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Steven A. LeBlanc

Why warfare? Lessons from the past

If we ever hope to end warfare we must first understand why it occurs. Because this is trivially obvious, it is surprising how poorly studied warfare is. Considerable work has been done on the details of particular wars and the events leading up to them, but little has been done to find the underlying reasons for warfare in general. My colleague Kevin Hill and I recently undertook a brief survey of courses on warfare taught at fifteen major research universities. We found numerous courses on specific wars, eighteen on the concepts and methods of war, and only six that we could construe as examinations of the general causes of warfare – and even those were based in a single discipline.

This lack is probably due in part to our approach to social problems in general.

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Most people tend to think that common sense is adequate for solving them. But we abandoned the commonsense approach to problems in physics and biology long ago, with the result that we have made great progress in these sciences. Despite its obvious importance, there has been little application of the scientific method of hypothesis, comparison, and testing to unearthing the causes of warfare.

One approach to understanding the reasons for warfare is to study deep history. Archaeology, anthropology, ethnohistory, and related disciplines provide great time depth for studying war. They also provide information on how and why warfare took place in a wide array of cultures. Yet this highly relevant information is often ignored. Most political scientists and historians who consider the reasons for warfare start with the modern era, or even the 1800s; fewer go back to the ancient Greeks. And almost all consider only the cultures of Europe and other state-level societies such as China. These studies are relevant, but they are too limited to exhibit general patterns over the entire span of human history and prehistory. Discerning whether or not human warfare has a genetic base, for instance, is an impossible task to accomplish with such limited

scope; instead, we must examine evidence from deep history and worldwide ethnography, which represent most of human history and most of human cultural variability.

The global study of warfare is necessary to determine whether war has a single cause or many different causes. If the causes of war have varied over time, then we must discern how and why this is the case. *Prima facie*, it appears that some modern wars, particularly in the West, are different from wars before the twentieth century, whereas recent regional wars in Africa and Asia appear to have the same causes as ancient wars. If significant changes in the nature of warfare took place in the modern era, knowing how and why such changes arose is necessary for understanding modern wars.

One problem with studying warfare is how to define it. Use of such criteria as the presence of standing armies and professional soldiers eliminates consideration of warfare during most of human history. On the other hand, including homicide and intragroup feuding, while relevant to the study of violence, makes the study of war difficult because it mixes behaviors that have very different causes.

Definitions of war must not be dependent on group size or methods of fighting if they are to be useful in studying past warfare. One productive approach is to view warfare simply as socially sanctioned conflict between independent groups or polities. This enables us to include warfare in all types of human societies throughout history.

Quite a bit is known about warfare in the deep past, and about warfare in non-state societies that have not been affected by nation-states. One obvious conclusion is that warfare was frequent long before complex societies developed.

This generalization is clearly established by Lawrence Keeley in *War Before Civilization*, and was also discussed recently by Richard Wrangham and Raymond C. Kelly.¹

Such warfare was chronic, virtually annual. Few societies experienced even one generation without significant warfare. Regardless of its frequency, almost all societies lived in fear of attack. Great efforts, often at considerable costs, were made to live in protected places – such as on the tops of windswept hills and on the faces of cliffs far from water supplies – and to build fortifications. Some groups lived in settlements that were larger or more compact than optimum, simply for defense. The deadliness of war made these measures inevitable. Estimates of around 25 percent of males dying from warfare are derived for virtually all continents, for foragers and egalitarian farmers alike. The probability of dying as a result of warfare was, in fact, much higher in the past than it is today.

Even those few societies described as peaceful were neither inherently nor historically peaceful. For example, archaeological evidence now shows that the Salishian tribes of the Plateau area of western North America, who had no remembered history of warfare when studied by anthropologists in the nineteenth and early twentieth centuries, had had significant warfare a few centuries earlier. One class of so-called peaceful societies consists of those that underwent demographic collapse and radical subsistence deprivation as the result of Western expansion. This is an important group from whom we can learn a great deal about the causes of warfare and of

1 Richard Wrangham, "Killer species," *Dædalus* 133 (4) (Fall 2004): 25–35; Raymond C. Kelly, "The Evolution of Lethal Intergroup Violence," *Proceedings of the National Academy of Sciences* 102 (43) (October 25, 2005): 15294–15298.

peace, but they do not provide evidence for societies that have learned to avoid war. Other so-called peaceful societies are foragers who have become symbiotic with nearby farmers, such as the Pygmies of Central Africa or the Semang of Malaysia. In both cases, the farmers fight intensively with each other while the foragers stand by outside of the conflict. Again, this is not proof of inherently peaceful societies.

