The archaeology of prehistoric conflict is in the middle of a boom. A rapidly growing literature on the subject, in which several different theoretical approaches are emerging, demonstrates that North American archaeologists are thinking and talking about prehistoric warfare more seriously than ever before. Do they stand to gain fruitful insights or cross-fertilizations from merging with "conflict archaeology" as it is currently pursued, or at least from building bridges between the two fields? Yes and no. First I would like to briefly outline some differences between these traditions and explain why, to my mind, the distinction between them is justified. Then I would like to make the case that while American anthropological archaeologists should not adopt the aims of conflict archaeology, they can still draw inspiration from its realm of expertise.

Why I Am Not a Conflict Archaeologist

As Carlson-Drexler points out in the introduction to this section, conflict archaeology is rooted in the archaeological study of historic battlefields, and, for better or for worse, it is aligned more closely with military history than with anthropology. Military history has always had a close relationship with military planners and decision-makers, who seek to draw on the lessons of past conflicts to improve their strategies for war and their performance in battle in the present. This means that military history focuses on the decisions of leaders and commanders, the scenes and events of combat, and the movement of war parties or armies, rather than the broader field of actions, structures, and social dispositions related to war. When military historians examine change over time, they particularly emphasize the "how" of war: military technology, strategy, tactics, military organization and logistics. These topics, beloved by the armchair aficionado of war history, constitute what I think of rather flippantly as the "History Channel" vision of war (figure 1).

Out of the broad sweep of human history, History Channel producers reliably devote the most airtime to military themes, consisting mainly of specific battles. Military technology also finds frequent airing, with shows such as Heavy Metal: B-17 Flying Fortress.

In 1937, the Boeing Aircraft Company built America's first all-metal, 4-engined heavy bomber—the legendary B-17 Flying Fortress. Taking on the worst the Luftwaffe offered, the 8th Air Force's Flying Forts flew daylight bombing missions over occupied Europe's most heavily defended cities. This is the story of the young airmen of the "Mighty Eighth" and the dangers they faced at 30,000 feet! (History Channel website, http://www.history.com/schedule.do, accessed 3/27/09)

I hope I am not being too cavalier when I suggest that even the scholarly literature in military history partakes in something of this flavor: despite somber statements about the grave toll of war, it faintly evokes the excitement of a small boy with a new set of toy soldiers.

From the perspective of mainstream American archaeology, this kind of branding is unfortunate. It confines "war" as a field of study to actual combat and its tools, rendering it less interesting to those of us who are not avid History Channel watchers, and obscuring how important war is and was in all human affairs. In other words, it does not conceptualize war in social terms. For conflict archaeology, the military history orientation has meant a close practical focus on fields of battle and military movement, and a rather narrow theoretical emphasis on military success or failure, advantage of terrain or numerical weakness, tactical superiority or inadequate weaponry.

The burgeoning number of American archaeologists working on prehistoric conflict have not adopted the term "conflict archaeology" or any other label. Perhaps that is for a good reason. The great majority of us think of ourselves as anthropological archaeologists. We construe "war" broadly to encompass its many phases (Vayda 1976) and many links to other realms of society and culture. We may study tactics and technology, military organization and logistics, but tend not to think of them as the final or main aim of study. Instead, a variety of ultimate questions occupy us, often with some cross-cultural applicability. What caused episodes of especially frequent or brutal warfare? How was war related to the emergence of sociopolitical complexity and the expression of...
social hierarchies? To collapse? To the making of alliances and trade networks, and the dynamics of elite factions? How did an environment of violent threat affect the way people structured their social relationships, made a living, conceptualized their social identities, and interacted with the supernatural realm? How did armies or warrior organizations articulate with political and religious hierarchies in complex societies? How did warfare and the creation of durable defensive landscapes affect the use of the land and the meanings attached to the land? How did women's versus men's lives, work, and gender identities relate to war? How did war shape culture, and how did culture shape war? So far, the lack of a label for this new field has not proven a hindrance in any way, but has allowed it to flourish and explore multiple avenues of inquiry.

