



THE BATTLE OVER VIOLENCE

Under the long shadow of Rousseau and Hobbes, scientists debate whether civilization spurred or inhibited warfare—and whether we have the data to know

WITH ITS WORLD WARS, GENOCIDES, AND innumerable revolutions and civil wars, the 20th century was the bloodiest in human history. World War II alone left some 60 million dead—2.5% of the world's population, or the total number of people who lived in Europe during the Middle Ages. Yet a group of researchers argues that complex industrialized societies, even Nazi Germany or Stalin's Russia, are far safer places to live than among smaller groups of hunter-gatherers or farmers, where tribal feuds and homicide typically felled more than 10% of the population.

"This is the paradox," says Azar Gat, a military historian at Israel's Tel Aviv University and author of a major study on the subject. "Mortality was higher before the state appeared." Perhaps the most prominent advocate of this view is Harvard University neuroscientist Steven Pinker, who argued in his 2011 book *The Better Angels of Our Nature* that complex societies have spurred a clear and measurable decline in the rate of violence compared to the bad old days when humans lived primarily in more intimate, small groups. With the centralized state, he writes, "came a more or less five-fold decrease in rates of violent death."

Many archaeologists and anthropologists agree that the odds of dying violently are lower in a modern nation today than in medieval Europe, a comparison prominent in Pinker's book and one that draws on the relatively plentiful records of the past 5 centuries. But a number of researchers dispute

the more general assertion that violence decreases as a society becomes more complex. This theory, they maintain, ignores yawning gaps in data as well as the enormous diversity of rates and forms that violence takes from one society to the next.

"The variability across cultures in how violence is used is staggering," says Debra Martin of the University of Nevada, Las Vegas, who specializes in ancient health and violence. Adds Henry Wright, an archaeologist at the University of Michigan, Ann Arbor, who has studied violent death in the ancient Near East, China, and Africa: "I don't have the statistics, and I don't think anyone else does either."

Beneath the argument over numbers is a controversy reaching back several centuries. Swiss-born French philosopher Jean-Jacques Rousseau argued in the 18th century that complex society brought about greater inequality, oppression, and fear. Thomas Hobbes, a 17th century English philosopher, argued that life without the social order and a strict hierarchy was "solitary, poor, nasty, brutish and short." Whether civilization corrupted humans or saved them has made sparks among scholars ever since.

Early and mid-20th century studies of ancient people seemed to confirm a more Rousseauian view in which scattered populations, minimal technology, and ample game limited human violent conflict in the distant past. Cave paintings in Europe from about 40,000 to 10,000 years ago portray hunting of animals but not human-on-

It takes a village. Violence appears in every culture but becomes more complex as societies develop.

human conflict. Archaeologists found little evidence of murder and organized violence before the military empires of the Near East sprang up 4000 years ago. Studies of living hunter-gatherer tribes in the first half of the 20th century appeared to show low rates of violence: American anthropologist Margaret Mead concluded in 1935 that in the Arapesh tribe of New Guinea, "both men and women are naturally maternal, gentle, responsive, and unaggressive." And initial primate research found fewer violent tendencies in humanity's nearest cousins.

This Rousseauian perspective began to lose favor a half-century ago. Early Neolithic cave paintings in Spain recorded in the 1980s show humans shooting arrows at one another. Primatologists discovered that warfare and murder are not unusual among chimpanzees. And more intensive anthropological work began to shed light on a more violent side of small-group society.

In 1996, anthropologist Lawrence Keeley of the University of Illinois, Chicago, published *War Before Civilization: The Myth of the Peaceful Savage*, based on a wide range of data from prehistoric sites, modern hunter-gatherers, and other groups living outside established states. He concluded that more than 90% of human groups engage in war, including small-scale groups. For those people living outside states, Keeley estimated that the average annual rate of death in warfare was 524 per 100,000 people—twice that of the famously warlike Mesoamerican Aztecs in the 16th century. By contrast, even during the bloodiest years of World War II, Russia and Germany had violent death rates of about 140 per 100,000 citizens. He con-

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cluded that living in a small-group society is significantly more dangerous than being a member of a more complex one.

Pinker uses Keeley's data and unpublished studies by economists to argue that complex society brought standing armies, laws, walled cities, and other innovations that restricted tribal fighting and protected the average citizen from violent crimes. "Hobbes understood this without having the data," Gat adds.

