

The Roots of War

Can humanity ever escape its age-old legacy of battle?

By Thomas Hayden

It's a city that never was, but it depicts a dismal truth. Built up the sheer face of a mountain crag overlooking the Pelennor Fields, Minas Tirith was a stunning metropolis, its wedding-cake construction and glorious towers the center of the most advanced human culture of its time. It was also the most fortified settlement in all of Middle Earth, and from a civil engineering perspective, wildly impractical. Placed ludicrously far from the Anduin river and cut off from anything resembling a farmer's field or vineyard, the capital of Gondor in J. R. R. Tolkien's *Lord of the Rings* may well be an even more apt setting for humanity's struggles than the millions who trekked to see *The Return of the King* realize.

The defensive efforts of Tolkien's fantasy city are hardly more extreme than those of the Pueblo Indians, living far from their cornfields atop a handful of Southwestern mesas. And Minas Tirith seems downright accessible compared with the Maori fort Captain Cook's expedition visited 230 years ago in New Zealand, built high above the ocean on a natural rock arch. As archaeologists scrape away the dirt and rock of our own relatively middling Earth, they are finding that many--perhaps most--of our ancestors faced the very pressure that led the citizens of Minas Tirith to opt for security over convenience: the constant, devastating threat of war.

A glance at a history book is all it takes to know that war has been humanity's persistent companion for many millenniums. The 20th century, with its grisly conflicts over ideology, religion, and colonialism, may be behind us, but as events in Iraq show all too clearly, war is with us still. In 2002, according to Worldwatch Institute, a total of 45 wars and violent conflicts were raging around the globe, with a cumulative cost of more than 7 million lives.

Yet ever since Margaret Mead, most anthropologists have considered warfare to be a fairly recent innovation of a previously peaceful species. Isolated groups--the Copper Eskimo in Arctic Canada, the !Kung Bushmen in southern Africa--appeared to live without war, and archaeological digs suggested to

most that war was "invented" only when hunter-gatherers settled into towns and developed complex political structures. It's a comforting thought--cultural inventions can be discarded or replaced, as Mead suggested in her 1940 essay *Warfare Is Only an Invention--Not a Biological Necessity*. But controversial reassessments of ancient archaeological sites, of the warless cultures, and of our closest animal relatives are leading some scientists to propose a view of humanity that is decidedly more grim. Could it be that fighting wars is an inherent part of what it means to be human, rooted in biology and as central to our collective identity as language and culture?

Beginnings. The ancient towns of the Valley of Oaxaca, in southern Mexico, can't compare to the movie version of Minas Tirith. But the 10,000-year historical record there, traced by Kent Flannery and Joyce Marcus, archaeologists at the University of Michigan's Museum of Anthropology, shows the full sweep of human development from hunter-gatherers to city-dwellers. Things appear to have started out peacefully enough, as small bands of nomadic hunters roamed the valley. The first village doesn't show up until some 3,600 years ago, but within a century, 19 permanent settlements dotted the valley. The largest, San Jose Mogote, shows signs of an increasingly complex society, says Marcus, such as single-family houses of wattle and daub, large underground food-storage caches, and ritual buildings. It also shows the first signs of intervillage raiding, including a defensive palisade--the oldest in Mexico--and a house that had been burned to the ground.

The cultural changes and political shifts that follow are as complex as anything Tolkien imagined, with local raids escalating into full-scale warfare as valley-floor villages were abandoned for fortified hilltop cities. In just 1,200 years, scattered villagers had coalesced into the powerful Zapotec state, controlling some 40 provinces in the area, and war raged almost continuously, both within the state and with its neighbors. The soil of the region is littered with war's detritus, from charred villages and clay temples reduced to vitrified cinders to large fortresses, hieroglyphic lists of slaughtered enemies, and, at one site, a grisly yagabattoo rack displaying the skulls of 61 vanquished foes. By 2,000 years ago, Zapotec society supported a large professional army with noble officers and conscripted foot soldiers. Their battles continued until the arrival of Spanish conquistadors, in the 16th century.