In fact, I have been unable to find evidence of societies that were peaceful for more than three hundred to four hundred years. And even those societies that existed peacefully for that long were very rare. Furthermore, most archaeologists do not regard three hundred to four hundred years as a very lengthy time span for a society. And even these societies eventually became involved in significant warfare. Thus, stories that depict an age of peace in antiquity, or peaceful foragers, or warfare as a disease of modern society, or the ideal that human evolution took place in a peaceful environment are all erroneous. These beliefs are myths, and quite dangerous ones. So long as we believe them, we will be prevented from comprehending the real reasons for warfare.

Here is a basic fact about past warfare that we can substantiate with ample, unequivocal evidence: much warfare in the past was over scarce resources. Substantial data from North and South America point to the strong correlation between the intensity of ancient warfare and climate change. Not surprisingly, whenever the climate deteriorated, with resultant disturbance of the resource base, there was often a marked increase in the frequency, intensity, and deadliness of warfare. Especially good examples correlate with the onset of the Little Ice Age around AD 1400. Conversely, climatic

optima, such as the so-called Medieval Warm Interval preceding the Little Ice Age, correlate with less warfare than typically found at other times.

Resource competition is a very plausible stimulus for warfare. Human societies do not have natural mechanisms for keeping their populations within territorial carrying capacities: Malthus was correct in saying that population exceeds resources in the long run, which today means resources and population on a planetary scale. While regional resource bases are sometimes expanded, populations invariably grow more rapidly thereafter; for example, the result of the so-called Green Revolution, which increased grain production, was significant population growth. Malthusian limits changed regionally during the Industrial-Scientific Revolution; but, again, on a worldwide scale, even if it were technologically possible to feed everyone, economics and politics would contribute to prevent this from happening.

Particularly clear examples of resource stress leading to warfare are found on the Polynesian islands. Because farmers occupied them only recently, they provide well-documented examples of initial colonization, rapid population growth, resource stress, intense warfare, and, in some cases, societal and population collapse. This process has characterized even the very small islands, such as Tikopia and Easter Island, where there should have been considerable potential for developing social mechanisms to control growth and warfare. So, whether the societies and areas they live in are large or small, humans have not been able to solve peacefully problems of population growth in conditions of scarce and diminishing resources.

And since intense warfare goes back to our prehuman ancestors, we can reasonably surmise that there has been am-

ple time for selection for war-related behaviors. This conclusion directly contradicts a long tradition of saying that biology is irrelevant to discovering the causes of warfare because warfare is a recent phenomenon. Given warfare's long presence in human history, we can no longer reject the hypothesis that it does have a biological basis, just because *large-scale* warfare appeared only recently. Of course, I do not mean to suggest that warfare is genetically programmed in human beings, only that it makes sense that humans may have evolved strong tendencies toward defensive, and even offensive, behavior, under the impact of increasing numbers of people and decreasing resources – behavior that can be characterized as warfare.

Other general rules about warfare crosscut time and culture. For instance, all cultures – not just nation-states – institutionalize the process of war. Considering the advantage of being better than one's neighbors at waging war, it makes sense to cultivate practices of rewarding good warriors and good leaders, building concepts of 'us versus them,' and developing means of maximizing societal participation in war. Moreover, once institutionalized, these behavioral patterns are not easily changed. Determining the extent to which warfare continues because of prior development of such behavior is a very difficult problem.

Also, most societies require consensus decisions about whom and when to fight. Recognizing that wars are far too dangerous to allow a few hotheads to initiate them, most societies exert strong controls over intergroup aggression. For example, women are sometimes key decision makers in whether or not to go to war.

However, there are considerable differences between ancient and modern

wars. For example, in the past, people fought against people they knew. That is, they fought their neighbors. Only when states formed empires did people fight with people significantly different from themselves. This is important because, in a nonimperial conflict, the antagonists had a reasonable chance of predicting the responses of their opponents, such as how hard their opponents might fight or when they might negotiate for peace. In modern warfare, these are often difficult to determine.

Moreover, warfare was seen as a long-term process. Thus, groups preferred to use surprise attacks and treachery against their enemy because these tactics reduced risk. A successful ambush every few months could weaken, and ultimately defeat, an enemy. Pitched battles, in contrast, were, more often than not, shows of force and a means to assess the enemy's strength, rather than attempts to annihilate that enemy.