Nevertheless, in the pursuit of questions such as these, there is certainly a place for tactics, military technology, military organization, and logistics. And because we are trained as anthropologists and archaeologists rather than soldiers or military historians, we are often woefully ignorant about such topics. Without adopting the relatively narrow aims of conflict archaeologists, it would serve us well to understand better how those nitty-gritty, History-Channel details of war really did have crucial repercussions for society and social change. For instance, specialized forms of weaponry trace the emergence of hand-to-hand combat and organized militias under chiefly control in late Neolithic Europe (Vened 1999). The history of the ancient Near East was closely bound up with the problem of supplying massive quantities of grain to huge armies of footsoldiers engaged in long sieges of fortresses (Mann 1986). As military technology changed and access to it fluctuated over the centuries, it caused dramatic shifts in power between the Near Eastern model of densely populous states with large infantries, and smaller societies with access to restricted resources such as horses or iron (McNeill 1982). In other words, the "how" of war mattered a great deal. To compartmentalize it as part of a distinct "conflict archaeology" would be to divide it from its immense social ramifications. Instead, we should integrate it with our broader anthropological questions. Here I outline an attempt at such integration in my work in the late pre-Columbian Andes.

Conflict in the Andes

In the Late Intermediate Period (LIP, ca. A.D. 1000–1450), conflict of an unprecedented intensity swept very large portions of the Andean highlands. This era took place after the collapse of two earlier, contemporaneous highland states, Wari and Tiwanaku, but before the Incas expanded to conquer the Andes. During this interregnum, societies of the highlands were relatively small in scale and politically decentralized, although in places there is evidence of increasing sociopolitical consolidation over time (Covey 2008). In many
parts of the highlands, there was much less expression of either stratified social hierarchies or centrally integrative ritual facilities than in the preceding period. Craft technologies declined, artistic motifs became more abstract than figurative, and the Andean highlands entered a seeming “Dark Age.” It was also a time of intense warfare. The archaeological evidence for warfare consists mainly in defensive settlement patterns of hill and ridge-top settlement, often fortified with wall and ditch defenses, and sometimes supplied with slingstone piles near the walls—settlement patterns that often contrast with earlier and later periods in the same regions (Arkush 2006). A few recent bioarchaeological studies contribute to this picture, showing elevated rates of cranial trauma: in one case up to 35 percent of all interred individuals had suffered blows to the head (Torres-Rouff and Costa 2006).

Many interesting questions could be asked about this wave of conflict, only some of which relate to technology, tactics, and other ingredients of military effectiveness. One such question has to do with the relationship between frequent warfare and political fragmentation or Balkanization. Obviously, fragmentation is what allowed endemic warfare to occur. But did warfare also provide a potential tool for political consolidation? We know that military conquest eventually underpinned Inca imperial expansion. For those earlier societies of the LIP, did conquest occur, and did it lead eventually to large-scale social integration? Why or why not?

In pursuing this question, hillforts emerge as a key aspect of the sociopolitical landscape. These hillforts, called *pukaras* in the indigenous languages of the Andean highlands, were sometimes fortified villages, sometimes temporary refuges located within easy range of settlements for use in times of crisis. They (rather than special-purpose defensive features, like great wall systems) were the primary physical defenses in the landscape. Even when not under active assault, they played an important role, deterring attack, demonstrating the strength of their builders, and defining social groups. But they probably also witnessed many of the battles of the era, judging by their stockpiled slingstone ammunition and by occasional indications of the purposeful destruction of their walls. This is why they were built. The lessons of military history (even in its pop-culture, History Channel manifestation) demonstrate that fortifications are critical in military confrontations, tipping the balance between victory and defeat (Allen 2008; Keeley 1996). Because the fortunes of war often hinge on them, so by extension do the fortunes of societies and political regimes.

In the Andes, where the rugged terrain constrains routes of travel and where high points in the landscape often have exceptionally good visibility, the inherent strength of hillforts is amplified. Documents written shortly after the Spanish conquest highlight their importance in Andean highland warfare. For instance, the Spanish chroniclers of Inca oral history describe in detail the Inca emperor Wayna Qhapaq’s siege of a large, multiple-walled pukara of the Cayambí at the far northern fringe of the Inca empire (Sarmiento 1967:161–164 [1572:Ch.60], Cobo 1979:157–159 [1653:Bk.12 Ch.17]). This bloody confrontation, which took place not long before the arrival of Pizarro and his conquistadors, illuminates the formidable obstacles pukaras posed to capture and conquest.