Scholars studying present-day cultures have also

overlooked obvious signs of war, LeBlanc says. The Eskimo cited by Mead as an example of people for whom "the idea of warfare is lacking," he says, wore bone armor underneath their parkas--useless against polar bears but very handy for fending off spear jabs. The !Kung, portrayed as idyllically peaceful in the movie *The Gods Must Be Crazy*, may be warless now. But early rock paintings from their homelands in southern Africa depict battle scenes, LeBlanc says, and neighboring Bantu leaders employed them as bodyguards--unlikely duty for constitutional pacifists.

To say that his colleagues don't buy LeBlanc's theory is an understatement. Kelly, for example, suggests that LeBlanc is stretching the evidence to the breaking point. "The only way to make war go back in time is to call any homicide warfare." But LeBlanc contends that researchers have downplayed the ubiquity of war in the past out of a desire to believe that humans can "unlearn" warfare in the future. And that, he says, is a big mistake. "To understand much of today's war, we must see it as a common and almost universal human behavior that has been with us as we went from ape to human."

Monkey business. The victim, a lone male, had been beaten savagely. His 10 assailants left him to die with his ribs sticking through his chest and trachea, his testicles and nails torn from his body. Until the 1970s, researchers thought chimpanzees were relatively gentle animals, defending their territories but otherwise living peacefully with their neighbors. But then chimp researcher Jane Goodall and Richard Wrangham, a Harvard primatologist, observed something shocking. From 1974 to 1977, they reported, a large group of the animals repeatedly attacked a smaller neighboring group until they had killed every male.

Researchers have since documented other instances of chimpanzee "warfare," such as the 10-on-1 ambush that anthropology graduate student Martin Muller observed in Uganda in 1998. They've catalogued remarkable parallels to human wars, including depopulated buffer zones between neighboring territories (see Korea, North and South), amassing a vastly superior force before attacking (see Gulf Wars, I and II), and ecstatic dances of triumph after a victory (see football, Monday Night). Given the 98 percent of our genes we share with chimps, Wrangham and others conclude that the human propensity for war lies not in culture but in the genes inherited from our primate ancestors.

Yet evolution would have favored war genes in early humans only if the most warlike had the best chance of survival. Kelly, who links warfare to

cultural change, is skeptical. "Wrangham's notion depends on the absence of risk, on a potential gain with no cost," he says. "Those conditions don't apply to human societies." Weapons that kill at a distance--javelins and the like--show up at least 500,000 years ago in prehuman history, he notes, so "if you enter another group's territory, there's a good chance that you'll have very skilled spear-throwers looking at your back." That would have made chimpanzee-like territorial raids an evolutionary dead end, Kelly concludes, "so it can't be in the genes."

Bananas. Yet the chimpanzee raids have a parallel to human wars that's hard to dispute: They seem to occur when the animals face environmental stress. During the "Four-Year War" observed by Goodall and Wrangham in the 1970s, logging had encroached, and researchers sometimes fed the chimp bands. With only 10 confirmed "battles" in 170 person-years of scientific study, says Washington University of St. Louis primatologist Robert Sussman, chimps are actually more peaceful than humans. But "the animals had been forced out of their home range after being provisioned with bananas to the point where the groups were getting larger," he says. So it was dwindling food and territory--and not genes--that triggered the war.

That's very much like the dynamic underlying the entire history of human warfare, says LeBlanc. Contrary to the assumption behind the idea of the noble savage, he says, humans have never managed to live within their environmental means. As resources are exhausted, he says, competition--for food, land, oil, whatever--intensifies, eventually leading to war. Throughout human history and across cultures, "competition over resources [is] the ultimate reason, even if it is replaced with or obscured by cultural or ideological justifications."

Not that he's a complete pessimist. "You can get periods of 300 to 500 years of peace when things are good," LeBlanc says, like when the Polynesians first arrived in Hawaii or when new crops were first domesticated in the Middle East. "But as soon as things fill up, bam, you've got war." And things always fill up, leading him to a depressing conclusion: "The human inability to live in stable resource balance almost guarantees warfare."