Modern wars, on the other hand, with their mass armies and pitched battles, force soldiers into much more dangerous situations than was once the case. True, the probability of dying in a war is much lower for someone living in an industrial society than it was for foragers and feudal or egalitarian farmers. Considerable evidence shows that more than 20 percent of adult males in nonstate societies would die from warfare, while perhaps a tenth of that figure of adult males in modern states die in war (with the exception of a few nations for short intervals). However, the likelihood of a soldier being killed in a single battle is vastly greater today. In the past, one side would retire after a few deaths, which usually took place not on the battlefield, but during surprise attacks on residences.

So, until recently, war in much of the world was attritional. There was no con-

cept of the decisive battle, and battles were not the primary means of winning wars. Long-term persistent weakening of the enemy was the path to victory. We describe this today as guerrilla warfare, and we are well aware of its effectiveness. Attritional war requires constant defensive vigilance and, thus, constant anxiety. The ancient world was not a safe place.

Since almost all wars in the past lasted for a long time, they usually resulted in the formation of buffer zones between polities. As much as half of a region's territory could consist of sparsely populated or empty zones. Such buffer zones greatly decreased overall regional productivity, but they also greatly reduced the chance of being surprised by one's enemies. Today, there are essentially no buffer zones between nations, other than oceans. Again, this is a radical departure from the past, and one with important consequences for civilian – collateral – casualties.

While the duration of past warfare was generally long, it could end abruptly, too, sometimes in a single day. One striking example is the Battle of Poitiers in France. On October 17, 732, the Arab general Abd-er-Rahman ibn-Abdullah was killed, and the Arab forces withdrew that night, leaving Charles Martel the victor of the last battle against Muslim forces, at the northwestern limit of Arab penetration into the Christian world.

Other examples of virtually instantaneous ceasefire have occurred all over the world and at all levels of social complexity. These include Eskimos (not just the Inuit), Salishians, New Guinea Highlanders, various Polynesian groups, Amazonian tribes, and Australian Aborigines. Some, such as the Inuit, stopped fighting each other when the benefits of cooperation increased. Others, such as the Amazonian tribes, the Salishians,

and the Polynesians, stopped when population decline, combined with new crops and technology, greatly drove up carrying capacity.

These examples point to the surprising existence of rational behavior in past warfare. When viewing warfare in general across time, one can correlate it with climatic and technological transformations that led to changes in the level of resource stress. Thus, war is less likely when the global human population is in balance with, or below, the world's environmental carrying capacity. War starts and stops in patterned ways that are most generally determined by people's need to secure a livelihood in a world where increasing populations make conflict over vital resources inevitable. I will now examine various specific explanations for warfare in light of evidence about intergroup hostilities in the past.

Religion is the first and probably most widespread source of explanations for warfare. For example, at one level or another, Christians accept that The Fall of Man – the belief that because Adam, the first man, disobeyed God in the Garden of Eden, God has cursed all of Adam's progeny to be born into sin and to be naturally evil – accounts for why humans are prone to violence and war, not to mention doomed to an afterlife in hell. For Christians, this curse extends to all of humankind, among whom only those individuals who take Jesus Christ as their Savior can be redeemed. For Muslims, God forgave Adam, but all human beings suffer from the sin of pride, which leads to war and eventually to punishment in the afterlife. To attain Paradise, people must submit to Allah and follow his commandments.

I cannot evaluate the truth of such supernatural explanations for warfare, but

remark only that, among Christians and Muslims, belief in these religious doctrines has long been a contributing, if not a major, reason for 'us' – defined here as believers – to go to war against 'them' – the heathens. Still, the question remains whether these beliefs constitute the ultimate reasons, or are themselves a response to other more fundamental reasons, for warfare.

Nor do I intend to critique all of the prevalent naturalistic explanations for warfare. The most obvious, and perhaps most misunderstood, naturalistic explanation for warfare is that it has a genetic basis. This suggestion is often categorically rejected, sometimes because of a broad-based refusal to consider genetic bases for any human behavior at all. There is also perhaps a religious basis for such blanket rejection, a denial of the fact that human beings are animals, whose basic behavior may be genetically determined as is the behavior of all other animals. But whether or not human behavior in general – and engagement in warfare in particular – has genetic roots must be objectively investigated and not ruled out *a priori*.

In reality, it is not difficult to show that merely saying we are genetically predisposed to engage in warfare is not sufficient to explain why warfare is universal. There is, however, considerable evidence of selection for aggressive behavior and the desire to dominate, especially in male primates. For example, the evolution of coalitional killing among chimpanzees, and its probable genetic source, has been clearly and carefully dealt with by Richard Wrangham. Warfare also requires cooperation, however, for which there is also ample evidence in evolutionary history.

