

**THE BETTER ANGELS  
OF OUR NATURE**

---

WHY VIOLENCE HAS DECLINED

---

**STEVEN PINKER**

VIKING

## PREFACE

---

This book is about what may be the most important thing that has ever happened in human history. Believe it or not—and I know that most people do not—violence has declined over long stretches of time, and today we may be living in the most peaceable era in our species' existence. The decline, to be sure, has not been smooth; it has not brought violence down to zero; and it is not guaranteed to continue. But it is an unmistakable development, visible on scales from millennia to years, from the waging of wars to the spanking of children.

No aspect of life is untouched by the retreat from violence. Daily existence is very different if you always have to worry about being abducted, raped, or killed, and it's hard to develop sophisticated arts, learning, or commerce if the institutions that support them are looted and burned as quickly as they are built.

The historical trajectory of violence affects not only how life is lived but how it is understood. What could be more fundamental to our sense of meaning and purpose than a conception of whether the strivings of the human race over long stretches of time have left us better or worse off? How, in particular, are we to make sense of *modernity*—of the erosion of family, tribe, tradition, and religion by the forces of individualism, cosmopolitanism, reason, and science? So much depends on how we understand the legacy of this transition: whether we see our world as a nightmare of crime, terrorism, genocide, and war, or as a period that, by the standards of history, is blessed by unprecedented levels of peaceful coexistence.

The question of whether the arithmetic sign of trends in violence is positive or negative also bears on our conception of human nature. Though theories of human nature rooted in biology are often associated with fatalism about violence, and the theory that the mind is a blank slate is associated with progress, in my view it is the other way around. How are we to understand the natural state of life when our species first emerged and the processes of history began? The belief that violence has increased suggests that the world we made has contaminated us, perhaps irretrievably. The belief that it has

decreased suggests that we started off nasty and that the artifices of civilization have moved us in a noble direction, one in which we can hope to continue.

This is a big book, but it has to be. First I have to convince you that violence really has gone down over the course of history, knowing that the very idea invites skepticism, incredulity, and sometimes anger. Our cognitive faculties predispose us to believe that we live in violent times, especially when they are stoked by media that follow the watchword "If it bleeds, it leads." The human mind tends to estimate the probability of an event from the ease with which it can recall examples, and scenes of carnage are more likely to be beamed into our homes and burned into our memories than footage of people dying of old age.<sup>1</sup> No matter how small the percentage of violent deaths may be, in absolute numbers there will always be enough of them to fill the evening news, so people's impressions of violence will be disconnected from the actual proportions.

Also distorting our sense of danger is our moral psychology. No one has ever recruited activists to a cause by announcing that things are getting better, and bearers of good news are often advised to keep their mouths shut lest they lull people into complacency. Also, a large swath of our intellectual culture is loath to admit that there could be anything good about civilization, modernity, and Western society. But perhaps the main cause of the illusion of ever-present violence springs from one of the forces that drove violence down in the first place. The decline of violent behavior has been paralleled by a decline in attitudes that tolerate or glorify violence, and often the attitudes are in the lead. By the standards of the mass atrocities of human history, the lethal injection of a murderer in Texas, or an occasional hate crime in which a member of an ethnic minority is intimidated by hooligans, is pretty mild stuff. But from a contemporary vantage point, we see them as signs of how low our behavior can sink, not of how high our standards have risen.

In the teeth of these preconceptions, I will have to persuade you with numbers, which I will glean from datasets and depict in graphs. In each case I'll explain where the numbers came from and do my best to interpret the ways they fall into place. The problem I have set out to understand is the reduction in violence at many scales—in the family, in the neighborhood, between tribes and other armed factions, and among major nations and states. If the history of violence at each level of granularity had an idiosyncratic trajectory, each would belong in a separate book. But to my repeated astonishment, the global trends in almost all of them, viewed from the vantage point of the present, point downward. That calls for documenting the various trends between a single pair of covers, and seeking commonalities in when, how, and why they have occurred.

Too many kinds of violence, I hope to convince you, have moved in the same direction for it all to be a coincidence, and that calls for an explanation. It is natural to recount the history of violence as a moral saga—a heroic struggle

of justice against evil—but that is not my starting point. My approach is scientific in the broad sense of seeking explanations for why things happen. We may discover that a particular advance in peacefulness was brought about by moral entrepreneurs and their movements. But we may also discover that the explanation is more prosaic, like a change in technology, governance, commerce, or knowledge. Nor can we understand the decline of violence as an unstoppable force for progress that is carrying us toward an omega point of perfect peace. It is a collection of statistical trends in the behavior of groups of humans in various epochs, and as such it calls for an explanation in terms of psychology and history: how human minds deal with changing circumstances.

A large part of the book will explore the psychology of violence and non-violence. The theory of mind that I will invoke is the synthesis of cognitive science, affective and cognitive neuroscience, social and evolutionary psychology, and other sciences of human nature that I explored in *How the Mind Works*, *The Blank Slate*, and *The Stuff of Thought*. According to this understanding, the mind is a complex system of cognitive and emotional faculties implemented in the brain which owe their basic design to the processes of evolution. Some of these faculties incline us toward various kinds of violence. Others—“the better angels of our nature,” in Abraham Lincoln’s words—incline us toward cooperation and peace. The way to explain the decline of violence is to identify the changes in our cultural and material milieu that have given our peaceable motives the upper hand.

Finally, I need to show how our history has engaged our psychology. Everything in human affairs is connected to everything else, and that is especially true of violence. Across time and space, the more peaceable societies also tend to be richer, healthier, better educated, better governed, more respectful of their women, and more likely to engage in trade. It’s not easy to tell which of these happy traits got the virtuous circle started and which went along for the ride, and it’s tempting to resign oneself to unsatisfying circularities, such as that violence declined because the culture got less violent. Social scientists distinguish “endogenous” variables—those that are inside the system, where they may be affected by the very phenomenon they are trying to explain—from the “exogenous” ones—those that are set in motion by forces from the outside. Exogenous forces can originate in the practical realm, such as changes in technology, demographics, and the mechanisms of commerce and governance. But they can also originate in the intellectual realm, as new ideas are conceived and disseminated and take on a life of their own. The most satisfying explanation of a historical change is one that identifies an exogenous trigger. To the best that the data allow it, I will try to identify exogenous forces that have engaged our mental faculties in different ways at different times and that thereby can be said to have caused the declines in violence.

The discussions that try to do justice to these questions add up to a big book—big enough that it won’t spoil the story if I preview its major

conclusions. *The Better Angels of Our Nature* is a tale of six trends, five inner demons, four better angels, and five historical forces.

*Six Trends* (chapters 2 through 7). To give some coherence to the many developments that make up our species' retreat from violence, I group them into six major trends.

The first, which took place on the scale of millennia, was the transition from the anarchy of the hunting, gathering, and horticultural societies in which our species spent most of its evolutionary history to the first agricultural civilizations with cities and governments, beginning around five thousand years ago. With that change came a reduction in the chronic raiding and feuding that characterized life in a state of nature and a more or less fivefold decrease in rates of violent death. I call this imposition of peace the Pacification Process.

The second transition spanned more than half a millennium and is best documented in Europe. Between the late Middle Ages and the 20th century, European countries saw a tenfold-to-fiftyfold decline in their rates of homicide. In his classic book *The Civilizing Process*, the sociologist Norbert Elias attributed this surprising decline to the consolidation of a patchwork of feudal territories into large kingdoms with centralized authority and an infrastructure of commerce. With a nod to Elias, I call this trend the Civilizing Process.