In the war-torn Middle East, for example, ideology and religion would seem to be the greatest risks to peace. But would Saddam Hussein have invaded Kuwait in 1990--ostensibly to liberate a natural part of Iraq--if it didn't have abundant oil and a port to ship it from? The reasons America cited for invading Iraq 13 years later could apply to North Korea (weapons of mass destruction) or Myanmar

(repressive dictatorship). But Saddam's ambitions threatened vital oil supplies, and some commentators believe that made all the difference. In the Israel-Palestinian conflict, LeBlanc adds, "There is a serious undercurrent of fighting for water. If everyone could just sit down peacefully and work it out," he says, "it would be an extremely wealthy place."

But this is where the rationality of war fails. Wars often create their own momentum. Standing armies and a military culture can take millenniums to develop and can't be dismantled overnight, even if the original reasons for their existence are obscured. The overwhelming destruction of the First World War seems altogether out of proportion to its trigger--the assassination of an Austrian Archduke--but Europe was armed to the teeth and steeped in a culture of warfare. Besides, anthropologists say, elite classes often stoke ideology, hatred, or a desire for revenge for their own reasons, most of which have to do with staying elite. In complex societies, says LeBlanc, "there are always more people who want to be elite than there can be, so there is always a need for more resources." That means going to war, though the underlying cause can be hard to discern behind the official reasons--patriotism, ideology, security. Put bluntly, says University of California-Santa Barbara archaeologist Brian Fagan, "all war is based on spin."

Rogues. After peering into humanity's warlike past, some scholars are pessimistic about its future. True, wars are fewer and less bloody today than they were 100 years ago, for all the conflict that fills the news. In much of the world, industrialization has relieved scarcity and removed a major reason for fighting. But with resources like clean air, arable land, and most important, fresh water in increasingly short supply, these relatively peaceful times could be coming to an end, says LeBlanc. Fagan adds, "Unfortunately, it is often simpler to take something from your neighbor by fighting him than to negotiate for it. If for no other reason than that there will always be rogues, I'm afraid that war is here to stay."

And yet many scientists are surprisingly optimistic about an end to war. "We're kind of part way there already, actually," says Kelly. The noble classes of past societies could leverage their supposed connection to deities or enforce strict punishments to force lower classes into battle for their own reasons. But democracy removes at least some of that leverage, and democracies really do fight fewer wars than autocratic governments. Even LeBlanc argues that by understanding war's roots in resource competition, we should be able to

overcome our past and replace warfare with less destructive means of conflict resolution.

Although our war-fighting technology is infinitely more lethal now than it was even a century ago, death rates in battle are steadily declining. In tribal wars, the death rate is often 30 percent or higher, yet during World War II, even Russia, hardest hit of all the combatants, lost only about 12 percent of its population. And since WWII, when fire-bombing of entire cities was an accepted tactic, "there is increasingly less tolerance for killing noncombatants," Kelly says. "I don't know if we'll ever go full circle, but it is becoming more possible to target malefactors only," with advanced surveillance technology and smart bombs.

If only real life were as simple as fantasy, where all you have to do to bring peace is destroy a ring or two. And yet there is ample evidence that previously "warlike" people can rapidly become peaceful, if the causes--both ecological and cultural--underlying the battles are removed. The Vikings, forced into raiding parties by a population boom in the 9th century A.D., terrified Northern Europe for centuries, but no one now fears a visit from the Danes. Even in the New Guinea Highlands, where tribal warfare routinely claimed the lives of a quarter of all males, peace soon followed a government ban on warring in the 1960s.

If the latest news from the baboon front is any indication, ending war really might come down to just giving peace a chance. In a paper in the online journal *Public Library of Science*, scientists report that one group of the primates in Kenya seems to have broken with a tradition of aggressive males terrorizing the rest of their troop. After the fiercest animals died of disease, a more peaceful culture took hold--and has persisted for nearly 20 years, even after new males arrived. The transformation contradicts everything researchers thought they knew about baboon society. Maybe it holds a lesson for the rest of us, too.