

The Birth of War (from the magazine *Natural History*, July/August 2003)

By R. Brian Ferguson

Thirty years ago all the anthropologists studying war would have fit into one small room. Granted -- and guaranteed -- that room would frequently erupt in heated debate, but few outside would notice or care. Tribal warfare? Exotic, maybe, but so what? Anthropologists see war as potentially lethal violence between two groups, no matter how small the groups or how few the casualties. But how much light could such a broad definition of conflict, or cases of pre-civilized human strife, shed on modern warfare, the struggles that have flared in Iraq, Kosovo, Rwanda, Vietnam, Korea -- and on and on?

How times have changed! The anthropological study of war has expanded and matured. Ideas from academic debates are finding their way into foreign policy journals and, yes, the mass media. The questions raised by anthropologists and the once-academic disputes within the discipline have become important public issues, to be debated by pundits and politicians.

To appreciate how much things have changed, consider how the understanding of one famous ethnographic case has been transformed: that of the Yanomami of Venezuela and Brazil. Following the publication of Napoleon A. Chagnon's study *Yanomamo: The Fierce People*, in 1968, the book began to appear frequently and prominently on lists of readings for college students in introductory anthropology - often the only anthropology they would ever learn. And what an object lesson! Engaged in endless wars over women, status, and revenge, the Yanomami were supposed to exemplify the natural human condition of eons past. Some people took Chagnon's work to imply that aggression is in our genes -- disturbing news if true.

In 1974 the anthropologist Marvin Harris offered a different view. Yanomami warfare, Harris argued, was an adaptive response from a population stressed by limited food resources, specifically game animals. But detailed examination of Yanomami ecology failed to support Harris's hypothesis.

In 1995, in *Yanomami Warfare: A Political History*, I described how the Yanomami have been coping with European intrusions since the 1700s. As I read the evidence, Yanomami wars were tightly linked to changes in the European presence. Recent wars, including the ones described by Chagnon, seemed to have been fought over access to steel tools and other goods distributed by Westerners. Yet despite such basic disagreements within anthropology, the discussion of the Yanomami remained confined to academic circles.

Then came a media frenzy. In the fall of 2000, Patrick Tierney, a journalist, published *Darkness in El Dorado: How Scientists and Journalists Devastated the*

Amazon. The book essentially blamed Chagnon himself for instigating war. Now it was the anthropologists' turn to be fierce. Opponents and defenders of Chagnon exchanged bitter broadsides. Not a few anthropologists felt that the resident missionaries, for all their good intentions, were more at fault than any anthropologists. One outcome of the episode, though, is that no one paying attention to this controversy still claims that Yanomami wars can be understood without taking into account the tribe's highly disrupted historical circumstances.

What is more, studies that go far beyond the Yanomami are questioning the idea that war has always been part of the human condition. It looks as if, all around the world, what has been called primitive or indigenous warfare was generally transformed, frequently intensified, and sometimes precipitated by Western contact. A collection of historical studies that I edited in 1992 with Neil L. Whitehead, an anthropologist at the University of Wisconsin-Madison, concludes that such changes often took place in far flung "tribal zones," even before literate observers arrived on the scene. Indigenous warfare recorded in recent centuries cannot be taken as typical of prehistoric tribal peoples (see *War in the Tribal Zone: Expanding States and Indigenous Warfare*). We need archaeology to tell us about ancient war.

In 1996 the issue took a new turn with Lawrence H. Keeley's book *War before Civilization*. Keeley, an archaeologist at the University of Illinois at Chicago, compiled archaeological cases of some of the worst violence known, thereby creating the impression that these examples were typical, that humans have always made war. As he told the journal *Science*, "War is something like trade or exchange. It is something that all humans do." Here I must unequivocally disagree: in my view the global archaeological record contradicts the idea that war was always a feature of human existence; instead, the record shows that warfare is largely a development of the past 10,000 years.

In the new book *Constant Battles: The Myth of the Peaceful, Noble Savage* (written with the writer Katherine E. Register), Steven A. LeBlanc, an archaeologist at Harvard University, confidently asserts that wherever good archaeological evidence exists, there is "almost always" evidence of warfare, that "everyone had warfare in all time periods." LeBlanc has a theory for his sweeping conclusion. Contrary to a commonly held view, he argues, pre-state peoples were never "true conservationists." They degraded their resources, and as their numbers grew, they suffered food scarcity and were drawn into war. Basically, it's Malthus with ethnographic detail.