The third transition unfolded on the scale of centuries and took off around the time of the Age of Reason and the European Enlightenment in the 17th and 18th centuries (though it had antecedents in classical Greece and the Renaissance, and parallels elsewhere in the world). It saw the first organized movements to abolish socially sanctioned forms of violence like despotism, slavery, dueling, judicial torture, superstitious killing, sadistic punishment, and cruelty to animals, together with the first stirrings of systematic pacifism. Historians sometimes call this transition the Humanitarian Revolution.

The fourth major transition took place after the end of World War II. The two-thirds of a century since then have been witness to a historically unprecedented development: the great powers, and developed states in general, have stopped waging war on one another. Historians have called this blessed state of affairs the Long Peace.<sup>2</sup>

The fifth trend is also about armed combat but is more tenuous. Though it may be hard for news readers to believe, since the end of the Cold War in 1989, organized conflicts of all kinds—civil wars, genocides, repression by autocratic governments, and terrorist attacks—have declined throughout the world. In recognition of the tentative nature of this happy development, I will call it the New Peace.

Finally, the postwar era, symbolically inaugurated by the Universal Declaration of Human Rights in 1948, has seen a growing revulsion against aggression on smaller scales, including violence against ethnic minorities, women, children, homosexuals, and animals. These spin-offs from the concept

of human rights—civil rights, women’s rights, children’s rights, gay rights, and animal rights—were asserted in a cascade of movements from the late 1950s to the present day which I will call the Rights Revolutions.

*Five Inner Demons* (chapter 8). Many people implicitly believe in the Hydraulic Theory of Violence: that humans harbor an inner drive toward aggression (a death instinct or thirst for blood), which builds up inside us and must periodically be discharged. Nothing could be further from a contemporary scientific understanding of the psychology of violence. Aggression is not a single motive, let alone a mounting urge. It is the output of several psychological systems that differ in their environmental triggers, their internal logic, their neurobiological basis, and their social distribution. Chapter 8 is devoted to explaining five of them. *Predatory or instrumental violence* is simply violence deployed as a practical means to an end. *Dominance* is the urge for authority, prestige, glory, and power, whether it takes the form of macho posturing among individuals or contests for supremacy among racial, ethnic, religious, or national groups. *Revenge* fuels the moralistic urge toward retribution, punishment, and justice. *Sadism* is pleasure taken in another’s suffering. And *ideology* is a shared belief system, usually involving a vision of utopia, that justifies unlimited violence in pursuit of unlimited good.

*Four Better Angels* (chapter 9). Humans are not innately good (just as they are not innately evil), but they come equipped with motives that can orient them away from violence and toward cooperation and altruism. *Empathy* (particularly in the sense of sympathetic concern) prompts us to feel the pain of others and to align their interests with our own. *Self-control* allows us to anticipate the consequences of acting on our impulses and to inhibit them accordingly. The *moral sense* sanctifies a set of norms and taboos that govern the interactions among people in a culture, sometimes in ways that decrease violence, though often (when the norms are tribal, authoritarian, or puritanical) in ways that increase it. And the faculty of *reason* allows us to extricate ourselves from our parochial vantage points, to reflect on the ways in which we live our lives, to deduce ways in which we could be better off, and to guide the application of the other better angels of our nature. In one section I will also examine the possibility that in recent history *Homo sapiens* has literally evolved to become less violent in the biologist’s technical sense of a change in our genome. But the focus of the book is on transformations that are strictly environmental: changes in historical circumstances that engage a fixed human nature in different ways.

*Five Historical Forces* (chapter 10). In the final chapter I try to bring the psychology and history back together by identifying exogenous forces that favor our peaceable motives and that have driven the multiple declines in violence.

The *Leviathan*, a state and judiciary with a monopoly on the legitimate use of force, can defuse the temptation of exploitative attack, inhibit the impulse for revenge, and circumvent the self-serving biases that make all parties believe they are on the side of the angels. *Commerce* is a positive-sum game in which everybody can win; as technological progress allows the exchange of goods and ideas over longer distances and among larger groups of trading partners, other people become more valuable alive than dead, and they are less likely to become targets of demonization and dehumanization. *Feminization* is the process in which cultures have increasingly respected the interests and values of women. Since violence is largely a male pastime, cultures that empower women tend to move away from the glorification of violence and are less likely to breed dangerous subcultures of rootless young men. The forces of *cosmopolitanism* such as literacy, mobility, and mass media can prompt people to take the perspective of people unlike themselves and to expand their circle of sympathy to embrace them. Finally, an intensifying application of knowledge and rationality to human affairs—the *escalator of reason*—can force people to recognize the futility of cycles of violence, to ramp down the privileging of their own interests over others', and to reframe violence as a problem to be solved rather than a contest to be won.

As one becomes aware of the decline of violence, the world begins to look different. The past seems less innocent; the present less sinister. One starts to appreciate the small gifts of coexistence that would have seemed utopian to our ancestors: the interracial family playing in the park, the comedian who lands a zinger on the commander in chief, the countries that quietly back away from a crisis instead of escalating to war. The shift is not toward complacency: we enjoy the peace we find today because people in past generations were appalled by the violence in their time and worked to reduce it, and so we should work to reduce the violence that remains in our time. Indeed, it is a recognition of the decline of violence that best affirms that such efforts are worthwhile. Man's inhumanity to man has long been a subject for moralization. With the knowledge that something has driven it down, we can also treat it as a matter of cause and effect. Instead of asking, "Why is there war?" we might ask, "Why is there peace?" We can obsess not just over what we have been doing wrong but also over what we have been doing right. Because we *have* been doing something right, and it would be good to know what, exactly, it is.

---

Many people have asked me how I became involved in the analysis of violence. It should not be a mystery: violence is a natural concern for anyone who studies human nature. I first learned of the decline of violence from Martin Daly and Margo Wilson's classic book in evolutionary psychology, *Homicide*, in which they examined the high rates of violent death in nonstate societies and the decline in homicide from the Middle Ages to the present. In several of my

previous books I cited those downward trends, together with humane developments such as the abolition of slavery, despotism, and cruel punishments in the history of the West, in support of the idea that moral progress is compatible with a biological approach to the human mind and an acknowledgment of the dark side of human nature.<sup>3</sup> I reiterated these observations in response to the annual question on the online forum [www.edge.org](http://www.edge.org), which in 2007 was "What Are You Optimistic About?" My squib provoked a flurry of correspondence from scholars in historical criminology and international studies who told me that the evidence for a historical reduction in violence is more extensive than I had realized.<sup>4</sup> It was their data that convinced me that there was an underappreciated story waiting to be told.

My first and deepest thanks go to these scholars: Azar Gat, Joshua Goldstein, Manuel Eisner, Andrew Mack, John Mueller, and John Carter Wood. As I worked on the book, I also benefited from correspondence with Peter Brecke, Tara Cooper, Jack Levy, James Payne, and Randolph Roth. These generous researchers shared ideas, writings, and data and kindly guided me through fields of research that are far from my own specialization.

David Buss, Martin Daly, Rebecca Newberger Goldstein, David Haig, James Payne, Roslyn Pinker, Jennifer Sheehy-Skeffington, and Polly Wiessner read most or all of the first draft and offered immeasurably helpful advice and criticism. Also invaluable were comments on particular chapters offered by Peter Brecke, Daniel Chirot, Alan Fiske, Jonathan Gottschall, A. C. Grayling, Niall Ferguson, Graeme Garrard, Joshua Goldstein, Capt. Jack Hoban, Stephen Leblanc, Jack Levy, Andrew Mack, John Mueller, Charles Seife, Jim Sidanius, Michael Spagat, Richard Wrangham, and John Carter Wood.

