notes the strong link between trade and evidence of war in Initial Middle Missouri communities in northwestern Iowa and adjacent areas of South Dakota. However, exactly contemporary communities in eastern Nebraska, southwestern Iowa, and the Kansas City area (Central Plains–tradition Glenwood, Nebraska phase, and Steed-Kisker sites) show undoubted eastern (Cahokian) ceramic links but little other evidence of exchange, and these sites are small, dispersed, and unfortified. Vehik's chapter implies that this does not guarantee that these groups never fought and I note osteological evidence of violence in these sites above. However, this pattern indicates at least that Central Plains–tradition communities did not worry about the kind of massed attacks by large numbers of warriors indicated by Initial Middle Missouri–tradition defenses. But I noted earlier that fortifications stand whether a community is under attack or not; being prepared for war is not the same as actually going to war. Intercommunity violence linked to control of trade networks may always be imminent, but the timing of actual attacks was likely triggered by some combination of personal factors (see Diamond 2008) and/or material forces like subsistence stress. And Kendall's chapter (chapter 13) on scalping patterns at the Crow Creek site offers an important reminder of the complexity of human motivations and actions in the context of war. We often note the presence of osteological evidence for post- or peri-mortem mutilation, but we do not often consider in detail what it tells us. Kendall's careful analysis documents subtle age- and gender-linked patterns of scalping that force us to consider in more detail issues of status and belief, albeit issues that are difficult to address in detail.

Understanding how communities went to war has important implications for the integration of warfare into Plains history and society, although archaeologists rarely discuss combat tactics and strategies in detail (Scott and McFeaters 2011). However, like Vehik, Bleed and Scott (chapter 14) turn to military theorists to show how the systematic analysis of the practice of war illuminates two closely related battles between the Cheyenne and the

US Cavalry for which we have both written and archaeological documentation. Their focus is specifically on battlefield archaeology and they use military perspectives to make sense of patterns visible in that particular context. Identifying battlefields that we cannot document in the written record is difficult, and many battles in the Plains past (although certainly not all of them) appear to have been fought in and around settled communities. The evidence from these fights that we might make sense of in Bleed and Scott's framework in many cases therefore will be commingled with the remains of everyday life and may thus be difficult to see. But the conceptual basis of their analysis is widely relevant nevertheless. To take just one example, they note that different kinds of weapons select for different kinds of battle formations, implying that we can better understand the organizational implications of persistent warfare by considering both the kinds of defenses people built, as archaeologists have observed, and also the kinds of weaponry used by combatants. This has important implications for understanding the implications of the kinds of evidence documented by the chapters in sections 2 and 3 of this volume. Finally, studying war on the Plains, or anywhere else, matters because of what it tells us about war and peace in human societies in general. The chapters here have implications for this larger discussion and for the practice of archaeology on the Plains. Chapter 15 closes the volume by considering these larger issues.

CONCLUSIONS

What, then, do we know? Warfare has deep roots on the Plains, although it is not clear exactly how deep. But, if it was always possible for Plains people to go to war, we know that they did not always do so, and we know that, when they did, they did so in different ways in different times and places. Issues of archaeological visibility put limits on some of what we can say, but, even so, combat victims appear to be more common in the southern and northwestern Plains than elsewhere during Woodland times and evidence for large-scale violence is clearest and most pervasive in the northeast during Plains Village times. Furthermore, there may have been variable links among social standing, ideology, and violence over time and space, but there is evidence that, whatever these links might have been, violence often erupted during times of material stress.

Archaeological attention to warfare is trendy. For decades, archaeologists substantially ignored and downplayed the existence of organized violence in all but the most obvious cases. However, since the publication of Keeley's *War before Civilization* in 1996, we have discussed it more and more. Plains archaeology, though, is notoriously resistant to ephemeral intellectual trends;

our tribe has always understood that war was important. Plains warfare cost lives, sometimes many, many lives, and it cost effort, sometimes immense effort, to try to keep from paying that cost. We know that in very recent times Plains warfare was bound up with society in many ways. Although we need to be careful of assuming the social reality of our culture-historical taxa, it is true that there is evidence that conflict may be linked to in-migration of new groups and to patterns of extraregional economics and other interactions, as well as to fluctuations in material conditions. Many of the socially distinct horticultural groups recognized on the Plains at Contact, including those along the Middle Missouri and groups like the Pawnee, appear to have taken on something like their Contact-period form in the late 1400s, at the same time that fortifications became most elaborate and particularly widespread. War thus appears to have been part, and perhaps a very important part, of the process of ethnogenesis that helped to define these groups. War, and the possibility of war, mattered in the lives of the people we study, and looking at it in detail ought to matter to us as well.