Pinker blames what he calls "anthropologists of peace" for distorting the record on small-scale group violence. "The classic 'gentle people'—the Semang of the Malay peninsula, !Kung in Africa, and Central Arctic Inuit—"turned out to have higher homicide rates than those of American cities," Pinker says. He criticizes what he calls a single-minded determination "to make hunter-gatherers seem as peaceful as possible."

Such charges puzzle some biological anthropologists and archaeologists—the kinds of scholars who gather the type of data used in this debate. They do not argue for a Rousseauian perspective. But that doesn't mean they're ready to embrace a Hobbesian view, either. They find the data too weak to support such sweeping claims and add that the statistical averaging done by Pinker and Gat erases the enormous variation in small-scale societies. Pinker "misused the bioarchaeological record by selecting a few populations ... biased toward supporting his argument," complains archaeologist Gwen Robbins Schug of Appalachian State University in Boone, North Carolina.

In a 2011 review of existing violence data on both nonstate and state societies, criminologist Amy Nivette of the University of Cambridge in the United Kingdom found persistent problems with data on small groups, which typically do not record violent deaths. Different researchers, for example, assign different rates of violence to the !Kung. And tiny numbers in small groups make statistics unreliable. Keeley cites the Polar Eskimo, for example, but given their small population, a single Eskimo murder every

50 years would equal the current rate for the United States. To sort out these problems, "researchers must carefully and more systematically consider what is meant by 'low' levels of violence," Nivette says. "Violence in nonstate societies is more complex and changeable than the stylized Hobbes-Rousseau dichotomy," she concludes.

Other researchers say they are more interested in the variability in vio-

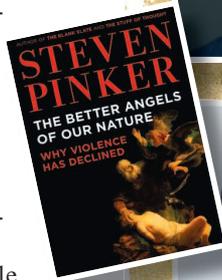
Those living in small-group societies "are not always peaceful, and not always at one another's throat," says George Milner, an anthropologist at Pennsylvania State University, State College, who has spent much of his professional life examining ancient skeletons with signs of physical injuries. "We are beginning to see a highly varied picture—times when conflict is quite severe, as with today's Yanomamö [foragers of northern South America], and also places where there are prolonged periods of peace."

He cites the example of the Hopewell culture of the 1st through 5th centuries C.E. in eastern North America, which appears to have been "socially permeable," allowing traders to safely transport obsidian from sources in what is today Wyoming as far east as Ohio. Such ease of movement would have been unthinkable before and after that era, when violence between groups was more common. The interesting question, Milner says, is what changed. "To see this from a solely Hobbesian viewpoint misses the real story," he adds. "We want to know why people switch from peace to war and back again."

Pinker acknowledges that there are exceptions to the rule of more violent small-scale societies, but he maintains that "the bulk of the distribution includes massive death rates by violence." His point, he says, is that more

organization leads to less chaos—and less violence. That extends to farming groups as well as hunter-gatherers, notes Gat, who cites the "staggeringly violent mortality rates" among agricultural groups in New Guinea.

Pinker and his critics agree that questions of how violence shifted in form, as well as rate, are worthy of study. To do that, scientists say they must gather more data on the ways of violence among a host of societies, both large and small, across the globe and through many millennia. Milner argues for tracking the pulses of conflict that characterize all societies to understand the conditions that spark war and pave the way to peace. But that goal will no doubt require fractious researchers from many disciplines to themselves lay down their arms and work more cooperatively. **—ANDREW LAWLER**



The great debate. Debra Martin and Gwen Robbins Schug argue that violence varies too widely for generalizations, while Azar Gat and Steven Pinker say civilization brought peace (clockwise from upper right).

lence than the averages. For example, Keeley's data do show dramatic differences in homicide rates among hunter-gatherers who tend to live in small bands and among agriculturalists in modest villages. More recent anthropological surveys by other researchers note that the Amba of Uganda and the Eastern Pueblo of New Mexico have fewer than two murders per 100,000 people, while the Hewa of New Guinea top 700 per 100,000, and the 19th century Kato of California reached 1450. By comparison, the U.S. national homicide rate peaked just below 10 per 100,000 during the crime-ridden late 1980s; in 2010, the cities of Baltimore and Detroit, which rank as the most violent, were nearly tied with just over 34 homicides per 100,000.

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