Many other people responded to my inquiries with prompt explanations or offered suggestions that were incorporated into the book: John Archer, Scott Atran, Daniel Batson, Donald Brown, Lars-Erik Cederman, Christopher Charbis, Gregory Cochran, Leda Cosmides, Tove Dahl, Lloyd deMause, Jane Esberg, Alan Fiske, Dan Gardner, Pinchas Goldschmidt, Cmdr. Keith Gordon, Reid Hastie, Brian Hayes, Judith Rich Harris, Harold Herzog, Fabio Idrobo, Tom Jones, Maria Konnikova, Robert Kurzban, Gary Lafree, Tom Lehrer, Michael Macy, Steven Malby, Megan Marshall, Michael McCullough, Nathan Myhrvold, Mark Newman, Barbara Oakley, Robert Pinker, Susan Pinker, Ziad Obermeyer, David Pizarro, Tage Rai, David Ropeik, Bruce Russett, Scott Sagan, Ned Sahin, Aubrey Sheiham, Francis X. Shen, Lt. Col. Joseph Shusko, Richard Shweder, Thomas Sowell, Håvard Strand, Ilavenil Subbiah, Rebecca Sutherland, Philip Tetlock, Andreas Forø Tollefsen, James Tucker, Staffan Ulfstrand, Jeffrey Watumull, Robert Whiston, Matthew White, Maj. Michael Wiesenfeld, and David Wolpe.

Many colleagues and students at Harvard have been generous with their expertise, including Mahzarin Banaji, Robert Darnton, Alan Dershowitz, James Engell, Nancy Etcoff, Drew Faust, Benjamin Friedman, Daniel Gilbert,

Edward Glaeser, Omar Sultan Haque, Marc Hauser, James Lee, Bay McCulloch, Richard McNally, Michael Mitzenmacher, Orlando Patterson, Leah Price, David Rand, Robert Sampson, Steve Shavell, Lawrence Summers, Kyle Thomas, Justin Vincent, Felix Warneken, and Daniel Wegner.

Special thanks go to the researchers who have worked with me on the data reported in these pages. Brian Atwood carried out countless statistical analyses and database searches with precision, thoroughness, and insight. William Kowalsky discovered many pertinent findings from the world of public opinion polling. Jean-Baptiste Michel helped develop the Bookworm program, the Google Ngram Viewer, and the Google Books corpus and devised an ingenious model for the distribution of the magnitude of wars. Bennett Haselton carried out an informative study of people's perceptions of the history of violence. Esther Snyder assisted with graphing and bibliographic searches. Ilavenil Subbiah designed the elegant graphs and maps, and over the years has provided me with invaluable insight about the culture and history of Asia.

John Brockman, my literary agent, posed the question that led to the writing of this book and offered many helpful comments on the first draft. Wendy Wolf, my editor at Penguin, offered a detailed analysis of the first draft that did much to shape the final version. I'm enormously grateful to John and Wendy, together with Will Goodlad at Penguin UK, for their support of the book at every stage.

Heartfelt thanks go to my family for their love and encouragement: Harry, Roslyn, Susan, Martin, Robert, and Kris. My greatest appreciation goes to Rebecca Newberger Goldstein, who not only improved the book's substance and style but encouraged me with her belief in the value of the project, and who has done more than anyone to shape my worldview. This book is dedicated to my niece, nephews, and stepdaughters: may they enjoy a world in which the decline of violence continues.

**ON ANGELS' WINGS**

---

As man advances in civilization, and small tribes are united into larger communities, the simplest reason would tell each individual that he ought to extend his social instincts and sympathies to all the members of the same nation, though personally unknown to him. This point being once reached, there is only an artificial barrier to prevent his sympathies extending to the men of all nations and races.

—Charles Darwin, *The Descent of Man*

This book grew out of an answer to the question “What are you optimistic about?” and I hope that the numbers I have marshaled have lifted your assessment of the state of the world from the lugubrious conventional wisdom. But having documented dozens of declines and abolitions and zeroes, my mood is one not so much of optimism as of gratitude. Optimism requires a touch of arrogance, because it extrapolates the past to an uncertain future. Though I am confident that human sacrifice, chattel slavery, breaking on the wheel, and wars between democracies will not make a comeback anytime soon, to predict that the current levels of crime, civil war, or terrorism will endure is to sally into territory where angels fear to tread. What we *can* feel sure about is that many kinds of violence have declined up to the present, and we can try to understand why that has happened. As a scientist, I must be skeptical of any mystical force or cosmic destiny that carries us ever upward. Declines of violence are a product of social, cultural, and material conditions. If the conditions persist, violence will remain low or decline even further; if they don't, it won't.

In this final chapter I will not try to make predictions; nor will I offer advice to politicians, police chiefs, or peacemakers, which given my qualifications would be a form of malpractice. What I will try to do is identify the broad forces that have pushed violence downward. My quarry will be developments that repeatedly turned up in the historical chapters (2 through 7) and that engage the faculties of mind that were explored in the psychological chapters (8 and 9). That is, I will look for common threads in the Pacification Process,

the Civilizing Process, the Humanitarian Revolution, the Long Peace, the New Peace, and the Rights Revolutions. Each should represent a way in which predation, dominance, revenge, sadism, or ideology has been overpowered by self-control, empathy, morality, or reason.

We should not expect these forces to fall out of a grand unified theory. The declines we seek to explain unfolded over vastly different scales of time and damage: the taming of chronic raiding and feuding, the reduction of vicious interpersonal violence such as cutting off noses, the elimination of cruel practices like human sacrifice, torture-executions, and flogging, the abolition of institutions such as slavery and debt bondage, the falling out of fashion of blood sports and dueling, the eroding of political murder and despotism, the recent decline of wars, pogroms, and genocides, the reduction of violence against women, the decriminalization of homosexuality, the protection of children and animals. The only thing these superseded practices have in common is that they physically hurt a victim, and so it is only from a generic victim's perspective—which, as we saw, is also the perspective of the moralist—that we could even dream of a final theory. From the scientist's perspective, the motives of the perpetrators may be motley, and so will the explanations for the forces that pushed against those motives.

At the same time, all these developments undeniably point in the same direction. It's a good time in history to be a potential victim. One can imagine a historical narrative in which different practices went in different directions: slavery stayed abolished, for example, but parents decided to bring back savage beatings of their children; or states became increasingly humane to their citizens but more likely to wage war on one another. That hasn't happened. Most practices have moved in the less violent direction, too many to be a coincidence.

To be sure, some developments went the other way: the destructiveness of European wars through World War II (overshadowing the decrease in their frequency until both fell in tandem), the heyday of genocidal dictators in the middle decades of the 20th century, the rise of crime in the 1960s, and the bulge of civil wars in the developing world following decolonization. Yet every one of these developments has been systematically reversed, and from where we sit on the time line, most trends point peaceward. We may not be entitled to a theory of everything, but we do need a theory that explains why so many somethings point the same way.

### **IMPORTANT BUT INCONSISTENT**

Let me begin by noting a few forces that one might have thought would be important to the processes, peaces, and revolutions of chapters 2–7, but as best I can tell turned out not to be. It's not that these forces are by any means minor; it's just that they have not consistently worked to reduce violence.

*Weaponry and Disarmament.* Writers who are engrossed by violence and those who are repelled by it have one thing in common: they are fixated on weaponry. Military histories, written by and for guys, obsess over longbows, stirrups, artillery, and tanks. Many movements for nonviolence have been disarmament movements: the demonization of "merchants of war," the anti-nuclear demonstrations, the campaigns for gun control. And then there is the contrary though equally weaponcentric prescription according to which the invention of unthinkable destructive weapons (dynamite, poison gas, nuclear bombs) would make war unthinkable.