Wayna Qhapaq first sent his forces to lay waste to the surrounding countryside, depriving the Cayambí pukara of supplies. He then made several assaults on the fort, but was repulsed each time; in one rout, the emperor himself was nearly killed. The Inca army, suffering heavy casualties, had to retreat to the nearest Inca center, Tomebamba, to await reinforcements. A small detachment which had been left to watch the pukara was attacked by Cayambí warriors and nearly wiped out (Sarmiento 1967:162). Reinforcements arrived and the Inca army resumed the attack. In fierce fighting and with heavy losses, the Inca forces managed to take four of the five pukara walls, but when their commander was killed they retreated in disarray. Pursued by the Cayambí force to the bank of a deep river, many Inca soldiers were...
killed and others drowned attempting to cross it. Again, the action paused for weeks while Wayna Qhapaq mustered reinforcements; again he sent forces to burn the surrounding area. Leading the army himself, for a third time he invested the fortress. After several days of fighting, the Incas feigned a retreat, luring out the Cayambi warriors in pursuit, so that a concealed detachment could attack and enter the defenseless fort, setting it on fire and capturing the noncombatants inside. Seeing this, the Cayambi warriors fled and took refuge in a marsh, where they were surrounded and slaughtered.

This story may or may not be perfectly accurate, but it clearly indicates that the fate of the Cayambi rested on the strength of their pukara, and it gives a plausible picture of how such strongholds were used in war. In this account, the multiple walls of the pukara, its role as a base for offensive strikes, and the Incas' need to leave a vulnerable garrison to blockade the pukara in the interim between attacks, emerge as key strengths for the Cayambi side. The Incas were eventually victorious, but only after a protracted and bloody campaign, and only after having used their full arsenal of siege tactics: frontal assault, blockade, and deceit. The story is a dramatic illustration of the pivotal strengths pukaras offered in Andean defensive warfare.

While this history comes from the far north of the empire, pukaras were equally important in the south-central highlands. The evidence comes not just from Inca narratives about their imperial expansion but other sources as well. For instance, some generations after the Spanish conquest, Ludovico Bertonio, a Jesuit pastor working at the mission of Juli in southern Peru near Lake Titicaca, compiled a detailed dictionary of Aymara, the dominant language spoken by the region's inhabitants, who had never fully adopted the Quechua tongue of their Inca rulers (Bertonio 1986 [1612]). In this dictionary, pukaras are associated with a rich native vocabulary. There are words for building a pukara, fleeing and taking refuge in a pukara, surrendering or capturing a pukara, and destroying a pukara. A distinct term refers to the leader (alcaldé) of a pukara. The word “pukara” had strong connotations of safety and protection, for it was also used metaphorically to address a father, protector, or ally.

My fieldwork has focused on pukaras of the northern and western Titicaca Basin, home of the Colla ethnic group. Pukaras here are primarily fortified settlements of various sizes. While Inca oral histories from the contact period describe a large Colla regional polity existing in this region archaeologically the area seems much more fragmented: it is dotted with numerous fortified hilltop villages and towns throughout, sites that remained in use during eight or ten generations until the Inca conquest brought a forced peace to the land. The archaeology of these pukaras reveals something of how wars were fought, which in turn speaks of the shapes of Colla polities and their changing fortunes.

The “How” of Colla War

Like the Cayambi fortress far to the north, pukaras in the Colla area almost always use multiple concentric walls to create a formidable defensive barrier. Rather than completely encircling the site, these walls often link cliffs and outcrops together, and are flimsier or peter out entirely on very steep terrain, supplementing naturally defensible terrain in a cost-efficient manner. Houses and probable storage structures are located within the walls, indicating that people and the property were subject to attacks; by contrast, tombs may lie outside the walls as well as inside, suggesting they were...
desecrated in warfare. While many entrances are narrow (forcing single-file entry), baffled, flanked with inset walls, or otherwise made relatively defensible, sometimes wider gates are present, perhaps intended to facilitate the movement of camelid herds.