I argue that, through evolution, both cooperation and aggression in humans came increasingly under the control of

intelligence. Reason came to play a central role in deciding when to start or stop warfare. As I mentioned before, both the initiation and cessation of warfare in the past correlated strongly with climate change (and, thus, changes in environmental carrying capacity), giving us reason to see warfare as a rational response to a change, like a severe restriction in the food supply, and less as a result of genetic propensities alone. The speed with which switches were made from war to peace in improved circumstances provides further support of this.

Rational competition over scarce resources is the best explanation for warfare we have. But note that warfare is usually rational for only a portion of a group or complex society. For instance, from the point of view of an individual family among foragers and egalitarian farmers, it may be rational to take the chance of losing a son to save the family. And in more complex societies, it may be rational from the elites' point of view to risk losing the lives of many commoners in order to protect their own lives and privileges. Even were some of them also likely to lose sons, it would still be rational for elites to initiate warfare because they have the resources to have large families and to replace lost sons.

What is considered to be scarcity is also quite variable. The perception of needing more living space that inspired the Germans to go to war in both World War I and World War II would baffle the crowded masses of some Eastern societies. Nevertheless, archaeological and historical evidence throughout history and prehistory indicates that most wars involved competition over resources.

The institutionalization of warfare complicates the direct relationship of warfare to scarcity. Such institutionalization is a rational response to the need

to prepare for the threat of warfare, but once established the institution itself can lead to the instigation of warfare. Recall, for example, the practice of building a concept of 'us versus them.' Such a concept usually includes loyalty to, and love of, the nation-state, as well as defensive dislike of foreigners. These culturally shaped attitudes are often strengthened to the point that they cannot be readily altered when no longer needed.

Thus, it is possible that some wars do not make rational or ecological sense, but result from archaic cultural patterns that have outlived their original rational bases. Records reveal examples of raids against people far too distant to have been competitors for resources. Several generations earlier, these same groups may have been in competition with each other over scarce resources. The scarcity may have ended, but the 'us versus them' attitude, the desire for revenge for ancestral deaths, and the social mechanisms that expedited earlier warfare may still be in place several generations later. The culturally maintained proximal causes of such warfare then are no longer rational, although the original ancestral cause was.

This may help explain why we have religious and ethnic wars, in which the enemy is categorically assumed to be evil or alien. Such warfare seems irrational. But the root cause of this type of warfare is seldom mere hatred of religious or ethnic differences. Rather, the conflicts between the two groups probably arose in the first instance from population pressure and competition for scarce resources.

Natural fear of strangers is another popular explanation for the hatred between ethnic or other groups. But even if hatred or fear of others were found to have a genetic basis, warfare still could

require an additional motive such as competition for resources. There may be, for example, a genetic basis for male status competition, but can this alone set the stage for males to fight each other without a specific reason? In fact, there is evidence for genetic bases for both competitive and cooperative behavior among mammals, but neither of these propensities as such is adequate for explaining the incidence of war or of peace.

Given the variation in cases of war and of peace, it seems obvious that genetic foundations, while a primary influence on human behavior, are far from determinative. For one thing, genetically driven propensities are very specific, for example, for such things as eye color. Furthermore, there is not one gene that determines the production of a thing as complicated as the eye. Likewise, we have no support whatsoever that genes for such complicated human activities as warfare exist.

There are several alternatives to my explanation of war, as arising from conflict over resources. One is the idea that expanding state-level societies introduced warfare to inherently peaceful peoples. The problem is that no inherently peaceful peoples are known. True, there are many cases of states – in the West, in ancient China, among the Romans, and among the Moguls – that, in attempting to subjugate or exterminate tribal and forager societies, have set off some of the most devastating wars ever recorded. But the notion that warfare is like a disease that infects otherwise peaceful societies is nonsense. There is no case where people impinged upon by expanding states have not been involved in significant warfare prior to the impact. In effect, not only is Rousseau's notion of noble savages in the childhood

of man wrong, it is dangerous. Belief in Hobbes's notion of the primal war of all against all is also wrong, but less so than that of a prelapsarian Garden of Eden in which the lion lies down with the lamb. Human beings have always been dangerous animals that can, in proper circumstances (usually circumstances of plenty), also be very nice.