The technology of weaponry has obviously changed the course of history many times by determining winners and losers, making deterrence credible, and multiplying the destructive power of certain antagonists. No one would argue, for example, that the proliferation of automatic weapons in the developing world has been good for peace. Yet it's hard to find any correlation over history between the destructive power of weaponry and the human toll of deadly quarrels. Over the millennia weapons, just like every technology, got better and better, yet rates of violence have not gone steadily up but rather have lurched up and down the slope of an inclined sawtooth. The spears and arrows of pre-state peoples notched up higher proportional body counts than has anything since (chapter 2), and the pikemen and cavalry of the Thirty Years' War did more human damage than the artillery and gas of World War I (chapter 5). Though the 16th and 17th centuries saw a military revolution, it was less an arms race than an *armies* race, in which governments beefed up the size and efficiency of their armed forces. The history of genocide shows that people can be slaughtered as efficiently with primitive weapons as they can with industrial technology (chapters 5 and 6).

Nor did precipitous drops in violence, such as those of the Long Peace, the New Peace, and the Great American Crime Decline, originate with the antagonists melting down their weapons. The historical sequence has usually gone the other way, as in the dismantling of armamentaria that was part of the peace dividend after the end of the Cold War. As for the nuclear peace, we have seen that nuclear weapons may have made little difference to the course of world events, given their uselessness in battle and the massive destructive power of conventional forces (chapter 5). And the popular (if bizarre) argument that nuclear weapons would inevitably be used by the great powers to justify the cost of developing them turned out to be flat wrong.

The failure of technological determinism as a theory of the history of violence should not be that surprising. Human behavior is goal-directed, not stimulus-driven, and what matters most to the incidence of violence is whether one person wants another one dead. The cliché of gun control opponents is literally true: guns don't kill people; people kill people (which is not to endorse the arguments for or against gun control). Anyone who is equipped to hunt, harvest crops, chop firewood, or prepare salad has the means to damage a lot

of human flesh. With necessity being the mother of invention, people can upgrade their technology to the extent their enemies force them to. Weaponry, in other words, appears to be largely endogenous to the historical dynamics that result in large declines in violence. When people are rapacious or terrified, they develop the weapons they need; when cooler heads prevail, the weapons rust in peace.

*Resources and Power.* When I was a student in the 1970s, I had a professor who shared with anyone who would listen the truth about the Vietnam War: it was really about tungsten. The South China Sea, he discovered, had the world's largest deposits of the metal used in lightbulb filaments and superhard steel. The debates on communism and nationalism and containment were all a smokescreen for the superpowers' battle to control the source of this vital resource.

The tungsten theory of the Vietnam War is an example of resource determinism, the idea that people inevitably fight over finite resources like land, water, minerals, and strategic terrain. One version holds that conflict arises from an unequal allocation of resources, and that peace will come when they are distributed more equitably. Another feeds into "realist" theories that see conflict over land and resources as a permanent feature of international relations, and peace as the outcome of a balance of power in which each side is deterred from encroaching on the other's sphere of influence.

While contests over resources are a vital dynamic in history, they offer little insight into grand trends in violence. The most destructive eruptions of the past half millennium were fueled not by resources but by ideologies, such as religion, revolution, nationalism, fascism, and communism (chapter 5). Though no one can prove that each of these cataclysms wasn't really about tungsten or some other ulterior resource, any effort to show that they are is bound to look like a nutball conspiracy theory. As for the balance of power, the upending of the pans after the Soviet Union collapsed and the Germans were unified did not send the world into a mad scramble. Rather, it had no discernible effect on the Long Peace among developed countries, and it presaged a New Peace among developing ones. Nor did either of these pleasant surprises originate in the discovery or redistribution of resources. In fact, resources in the developing world often turn out to be a curse rather than a blessing. Countries rich in oil and minerals, despite having a larger pie to divide among their citizens, are among those with the most violence (chapter 6).

The looseness of the connection between resource control and violence should also come as no surprise. Evolutionary psychologists tell us that no matter how rich or poor men are, they can always fight over women, status, and dominance. Economists tell us that wealth originates not from land with stuff in it but from the mobilization of ingenuity, effort, and cooperation to

turn that stuff into usable products. When people divide the labor and exchange its fruits, wealth can grow and everyone wins. That means that resource competition is not a constant of nature but is endogenous to the web of societal forces that includes violence. Depending on their infrastructure and mindset, people in different times and places can choose to engage in positive-sum exchanges of finished products or in zero-sum contests over raw materials—indeed, negative-sum contests, because the costs of war have to be subtracted from the value of the plundered materials. The United States could invade Canada to seize its shipping lane to the Great Lakes or its precious deposits of nickel, but what would be the point, when it already enjoys their benefits through trade?

*Affluence.* Over the millennia, the world has become more prosperous, and it has also become less violent. Do societies become more peaceful as they get richer? Perhaps the daily pains and frustrations of poverty make people more ornery and give them more to fight over, and the bounty of an affluent society gives them more reasons to value their lives, and by extension, the lives of others.

Nonetheless tight correlations between affluence and nonviolence are hard to find, and some correlations go the other way. Among pre-state peoples, it is often the sedentary tribes living in temperate regions flush with fish and game, such as the Pacific Northwest, that had slaves, castes, and a warrior culture, while the materially modest San and Semai are at the peaceable end of the distribution (chapter 2). And it was the glorious ancient empires that had slaves, crucifixions, gladiators, ruthless conquest, and human sacrifice (chapter 1).

The ideas behind democracy and other humanitarian reforms blossomed in the 18th century, but upsurges in material well-being came considerably later (chapter 4). Wealth in the West began to surge only with the Industrial Revolution of the 19th century, and health and longevity took off with the public health revolution at the end of the 19th. Smaller-scale fluctuations in prosperity also appear to be out of sync with a concern for human rights. Though it has been suggested that lynchings in the American South went up when cotton prices went down, the overwhelming historical trend was an exponential decay of lynchings in the first half of the 20th century, without a deflection in either the Roaring Twenties or the Great Depression (chapter 7). As far as we can tell, the Rights Revolutions that started in the late 1950s did not pick up steam or run out of it in tandem with the ups and downs of the business cycle. And they are not automatic outcomes of modern affluence, as we see in the relatively high tolerance of domestic violence and the spanking of children in some well-to-do Asian states (chapter 7).

Nor does violent crime closely track the economic indicators. The careenings of the American homicide rate in the 20th century were largely uncorrelated

with measures of prosperity: the murder rate plunged in the midst of the Great Depression, soared during the boom years of the 1960s, and hugged new lows during the Great Recession that began in 2007 (chapter 3). The poor correlation could have been predicted by the police blotters, which show that homicides are driven by moralistic motives like payback for insults and infidelity rather than by material motives such as cash or food.

Wealth and violence do show a powerful connection in one comparison: differences among countries at the bottom of the economic scale (chapter 6). The likelihood that a country will be torn by violent civil unrest, as we saw, starts to soar as its annual per capita domestic product falls below \$1,000. It's hard, though, to pinpoint the causes behind the correlation. Money can buy many things, and it's not obvious which of the things that a country cannot afford is responsible for its violence. It may be deprivations of individual people, such as nutrition and health care, but it also may be deprivations of the entire country, such as decent schools, police, and governments (chapter 6). And since war is development in reverse, we cannot even know the degree to which poverty causes war or war causes poverty.

And though extreme poverty is related to civil war, it does not seem to be related to genocide. Recall that poor countries have more political crises, and political crises can lead to genocides, but once a country has a crisis, poverty makes it no more likely to host a genocide (chapter 6). At the other end of the affluence scale, late 1930s Germany had the worst of the Great Depression behind it and was becoming an industrial powerhouse, yet that was when it brewed the atrocities that led to the coining of the word *genocide*.