Several kinds of weapons appear on the surface at Colla pukaras: slingstones, bola stones (tied to a thong and thrown as a projectile weapon), projectile points, doughnut-shaped stone mace-heads once hafted to a wooden handle, and possible stone axe-heads. But as in many other parts of the Andean highlands at this time, Colla defensive architecture particularly emphasized slingstone fire. Walls often have a parapet, especially on the most accessible approaches: a raised ledge that would partially shield a defender standing on the wall, while allowing him or her to fire slingstones at attackers. Piles of these slingstones are sometimes found near the walls, usually river-rolled cobbles of a convenient size, brought up from streambeds below. The very height and thickness of pukara walls was apparently constrained by the defenders’ need to see and sling over them, for rarely do walls exceed 1.5 m high on the inside, and those that do often incorporate an inner bench and parapet. Walls are almost always positioned no more than 15 to 30 meters apart, well under the effective range of slings (Brown Vega and Craig 2009), and the space between them is usually empty of structures, creating a “killing alley” without cover where attackers who had made it past the outer wall could be subjected to withering projectile fire from the inner wall.

Obviously, defensive considerations ranked high in the minds of pukara builders. Their ongoing concern with warfare is shown by modifications to the defenses over the course of pukara lifetimes; blocked entrances, raised and thickened walls, and multiple wall-building episodes.

Pukaras were also situated to take advantage of the exceptional visibility of the terrain of the northwest Titicaca Basin, where hills jut steeply from the flat plains and very few trees grow. A viewer on a pukara peak can often see small landscape features at 25 kilometers or more in the clear, thin air. This visibility was apparently a factor in deciding where to build. When computer-simulated sets of “pukaras” are created by randomly selecting hilltops in the northwest Titicaca basin (hilltops with the same altitude range and distribution as real pukara hills), these random “pukaras” have views, on average, of slightly less than half the terrain visible from real pukaras. In other words, Colla people intentionally selected hilltops with far better views than your run-of-the-mill hill to build their strongholds. Such commanding views of the landscape would have been highly strategic; with proper vigilance, sentries could sight an attacking war party hours before it would arrive, allowing ample time to prepare for the assault and move noncombatants, supplies, and animals into the fort. So Colla pukaras were well-positioned to prevent surprise attack, at least during the day—a noteworthy advantage, because surprise is one of the best tactics against a fort. Yet perhaps even more important than a pukara’s views of the general surrounding landscape were its views of other pukaras. An observer at a pukara can usually see multiple other pukaras (to be exact, she can see an average of 3.5 pukaras within a close 10 km radius, and 6.6 within a more expansive 25 km radius). Computer-simulated sets of random “pukaras” perform wretchedly in comparison, seeing less than half as many of their fellows, and most often none at all. Again, it is clear that hilltops were not selected randomly by the Collas. A wide viewshed and good visual connections with multiple other pukaras were essential considerations in deciding where to resettle and build.
CONFLICT ARCHAEOLOGY

The fact that pukaras are placed to see other pukaras is highly significant. It suggests pukaras may have used visual connections to summon nearby allied populations to their aid in times of danger, or to communicate other kinds of information. The idea is not terribly farfetched, given the fact that visual signals were used in historic wars in the Titicaca Basin (Bundelker 1910; Chervin 1913). Hence, alliance relationships, facilitated by visual connections, may have been important to the defense of pukaras. This idea is supported by the patterning of ceramic styles in the region. Groups of pukaras sharing close visual links often share ceramic styles. They are separated by distance and barriers to visibility from other groups with distinct ceramic assemblages (Arkush 2005). Large differences in size and defensive strength between adjacent pukaras also suggest relationships of hierarchy and interdependence. Thus, pukaras were not isolated islands in an ocean of hostile forces; they were enmeshed in relationships with other pukara communities.

This brings us to another curious fact about pukaras. For all their obvious emphasis on defense, most of them lack easily accessible water. No cisterns were found on the survey, and at only seven of 44 sites was a year-round spring or pond located within the defensive walls. Colla pukaras are not unique in this regard: hillforts in the Andes from all periods usually lacked an internal cistern or spring, posing inconveniences for occupation and challenges for defense in the dry season. Such forts were not equipped to sustain inhabitants and their animals during a siege of more than a few days. In other words, their builders did not anticipate such tactics. This apparent weakness indicates that prolonged active sieges were probably quite rare, and perhaps nonexistent, in the LIP. In fact, this is less surprising than it might seem at first. Extended sieges are relatively rare in the ethnographic literature on non-state societies, for they are very costly in human lives, time, and supplies. In this region, they may also have been impractical if defenders could summon allies to their aid, and force attackers to retreat.