But what kind of archaeological evidence could show that war was waged? Lots. The best evidence comes from collections of skeletons, which can still bear witness to the violence of war: the embedded points of spears, arrows, or other weapons [see photograph on opposite page], depression fractures or scalp marks on skulls, "parry fractures" of forearms, and solitary skulls or bodies missing skulls (strongly

suggesting that war trophies were taken). Mass burials or the absence of burial, as well as disproportionately few battle-age men in cemeteries, are also signs of war. Of course, such finds, particularly if the evidence is a single skeleton, could represent a murder, an execution, or an accident hence a "false positive" as a piece of evidence about early tribal warfare.

But nothing like tribal warfare could be going on without leaving some signs in a good collection of skeletons. If the collection comprises multiple examples of such evidence, it pretty conclusively demonstrates war.

Settlement patterns -- such things as defensive walls and defensible locations or nucleated populations with empty buffer zones -- also provide significant evidence of warfare. Violent destruction of a settlement is a telling clue. Specialized war weapons may be lacking -- after all, war can be fought with such ordinary tools as adzes or hunting spears. But implements such as maces and daggers are usually for killing people, and when found, they are fairly definitive. Paintings or carvings on walls can provide graphic evidence of combat. Many peoples did not leave recoverable representations of human beings, but if such depictions are preserved, they can make a persuasive case. In short, when and where the archaeological recovery is good, with many settlements and many skeletons, war can usually be detected -- not in every single case, certainly, but in a good number of them. That is the basis for supposing that archaeology can contribute to some of our most basic questions about war.

I am midway through a global survey of such early evidence. What does the record show? Many hominid remains once thought to establish the most ancient evidence of homicide or cannibalism were actually gnawed by predators or just suffered postmortem breakage [see "*The Scavenging of 'Peking Man,'*" by Noel T. Boaz and Russell L. Ciochon, *March 2001*]. Some cases of ancient cannibalism have been confirmed, but there is nothing to tell us that the remains in question were casualties of war.

The earliest persuasive evidence of warfare uncovered so far comes from a graveyard along the Nile River in Sudan. Brought to light during an expedition in the mid-1960s led by Fred Wendorf, an archaeologist at Southern Methodist University in Dallas, Texas, this graveyard, known as Site 117, has been roughly estimated at between 12,000 and 14,000 years old. It contained fifty-nine well-preserved skeletons, twenty-four of which were found in close association with pieces of stone that were interpreted as parts of projectiles. Notably, the people of Site 117 were living in a time of ecological crisis. Increased rainfall had made the Nile waters run wild, and the river dug its way deeply into a gorge. The adjacent flood plain was left high and dry, depriving the inhabitants of the catfish and other marshland staples of their diet. Apart from Site 117, only about a dozen *Homo sapiens* skeletons 10,000 years old or older, out of hundreds of similar antiquity examined to date, show clear indications of interpersonal violence.

In northern Australia, rock art depicts what appear to be duels between two or a few individuals as early as 10,000 years ago. Large group confrontations -- war -- appear by 6,000 years ago. Climate change was a factor here too, as rising sea levels gradually submerged a vast plain that once connected Australia and New Guinea.

The ancient Middle East provides some of the best evidence for the emergence of war from a war-less background. Extensive remains have been found of the Natufian hunter-gatherers, who lived between about 12,800 and 10,500 years ago in what are now Israel, the West Bank, Jordan, Lebanon, and Syria. Careful analysis of 370 skeletons has turned up only two that show any signs of trauma, and nothing to suggest military action. The first walls of Jericho (dating from between 10,500 and 9,300 years ago) were once taken as conclusive evidence of war, but they are now understood to have been built for flood control, not defense.

There is a certain ironic logic, given recent events, that the regular practice of warfare that has continued without interruption down to the present began about 10,000 years ago in what is now northern Iraq. Evidence from three early farming sites, the earliest from Qermez Dere, includes maces, arrowheads found associated with skeletons, defendable locations, and village defensive walls. That's war -- the true "mother of all battles."