The tangled relationship between wealth and violence reminds us that humans do not live by bread alone. We are believing, moralizing animals, and a lot of our violence comes from destructive ideologies rather than not enough wealth. For better or worse—usually worse—people are often willing to trade off material comfort for what they see as spiritual purity, communal glory, or perfect justice.

*Religion.* Speaking of ideologies, we have seen that little good has come from ancient tribal dogmas. All over the world, belief in the supernatural has authorized the sacrifice of people to propitiate bloodthirsty gods, and the murder of witches for their malevolent powers (chapter 4). The scriptures present a God who delights in genocide, rape, slavery, and the execution of nonconformists, and for millennia those writings were used to rationalize the massacre of infidels, the ownership of women, the beating of children, dominion over animals, and the persecution of heretics and homosexuals (chapters 1, 4, and 7). Humanitarian reforms such as the elimination of cruel punishment, the dissemination of empathy-inducing novels, and the abolition of slavery were met with fierce opposition in their time by ecclesiastical authorities and their apologists (chapter 4). The elevation of parochial values to the realm of the

sacred is a license to dismiss other people's interests, and an imperative to reject the possibility of compromise (chapter 9). It inflamed the combatants in the European Wars of Religion, the second-bloodiest period in modern Western history, and it continues to inflame partisans in the Middle East and parts of the Islamic world today. The theory that religion is a force for peace, often heard among the religious right and its allies today, does not fit the facts of history.

Defenders of religion claim that the two genocidal ideologies of the 20th century, fascism and communism, were atheistic. But the first claim is mistaken and the second irrelevant (chapter 4). Fascism happily coexisted with Catholicism in Spain, Italy, Portugal, and Croatia, and though Hitler had little use for Christianity, he was by no means an atheist, and professed that he was carrying out a divine plan.<sup>1</sup> Historians have documented that many of the Nazi elite melded Nazism with German Christianity in a syncretic faith, drawing on its millennial visions and its long history of anti-Semitism.<sup>2</sup> Many Christian clerics and their flocks were all too happy to sign up, finding common cause with the Nazis in their opposition to the tolerant, secular, cosmopolitan culture of the Weimar era.<sup>3</sup>

As for godless communism, godless it certainly was. But the repudiation of one illiberal ideology does not automatically grant immunity from others. Marxism, as Daniel Chirot observed (see page 330), helped itself to the worst idea in the Christian Bible, a millennial cataclysm that will bring about a utopia and restore prelapsarian innocence. And it violently rejected the humanism and liberalism of the Enlightenment, which placed the autonomy and flourishing of individuals as the ultimate goal of political systems.<sup>4</sup>

At the same time, *particular* religious movements at particular times in history *have* worked against violence. In zones of anarchy, religious institutions have sometimes served as a civilizing force, and since many of them claim to hold the morality franchise in their communities, they can be staging grounds for reflection and moral action. The Quakers parlayed Enlightenment arguments against slavery and war into effective movements for abolition and pacifism, and in the 19th century other liberal Protestant denominations joined them (chapter 4). Protestant churches also helped to tame the wild frontier of the American South and West (chapter 3). African American churches supplied organizational infrastructure and rhetorical power to the civil rights movement (though as we saw, Martin Luther King rejected mainstream Christian theology and drew his inspiration from Gandhi, secular Western philosophy, and renegade humanistic theologians). These churches also worked with the police and community organizations to lower crime in African American inner cities in the 1990s (chapter 3). In the developing world, Desmond Tutu and other church leaders worked with politicians and nongovernmental organizations in the reconciliation movements that healed countries following apartheid and civil unrest (chapter 8).

So the subtitle of Christopher Hitchens's atheist bestseller, *How Religion Poisons Everything*, is an overstatement. Religion plays no single role in the history of violence because religion has not been a single force in the history of anything. The vast set of movements we call religions have little in common but their distinctness from the secular institutions that are recent appearances on the human stage. And the beliefs and practices of religions, despite their claims to divine provenance, are endogenous to human affairs, responding to their intellectual and social currents. When the currents move in enlightened directions, religions often adapt to them, most obviously in the discreet neglect of the bloodthirsty passages of the Old Testament. Not all of the accommodations are as naked as those of the Mormon church, whose leaders had a revelation from Jesus Christ in 1890 that the church should cease polygamy (around the time that polygamy was standing in the way of Utah's joining the Union), and another one in 1978 telling them that the priesthood should accept black men, who were previously deemed to bear the mark of Cain. But subtler accommodations instigated by breakaway denominations, reform movements, ecumenical councils, and other liberalizing forces have allowed other religions to be swept along by the humanistic tide. It is when fundamentalist forces stand athwart those currents and impose tribal, authoritarian, and puritanical constraints that religion becomes a force for violence.

### THE PACIFIST'S DILEMMA

Let me turn from the historical forces that don't seem to be consistent reducers of violence to those that do. And let me try to place these forces into a semblance of an explanatory framework so that, rather than ticking off items on a list, we can gain insight into what they might have in common. What we seek is an understanding of why violence has always been so tempting, why people have always yearned to reduce it, why it has been so hard to reduce, and why certain kinds of changes eventually did reduce it. To be genuine explanations, these changes should be exogenous: they should not be a part of the very decline we are trying to explain, but independent developments that preceded and caused it.

A good way to make sense of the changing dynamics of violence is to think back to the paradigmatic model of the benefits of cooperation (in this case, refraining from aggression), namely the Prisoner's Dilemma (chapter 8). Let's change the labels and call it the Pacifist's Dilemma. A person or coalition may be tempted by the gains of a victory in predatory aggression (the equivalent of defecting against a cooperator), and certainly wants to avoid the sucker's payoff of being defeated by an adversary who acts on the same temptation. But if they both opt for aggression, they will fall into a punishing war (mutual defection), which will leave them both worse off than if they had opted for the rewards of peace (mutual cooperation). Figure 10-1 is a depiction of the

		Other's choices	
		Pacifist	Aggressor
Own choices	Pacifist	Peace (5) Peace (5)	Defeat (-100) Victory (10)
	Aggressor	Victory (10) Defeat (-100)	War (-50) War (-50)

FIGURE 10-1. The Pacifist's Dilemma

Pacifist's Dilemma; the numbers for the gains and losses are arbitrary, but they capture the dilemma's tragic structure.

The Pacifist's Dilemma is by no stretch of the imagination a mathematical model, but I will keep pointing to it to offer a second way of conveying the ideas I will try to explain in words. The numbers capture the twofold tragedy of violence. The first part of the tragedy is that when the world has these payoffs, it is irrational to be a pacifist. If your adversary is a pacifist, you are tempted to exploit his vulnerability (the 10 points of victory are better than the 5 points of peace), whereas if he is an aggressor, you are better off enduring the punishment of a war (a loss of 50 points) than being a sucker and letting him exploit you (a devastating loss of 100). Either way, aggression is the rational choice.

The second part of the tragedy is that the costs to a victim (-100, in this case) are vastly disproportionate to the benefits to the aggressor (10). Unless two adversaries are locked in a fight to the death, aggression is not zero-sum but negative-sum; they are collectively better off not doing it, despite the advantage to the victor. The advantage to a conqueror in gaining a bit more land is swamped by the disadvantage to the family he kills in stealing it, and the few moments of drive reduction experienced by a rapist are obscenely out of proportion to the suffering he causes his victim. The asymmetry is ultimately a consequence of the law of entropy: an infinitesimal fraction of the states of the universe are orderly enough to support life and happiness, so it's easier to destroy and cause misery than to cultivate and cause happiness. All of this means that even the most steely-eyed utilitarian calculus, in which a disinterested observer tots up the total happiness and unhappiness, will deem violence undesirable, because it creates more unhappiness in its victims than happiness in its perpetrators, and lowers the aggregate amount of happiness in the world.