From these clues, an image emerges of the style of conflict at the time. The overall image is, first, of a population subjected to a severe threat, so that many dwellings had to be moved to the hilltops, places so inconvenient to live that they were rarely occupied before or after this era. Second, the emphasis on strong defenses, visibility, and projectile fire, combined with the lack of water sources, suggests a kind of warfare in which pukaras might be threatened with fierce, large-scale attacks that were nevertheless not very prolonged. (Perhaps this was because any besieged pukara could solicit reinforcements from other nearby communities.) Hence, the best hope of an attacking army was probably to take a fort in the first assault. Yet the exceptional views that pukaras enjoyed would have made it difficult to come on their defenders unawares. If a pukara was nevertheless captured—and they surely were at times, as Bertonio’s terms for destroying a pukara suggest—the victory may have been short-lived, for other populations nearby, secure in their own redoubts, would have posed a constant threat unless they too could be defeated.

Why the “How” Matters

Let us turn from this welter of military details to address two larger questions: one cultural-historical and one anthropological. The culture history question was regional integration through conquest occurring here in the LIP? Probably not. This landscape rife with fortified towns, used and rebuilt up to the eve of the Inca conquest (Arkush 2008), is best interpreted as the home of several defensive coalitions rather than a single large, conquering, centralized polity. Indeed, the defensive strength of the fortifications itself would have hindered regional integration through conquest, fostering recurrent destructive raids rather than conquest and stable control. This pattern was broken by the Incas, whose own history in the Cuzco valley during the LIP had taken a quite different path, one of regional socioeconomic integration, urbanization, and (an intriguing contrast) very little fortification. By the time the Incas embarked on the conquest of surrounding territories such as the Colla region, they had developed the emergent state institutions to muster large armies with enough logistical support to engage in long-term campaigns and prolonged sieges. Faced with these tactics, the pukaras of the Collas finally fell—though they were again brought into military service not long after, when the Collas rose in an unsuccessful rebellion against their new Incas.

This conclusion hints at the second, anthropological question: when is conquest likely to happen, and when not? While the set of factors facilitating or hindering conquest is too complex to be addressed here, suffice to say that fortification holds a place among them (Allen 2008). This particular sort of fortified landscape, its defenses too sophisticated to be easily surrounded by the same kinds of societies that built them, posed a formidable barrier to conquest and stable control. Its regional history indicates how a human-engineered landscape of fortified hills could affect the interactions of its inhabitants for generations, and hints at the path-dependent trajectories of societies at war.

This is the kind of study in which I believe anthropologists and archaeologists can profitably learn from conflict archaeology and military history more generally. I want to stress that the "how" of war is only one part of war, and perhaps a relatively small part at that. For instance, here I have not addressed at all what Collas' social and personal experience was like living under the threat of external violence, or how they coped with threat (and the measures they took to mitigate it) changing the ways they structured their communities, livelihoods, etc.
identities. But understanding the "how" of war can be requisite to issues of broader interest: why it was waged in the ways it was, and what its likely outcomes were.

References


Notes
1. A substrain of military history contends that the aims and practice of war are shaped by culture (e.g. Lynn 2003). Nevertheless, it still prioritizes the "how" of war as the main subject of study.

2. To these concerns, conflict archaeology adds a worthy focus on the experience and actions of common soldiers, who sometimes left little mark on written histories.

3. Slingers could be quite effective, as the conquistador Enrique de Guzmán (cited in Hemming 1996:192) made clear: "They can hurl a huge stone with enough force to kill a horse. Its effect is almost as great as an arquebus. I have seen a stone shot from a sling break a sword in two when it was held in a man's hand thirty yards away." Juan Pizarro, Francisco's brother, was killed by a wound from a slingstone to the head (Urtega 1919–20: 302–303).