Signs of war appear beginning 8,000 years ago along mountain routes through southern Turkey. Along the southern Anatolian coast, a specialized fort -- not just a walled village -- has been unearthed at Icel; the fort was built around 6,300 years ago, then destroyed and later resettled by a different culture. The early record along the Nile in what is now Egypt was wiped out by the river's erosion, but when the record picks up again, about 6,300 years ago, maces similar to those found in Mesopotamia are present. Far upriver, near Khartoum, what may have been maces show up 2,000 years earlier, even before agriculture began in that area.

In Central Asia, east of the Caspian Sea, the remains of settled hunter-gatherers and early farmers show no signs of war, but war was clearly going strong by 5,000 years ago. In the high country of what is now Pakistan, farmers began to put up walls at least 6,000 years ago.

The archaeological record in China shows that though millet was under cultivation at least 8,000 years ago, no signs of war appeared for more than a thousand years after that. Starting 7,000 years ago, in one Neolithic cultural tradition, deep ditches were dug around villages, some accompanied by palisades. Elsewhere in China, except for a single skeleton with a point embedded in its thigh, there are no hints of war until at least 4,600 years ago. Then, rammed earthen walls and other signs of war occur throughout the core areas of historical China. One village well contained layers of scalped and decapitated skeletons.

In Japan, intensive agriculture came in with migrants from the mainland about 2,300 years ago. Archaeologists have excavated some 5,000 skeletons that predate the intrusion, and of those only ten show signs of violent death. In contrast, out

of about 1,000 post-migration excavated skeletons, more than a hundred show such signs.

Evidence from Europe offers a clear window into pre-agricultural practices. There is no firm evidence of war for thousands of years during Paleolithic times -- though some scholars see suggestive indications in a few places. After 10,500 years ago, however, as the population of foragers became larger and more settled, several sites show individual violence, and others show the more collective casualties that signal war. Still, the evidence of violence is present at only a small minority of all excavated sites. Beginning around 6,500 years ago, however, fortifications, embedded points, and even clear signs of village slaughters become common. By the Bronze Age, 2,000 years later, war and weaponry had become a veritable cult.

North America presents a highly complex and regionally divergent picture. Kennewick Man, a skeleton unearthed in Washington state and considered between 7,500 and 9,200 years old, contains an embedded stone point. But because the skeleton is an isolated find, the injury is difficult to interpret. On the coast of the Pacific Northwest, skeletal trauma and other signs of conflict begin to appear about 4,200 years ago in the northern regions, but show up farther south only many centuries later. Many of the excavated skeletons from the ancient eastern woodlands show signs of violence. In a few cases multiple individuals were involved, including one site in Florida dating from more than 7,000 years ago. Still, such cases remained extremely unusual until 5,000 years ago. In the southern Great Plains, out of 173 skeletons reported from before A.D. 500, only one indicates homicide, a woman killed by two blows to the head. The first clear evidence of warfare in the Southwest dates from less than 2,000 years ago, and it is quite dramatic. At least two-thirds and perhaps all of the ninety-odd individuals interred in a cave in southern Utah were killed.

Roughly speaking, that is where my survey leaves off. But my preliminary work leads me to expect no major surprises from Africa, Mesoamerica, Oceania, or South America. In sum, if warfare were prevalent in early prehistoric times, the abundant materials in the archaeological record would be rich with the evidence of warfare. But the signs are not there; here it is not the case that "the absence of evidence is not evidence of absence."

So how did peaceful tribal peoples of the distant past turn into the war-prone societies observed in recent centuries? Specific causes are elusive, but I see five preconditions that, in varying combinations, contributed to the onset of warfare in prehistoric times. One was a shift from a nomadic existence to a sedentary one, commonly though not necessarily tied to agriculture. With a vested interest in their lands, food stores, or especially rich fishing sites, people no longer could walk away from trouble.

Another precondition was a growing regional population and probably, in consequence, more competition for resources. Third was the development of social hierarchy, an elite, perhaps with its own interests and rivalries. Fourth was an increasing long-distance trade, particularly in prestige goods: something else worth fighting over. Finally, the first appearance or later intensification of war was often associated with a severe climatic change that broke down the subsistence base.