But when we descend from the lofty vantage point of the disinterested

observer to the earthly one of the players, we can see why violence is so hard to eliminate. Each side would be crazy to be the only one to opt for pacifism, because if his adversary was tempted by aggression, he would pay a terrible cost. The other-guy problem explains why pacifism, turning the other cheek, beating swords into plowshares, and other moralistic sentiments have not been a consistent reducer of violence: they only work if one's adversary is overcome by the same sentiments at the same time. It also, I think, helps us to understand why violence can spiral upward or downward so unpredictably at various times in history. Each side has to be aggressive enough not to be a sitting duck for its adversary, and often the best defense is a good offense. The resulting mutual fear of attack—the Hobbesian trap or security dilemma—can escalate everyone's belligerence (chapter 2). Even when the game is played repeatedly and the threat of reprisals can (in theory) deter both sides, the strategic advantage of overconfidence and other self-serving biases can lead instead to cycles of feuding. By the same logic, a credible goodwill gesture can occasionally be reciprocated, unwinding the cycle and sending violence downward when everyone least expects it.

And here is the key to identifying a common thread that might tie together the historical reducers of violence. Each should change the payoff structure of the Pacifist's Dilemma—the numbers in the checkerboard—in a way that attracts the two sides into the upper left cell, the one that gives them the mutual benefits of peace.

In light of the history and psychology we have reviewed, I believe we can identify five developments that have pushed the world in a peaceful direction. Each shows up, to varying degrees, in a number of historical sequences, quantitative datasets, and experimental studies. And each can be shown to move around the numbers in the Pacifist's Dilemma in a way that entices people into the precious cell of peace. Let's go through them in the order in which they were introduced in the preceding chapters.

### **THE LEVIATHAN**

A state that uses a monopoly on force to protect its citizens from one another may be the most consistent violence-reducer that we have encountered in this book. Its simple logic was depicted in the aggressor-victim-bystander triangle in figure 2-1 and may be restated in terms of the Pacifist's Dilemma. If a government imposes a cost on an aggressor that is large enough to cancel out his gains—say, a penalty that is three times the advantage of aggressing over being peaceful—it flips the appeal of the two choices of the potential aggressor, making peace more attractive than war (figure 10-2).

In addition to changing the rational-actor arithmetic, a Leviathan—or his female counterpart Justitia, the goddess of justice—is a disinterested third party whose penalties are not inflated by the self-serving biases of the

		Other's choices	
		Pacifist	Aggressor
Own choices	Pacifist	Peace (5) Peace (5)	Defeat (-100) Victory - Penalty (10 - 15 = -5)
	Aggressor	Victory - Penalty (10 - 15 = -5) Defeat (-100)	War - Penalty (-50 - 150 = -200) War - Penalty (-50 - 150 = -200)

FIGURE 10-2. How a Leviathan resolves the Pacifist's Dilemma

participants, and who is not a deserving target of revenge. A referee hovering over the game gives one's opponent less of an incentive to strike preemptively or self-defensively, reducing one's own desire to maintain an aggressive stance, putting the adversary at ease, and so on, and thus can ramp down the cycle of belligerence. And thanks to the generalized effects of self-control that have been demonstrated in the psychology lab, refraining from aggression can become a habit, so the civilized parties will inhibit their temptation to aggress even when Leviathan's back is turned.

Leviathan effects lay behind the Pacification and Civilizing Processes that gave chapters 2 and 3 their names. When bands, tribes, and chiefdoms came under the control of the first states, the suppression of raiding and feuding reduced their rates of violent death fivefold (chapter 2). And when the fiefs of Europe coalesced into kingdoms and sovereign states, the consolidation of law enforcement eventually brought down the homicide rate another thirtyfold (chapter 3). Pockets of anarchy that lay beyond the reach of government retained their violent cultures of honor, such as the peripheral and mountainous backwaters of Europe, and the frontiers of the American South and West (chapter 3). The same is true of the pockets of anarchy in the socioeconomic landscape, such as the lower classes who are deprived of consistent law enforcement and the purveyors of contraband who cannot avail themselves of it (chapter 3). When law enforcement retreats, such as in instant decolonization, failed states, anocracies, police strikes, and the 1960s, violence can come roaring back (chapters 3 and 6). Inept governance turns out to be among the biggest risk factors for civil war, and is perhaps the principal asset that distinguishes the violence-torn developing world from the more peaceful developed world (chapter 6). And when the citizens of a country with a weak rule of law are invited into the lab, they indulge in gratuitous spiteful punishment that leaves everyone worse off (chapter 8).

Leviathan, in the depiction that Hobbes commissioned, and Justitia, as

represented in courthouse statuary, are both armed with swords. But sometimes the blindfold and the scales are enough. People avoid hits to their reputations as well as to their bodies and bank accounts, and occasionally the soft power of influential third parties or the threat of shaming and ostracism can have the same effect as police or armies that threaten them with force. This soft power is crucial in the international arena, where world government has always been a fantasy, but in which judgments by third parties, intermittently backed by sanctions or symbolic displays of force, can go a long way. The lowered risk of war when countries belong to international organizations or host international peacekeepers are two quantifiable examples of the pacifying effects of unarmed or lightly armed third parties (chapters 5 and 6).

When Leviathan does brandish a sword, the benefit depends on its applying the force judiciously, adding penalties only to the "aggression" cells in its subjects' decision matrix. When the Leviathan adds penalties indiscriminately to all four cells, brutalizing its subjects to stay in power, it can cause as much harm as it prevents (chapters 2 and 4). The benefits of democracies over autocracies and anocracies come when a government carefully eyedrops just enough force into the right cells of the decision matrix to switch the pacifist option from an agonizingly unattainable ideal to the irresistible choice.

### GENTLE COMMERCE

The idea that an exchange of benefits can turn zero-sum warfare into positive-sum mutual profit was one of the key ideas of the Enlightenment, and it was revived in modern biology as an explanation of how cooperation among non-relatives evolved. It changes the Pacifist's Dilemma by sweetening the outcome of mutual pacifism with the mutual gains of exchange (figure 10-3).

Though gentle commerce does not eliminate the disaster of being defeated in an attack, it eliminates the adversary's incentive to attack (since he benefits

		Other's choices	
		Pacifist	Aggressor
Own choices	Pacifist	Peace + Profit (5 + 100 = 105) Peace - Profit (5 - 100 = -95)	Defeat (-100) Victory (10)
	Aggressor	Victory (10) Defeat (-90)	War (-50) War (-50)

FIGURE 10-3. How commerce resolves the Pacifist's Dilemma

from peaceful exchange too) and so takes that worry off the table. The profitability of mutual cooperation is at least partly exogenous because it depends on more than the agents' willingness to trade: it depends as well on whether each one specializes in producing something the other one wants, and on the presence of an infrastructure that lubricates their exchange, such as transportation, finance, record-keeping, and the enforcement of contracts. And once people are enticed into voluntary exchange, they are encouraged to take each other's perspectives to clinch the best deal ("the customer is always right"), which in turn may lead them to respectful consideration of each other's interests, if not necessarily to warmth.