Another postulated explanation for warfare is that it is the result of imperfect knowledge. If you know you will lose a war, you will probably prefer to negotiate rather than to fight. Similarly, if you know you are sure to win, you may prefer to negotiate at the outset rather than bear the cost of war. The theory here is that only because they have imperfect knowledge do sure losers and sure winners fight. While this may or may not be true for the recent past, it does not explain warfare in the distant past. Imperfect knowledge about the enemy is irrelevant for wars that correlate with climate change and scarcity of resources. If the ultimate long-term goal in such wars is control over critical scarce resources – without which you starve – then neither surrender nor negotiation is a viable option. Thus, many ancient wars were long, drawn-out affairs with many stagnant intervals, in which allies and enemies came and went. The hope was that your side would get lucky, even if the odds were against you.

Another culturally based explanation of warfare focuses on the type of government. Some empirical evidence shows that democratic states have fewer wars than do authoritarian states, especially if the potential conflict is between democratic states. Is this because democracies are more open than authoritarian regimes, which results in more widespread knowledge of circumstances? Or is it because decision processes in

democracies are more broadly based than they are in authoritarian states? Or perhaps it is because democracies do a better job solving critical resource problems by means other than war. This is a fruitful line of investigation, but in determining the root causes of warfare knowledge concerning the behavior of recent democracies and authoritarian states is both inconclusive and secondary. To the extent that this knowledge exposes the role of resource needs and availability, however, comparative examination of the relation between warfare and these forms of government should be quite useful.

Other empirical evidence shows a correlation between large numbers of unmarried young males in a society and a high probability that the society will go to war. Why might this be so? Perhaps the young men cannot marry because resource shortages leave them too poor to support families, and thus warfare results from resource stress. Or the situation might be culturally driven, with older males causing the imbalance by taking multiple wives. Or perhaps there is a severely uneven distribution of resources between elites and commoners. In any case, the correlation between high proportions of unmarried men and high probability of warfare is another promising line of investigation that supports the suggestion that war has more causal factors than hatred based on racial, ethnic, or religious differences. Finally, it has been suggested that some groups engage in raids or war for sport, but no pure case of this is known – there is always booty or grudges involved.

Misjudgment is a major factor in warfare today, despite or perhaps because of worldwide television reporting. When a nation's leaders commit the nation to war with a people halfway around the world, it is virtually certain that they do

not know or understand their opponents very well. As war becomes global, the potential for misunderstanding and misjudgment increases significantly. This is a big and very dangerous change from the past where one knew one's enemy well. Moreover, even long-standing democratic nation-states can quite easily supersede the process of achieving consensus for decisions concerning warfare. One of the most troubling issues about the war in Iraq, for example, was the lack of informed open debate about why, and whether or not, we should go to war in the first place.

Another crucial problem today is the absence of territorial buffer zones, which reduced warfare in the past. There may be no realistic substitute for this lack, but we must keep in mind what we lost when these zones disappeared. Finally, another very general lesson from the past is how much the rate of change in human lives has increased. Sociopolitical fluctuations are so rapid today that coping mechanisms cannot always catch up. For example, there are multiple examples of wars today in which ten- and twelve-year-old children are armed with Kalashnikovs. These children are deadly and often completely out of adult control. Another frightening fact is that over 35 million AK-47s (and subsequent models) have been distributed around the world. Nothing like this distribution of lethal weaponry ever happened in the past.

Despite the extensive and intensive levels of warfare today, we have some reasons for optimism. Warfare kills a far smaller percentage of the total population than it used to; hence the probability that any individual will die from warfare is much smaller than was the case in the past. Most people do not realize this, and are unduly terrified of war. We also

know much more today about why humans go to war than we did a century ago. Recent advances in biology show that there are primary genetic components leading to aggressive, competitive behavior, but we also know about genetic components leading to cooperative behavior.

The knowledge that most warfare is ultimately rational competition for scarce resources should also give us some hope for eliminating war. A third or more of the world's peoples are so well-off and so interconnected that warfare is not a rational option for them. The bases for rational warfare will decline to the extent that this elite can curtail warfare among the remainder of the world's peoples by increasing these peoples' wealth and well-being. This is not an easy solution to effect, given that the elite's way of life grossly wastes the world's resources.

The study of warfare throughout human history and prehistory also provides grounds for pessimism, however. If an ultimate cause of warfare is competition over scarce resources, and energy is the major scarce resource today, then the wealthy nations are not sheltered from the destruction of war and, in fact, are especially vulnerable to it. The world has also evolved groups that thrive on religious and ideological differences, leading to blind hatreds, democracies that abrogate the need for making collective decisions about going to war, and religious extremists actively working for the destruction of modern (sinful) industrial society.

Nevertheless, our current knowledge about the causes and features of warfare in the past provides some hope that for the first time in human history we have the potential to eliminate warfare. There has not been a world war now for sixty years and counting.