Raymond C. Kelly, an anthropologist at the University of Michigan in Ann Arbor, in his book *Warless Societies and the Origin of War*, has detected what may be another important pattern in the origins of war. In examining the ethnographic literature to compare hunter-gatherers who make war with those who do not, he finds a pattern: Among the few cases of warless societies of hunter-gatherers, social organizations do not extend beyond family and a loose, flexible network of kin. In contrast, hunter-gatherer societies that make war have larger and more defined groupings such as clans. The existence of bounded groups makes for a sense of collective injury and desire for collective retaliation.

Over the millennia, tribal warfare became more the rule than the exception. As the preconditions for warfare (permanent settlements, population growth, greater social hierarchy, increased trade, and climatic crises) became more common, more tribal peoples in more areas adopted the practice. That development in itself spread warmaking to other groups. Once ancient states arose, they employed "barbarians" on their peripheries to expand their empires and secure their extensive trade networks. Finally, the European expansion after 1492 set native against native to capture territory and slaves and to fight imperial rivalries. Refugee groups were forced into others' lands, manufactured goods were introduced and fought over (as with the Yanomami), and the spread of European weapons made fighting ever more lethal.

When I began studying war in the mid-1970s, I was trained in an approach called cultural ecology, which argued along the lines that Steven LeBlanc does today. Population pressure on food resources -- land, game, herd animals -- was seen as the usual cause of indigenous warfare. In some cases the theory did work. Among the peoples of the Pacific Northwest Coast prior to the depopulation of the nineteenth century, groups fought to gain access to prime resource locations, such as estuaries with good salmon streams. But in far more cases around the world, such as that of the Yanomami, warfare could not be linked to food competition.

Today, under the rubric "environmental security," many non-anthropologists who work on issues of international security embrace that ecological view. Recent outbreaks of violence, they argue, may be rooted in scarcities of subsistence goods, fueled by growing populations and degraded resources (such as too little and eroded cropland). But when you examine the cases for which that interpretation seems superficially plausible -- the conflicts of the past several years in Chiapas, Mexico, for instance, or in Rwanda -- they fail to confirm the "ecological" theory.

We anthropologists are just beginning to bring our experience to bear in the environmental security debate. What we find is that if a peasant population is suffering for lack of basic resources, the main cause of that scarcity is an unequal distribution of resources within the society, a matter of politics and economics, rather than the twin bugbears of too many people and not enough to go around.

Anthropology can offer an alternative view on such terrible disasters as the Rwandan genocide or the civil wars in the Balkans. Case studies of modern-day conflicts show that a broad range of factors may be interacting, including subsistence needs and local ecological relations, but also political struggles over the government, trends in globalization, and culturally specific beliefs and symbols. Moreover, when hard times come, they are experienced differently by different kinds of people. Who you are usually determines how you're doing and where your interests lie: identity and interest are fused. Once a conflict gets boiling and the killing starts, all middle grounds get swept away, and a person's fate can depend on such simple labels as ethnic, religious, or tribal identity. The slaughter of Tutsis in the Rwandan genocide of 1994 is only one of the latest examples of that horrific effect. But such differences are not the cause of the conflict.

My view is that in most cases -- not every single one -- the decision to wage war involves the pursuit of practical self-interest by those who actually make the decision. The struggle can be joined over basic subsistence resources, but it can just as easily erupt over goods available only to elites. The decision involves weighing the costs of war against other potential hazards to life and well-being. And most definitely, it depends on one's position in the internal political hierarchy: from New Guinean "big men" to kings and presidents, leaders often favor war because war favors leaders.

Of course, those who push toward war do not make their case in terms of their own selfish interests. Around Amazonian campfires and within modern councils of state, their arguments invoke collective dangers and benefits. But even more, those advocating war always define it in terms of the highest applicable values, whether that involves the need to retaliate against witchcraft, defend the one true religion, or promote democracy. That is the way to sway the undecided and build emotional commitment. And always, it is the other side that somehow brought war on.

Such drumbeating is not only, or even primarily, cynical manipulation. Perhaps owing to a basic human need for self-justification, those who start wars usually seem to believe in the righteousness of their chosen course. It is that capability that makes human beings such a dangerous species.