In the theory of Norbert Elias, the Leviathan and gentle commerce were the two drivers of the European Civilizing Process (chapter 3). Beginning in the late Middle Ages, expanding kingdoms not only penalized plunder and nationalized justice, but supported an infrastructure of exchange, including money and the enforcement of contracts. This infrastructure, together with technological advances such as in roads and clocks, and the removal of taboos on interest, innovation, and competition, made commerce more attractive, and as a result merchants, craftsmen, and bureaucrats displaced knightly warriors. The theory has been supported by historical data showing that commerce did start to expand in the late Middle Ages, and by criminological data showing that rates of violent death really did plunge (chapters 9 and 3).

Among larger entities such as cities and states, commerce was enhanced by oceangoing ships, new financial institutions, and a decline in mercantilist policies. These developments have been credited in part with the 18th-century domestication of warring imperial powers such as Sweden, Denmark, the Netherlands, and Spain into commercial states that made less trouble (chapter 5). Two centuries later the transformation of China and Vietnam from authoritarian communism to authoritarian capitalism was accompanied by a decreased willingness to indulge in the all-out ideological wars that in the preceding decades had made both countries the deadliest places on earth (chapter 6). In other parts of the world as well, the tilting of values away from national glory and toward making money may have taken the wind out of the sails of cantankerous revanchist movements (chapters 5 and 6). Part of the tilt may have come from a relaxation of the grip of ideologies that came to be seen as morally bankrupt, but another part may have come from a seduction by the lucrative rewards of the globalized economy.

These narratives have been supported by quantitative studies. During the postwar decades that saw the Long Peace and the New Peace, international trade skyrocketed, and we saw that countries that trade with each other are less likely to cross swords, holding all else constant (chapter 5). Recall as well that countries that are more open to the world economy are less likely to host genocides and civil wars (chapter 6). Pulling in the other direction, governments that base their nation's wealth on digging oil, minerals, and diamonds

out of the ground rather than adding value to it via commerce and trade are more likely to fall into civil wars (chapter 6).

The theory of gentle commerce is not only supported by numbers from international datasets but is consistent with a phenomenon long known to anthropologists: that many cultures maintain active networks of exchange, even when the goods exchanged are useless gifts, because they know it helps keep the peace among them.<sup>5</sup> This is one of the phenomena in the ethnographic record that led Alan Fiske and his collaborators to suggest that people in a relationship of Equality Matching or Market Pricing feel that they are bound by mutual obligations and are less likely to dehumanize each other than when they are in a null or asocial relationship (chapter 9).

The mindset behind gentle commerce, unlike that of the other pacifying forces I review in this chapter, has not been directly tested in the psychology lab. We do know that when people (and for that matter, monkeys) are joined in a positive-sum game requiring them to collaborate in order to achieve a goal that benefits them both, hostile tensions can dissolve (chapter 8). We also know that exchange in the real world can be a lucrative positive-sum game. But we don't know whether exchange itself reduces hostile tensions. As far as I know, in the vast literature on empathy and cooperation and aggression, no one has tested whether people who have consummated a mutually profitable exchange are less likely to shock each other or to spike each other's food with three-alarm hot sauce. I suspect that among researchers, gentle commerce is just not a sexy idea. Cultural and intellectual elites have always felt superior to businesspeople, and it doesn't occur to them to credit mere merchants with something as noble as peace.<sup>6</sup>

## FEMINIZATION

Depending on how you look at it, the late Tsutomu Yamaguchi is either the world's luckiest man or the world's unluckiest man. Yamaguchi survived the atomic blast at Hiroshima, but then made an unfortunate choice as to where to go to flee the devastation: Nagasaki. He survived that blast as well and lived another sixty-five years, passing away in 2010 at the age of ninety-three. A man who survived the only two nuclear strikes in history deserves our respectful attention, and before he died he offered a prescription for peace in the nuclear age: "The only people who should be allowed to govern countries with nuclear weapons are mothers, those who are still breast-feeding their babies."<sup>7</sup>

Yamaguchi was invoking the most fundamental empirical generalization about violence, that it is mainly committed by men. From the time they are boys, males play more violently than females, fantasize more about violence, consume more violent entertainment, commit the lion's share of violent crimes, take more delight in punishment and revenge, take more foolish risks in aggressive attacks, vote for more warlike policies and leaders, and plan an

carry out almost all the wars and genocides (chapters 2, 3, 7, and 8). Even when the sexes overlap and the difference between their averages is small, the difference can decide a close election, or set off a spiral of belligerence in which each side has to be a bit more bellicose than the other. Historically, women have taken the leadership in pacifist and humanitarian movements out of proportion to their influence in other political institutions of the time, and recent decades, in which women and their interests have had an unprecedented influence in all walks of life, are also the decades in which wars between developed states became increasingly unthinkable (chapters 5 and 7). James Sheehan's characterization of the postwar transformation of the mission of the European state, from military prowess to cradle-to-grave nurturance, is almost a caricature of traditional gender roles.

Yamaguchi's exact prescription, of course, can be debated. George Shultz recalls that when he told Margaret Thatcher in 1986 that he had stood by as Ronald Reagan suggested to Mikhail Gorbachev that they abolish nuclear weapons, she clobbered him with her handbag.<sup>8</sup> But, Yamaguchi might reply, Thatcher's own children were already grown up, and in any case her views were tuned to a world that was run by men. Since the world's nuclear states will not all be governed by women anytime soon, let alone by nursing mothers, we will never know whether Yamaguchi's prescription is right. But he had a point when he speculated that a more feminized world is a more peaceful world.

Female-friendly values may be expected to reduce violence because of the psychological legacy of the basic biological difference between the sexes, namely that males have more of an incentive to compete for sexual access to females, while females have more of an incentive to stay away from risks that would make their children orphans. Zero-sum competition, whether it takes the form of the contests for women in tribal and knightly societies or the contests for honor, status, dominance, and glory in modern ones, is more a man's obsession than a woman's. Suppose that in the Pacifist's Dilemma, some portion of the rewards of victory and the costs of defeat—say, 80 percent—consists of the swelling and bruising of the male ego. And suppose that the choices are now made by female actors, so these psychic payoffs are reduced accordingly (figure 10-4; I have omitted the symmetrical Other's Choices for clarity). Now peace is more tempting than victory, and war more costly than defeat. The pacifist option wins hands-down. The reversal would be even more dramatic if we adjusted the war cell to reflect a greater cost of violent conflict to women than to men.

To be sure, a shift from male to female influence in decision-making may not be completely exogenous. In a society in which rapacious invaders may swoop in at any moment, the costs of defeat to both sexes can be catastrophic, and anything short of the most truculent martial values may be suicidal. A female-tilted value system may be a luxury enjoyed by a society that is already

		Other's choices	
		Pacifist	Aggressor
Own choices	Pacifist	Peace (5)	Defeat without humiliation ( $-100 + 80 = -20$ )
	Aggressor	Victory without glory ( $10 - 8 = 2$ )	War (-50)

FIGURE 10-4. How feminization can resolve the Pacifist's Dilemma

safe from predatory invasion. But a relative tilt in power toward women's interests can also be caused by exogenous forces that have nothing to do with violence. In traditional societies, one of these forces is living arrangements: women are better off in societies in which they stay with their birth family under the wing of their fathers and brothers, and their husbands are visitors, than in societies in which they move in with their husband's clan and are dominated by their husbands and his kin (chapter 7). In modern societies, the exogenous forces include technological and economic advances that freed women from chronic child-rearing and domestic duties, such as store-bought food, labor-saving devices, contraception, longer life spans, and the shift to an information economy.

Societies in which women get a better deal, both traditional and modern, tend to be societies that have less organized violence (chapter 8). This is obvious enough in the tribes and chiefdoms that literally go to war to abduct women or avenge past abductions, such as the Yanomamö and the Homeric Greeks (chapters 1 and 2). But it may also be seen among contemporary countries in the contrast between the low levels of political and judicial violence in the über-feminist democracies of Western Europe and the high levels in the genital-cutting, adulteress-stoning, burqa-cladding Sharia states of Islamic Africa and Asia (chapter 6).

Feminization need not consist of women literally wielding more power in decisions on whether to go to war. It can also consist in a society moving away from a culture of manly honor, with its approval of violent retaliation for insults, toughening of boys through physical punishment, and veneration of martial glory (chapter 8). This has been the trend in the democracies of Europe and the developed world and in the bluer states of America (chapters 3 and 7). Several conservative scholars have ruefully suggested to me that the modern West has been diminished by the loss of virtues like bravery and valor and the ascendancy of materialism, frivolity, decadence, and effeminacy. Now, I

have been assuming that violence is always a bad thing except when it prevents greater violence, but these men are correct that this is a value judgment, and that no logical argument inherently favors peace over honor and glory. But I would think that the potential victims of all this manliness deserve a say in this discussion, and they may not agree that their lives and limbs are a price worth paying for the glorification of masculine virtues.

Feminization is a pacifying development for yet another reason. Social and sexual arrangements that favor the interests of women tend to drain the swamps where violent male-male competition proliferates. One of these arrangements is marriage, in which men commit themselves to investing in the children they sire rather than competing with each other for sexual opportunities. Getting married reduces men's testosterone and their likelihood of living a life of crime, and we saw that American homicide rates plunged in the marriage-happy 1940s and 1950s, rose in the marriage-delaying 1960s and 1970s, and remain high in African American communities that have particularly low rates of marriage (chapter 3).

Another swamp-drainer is equality in numbers. Unpoliced all-male social milieus, such as the cowboy and mining camps of the American frontier, are almost always violent (chapter 3). The West was wild because it was young men who went there while the young women stayed behind in the East. But societies can become stacked with males for a more sinister reason, namely that their female counterparts were aborted or killed at birth. In an article called "A Surplus of Men, a Deficit of Peace," the political scientists Valerie Hudson and Andrea den Boer show that the traditional killing of baby girls in China has long resulted in large numbers of unattached men.<sup>9</sup> They are always poor men, because the richer ones attract the scarce women. These "bare branches," as they are called in China, congregate in gangs of drifters who brawl and duel among themselves and rob and terrorize settled populations. They can even grow into armies that menace local or national governments. A leader can clamp down on the gangs by violent repression, or he can try to co-opt them, which usually requires adopting a macho ruling philosophy that is congenial to their mores. Best of all, he can export their destructive energy by sending them to other territories as migrant workers, colonists, or soldiers. When the leaders of rival countries all try to dispose of their excess men, the result can be a grinding war of attrition. As Hudson and den Boer put it, "Each society has plenty of bare branches to spare in such a conflict—and the respective governments might be happy to spare them."<sup>10</sup>

Traditional gynecide, joined in the 1980s by the female-abortion industry, injected a bolus of excess males into the population structures of Afghanistan, Bangladesh, China, Pakistan, and parts of India (chapter 7).<sup>11</sup> These surpluses of men bode poorly for the immediate prospects of peace and democracy in those regions. Over the longer term, the sex ratio may eventually be rebalanced by the feminist and humanitarian concern with the right of female fetuses to

take their first breath, together with political leaders' finally grasping the demographic arithmetic and enhancing the incentives to raise daughters. The resulting boon for baby girls would translate into less violent societies. But until the first fifty-fifty cohorts are born and grow up, those societies may be in for a bumpy ride.

A society's respect for the interests of women has one more connection to its rate of violence. Violence is a problem not just of too many males but of too many *young* males. At least two large studies have suggested that countries with a larger proportion of young men are more likely to fight interstate and civil wars (chapter 6).<sup>12</sup> A population pyramid with a thick base of young people is dangerous not just because young men like to raise hell, and in bottom-heavy societies will outnumber their more prudent elders. It's also dangerous because these young men are likely to be deprived of status and mates. The sclerotic economies of countries in the developing world cannot nimbly put a youth bulge to work, leaving many of the men unemployed or underemployed. And if the society has a degree of official or de facto polygyny, with many young women being usurped by older or richer men, the surfeit of marginalized young people will turn into a surfeit of marginalized young men. These men have nothing to lose, and may find work and meaning in militias, warlord gangs, and terrorist cells (chapter 6).

The title *Sex and War* sounds like the ultimate guy bait, but this recent book is a manifesto for the empowerment of women.<sup>13</sup> The reproductive biologist Malcolm Potts, writing with the political scientist Martha Campbell and the journalist Thomas Hayden, has amassed evidence that when women are given access to contraception and the freedom to marry on their own terms, they have fewer offspring than when the men of their societies force them to be baby factories. And that, in turn, means that their countries' populations will be less distended by a thick slab of young people at the bottom. (Contrary to an earlier understanding, a country does not have to become affluent before its rate of population growth comes down.) Potts and his coauthors argue that giving women more control over their reproductive capacity (always the contested territory in the biological battle of the sexes) may be the single most effective way of reducing violence in the dangerous parts of the world today. But this empowerment often must proceed in the teeth of opposition from traditional men who want to preserve their control over female reproduction, and from religious institutions that oppose contraception and abortion.

Several varieties of feminization, then—direct political empowerment, the deflation of manly honor, the promotion of marriage on women's terms, the right of girls to be born, and women's control over their own reproduction—have been forces in the decline of violence. The parts of the world that lag in this historical march are the parts that lag in the decline of violence. But worldwide polling data show that even in the most benighted countries there is considerable pent-up demand for female empowerment, and many

international organizations are committed to hurrying it along (chapters 6 and 7). These are hopeful signs in the long term, if not the immediate term, for further reductions in violent conflict in the world.

### THE EXPANDING CIRCLE

The last two pacifying forces scramble the psychological payoffs of violence. The first is the expansion of the circle of sympathy. Suppose that living in a more cosmopolitan society, one that puts us in contact with a diverse sample of other people and invites us to take their points of view, changes our emotional response to their well-being. Imagine taking this change to its logical conclusion: our own well-being and theirs have become so intermingled that we literally love our enemies and feel their pain. Our potential adversary's payoffs would simply be summed with our own (and vice versa), and pacifism would become overwhelmingly preferable to aggression (figure 10-5).

Of course, a perfect fusion of the interests of every living human is an unattainable nirvana. But smaller increments in the valuation of other people's interests—say, a susceptibility to pangs of guilt when thinking about enslaving, torturing, or annihilating others—could shift the likelihood of aggressing against them.

We have seen evidence for both links in this causal chain: exogenous events that expanded opportunities for perspective-taking, and a psychological response that turns perspective-taking into sympathy (chapters 4 and 9). Beginning in the 17th century, technological advances in publishing and transportation created a Republic of Letters and a Reading Revolution in which the seeds of the Humanitarian Revolution took root (chapter 4). More people read books, including fiction that led them to inhabit the minds of other people, and satire that led them to question their society's norms. Vivid depictions of the suffering wrought by slavery, sadistic punishments, war, and cruelty to children

		Other's choices	
		Pacifist	Aggressor
Own choices	Pacifist	Peace ( $5 + 5 = 10$ ) Peace ( $5 + 5 = 10$ )	Defeat ( $-100 + 10 = -90$ ) Victory ( $10 + -100 = -90$ )
	Aggressor	Victory ( $10 + -100 = -90$ ) Defeat ( $-100 - 10 = -90$ )	War ( $-50 + -50 = -100$ ) War ( $-50 + -50 = -100$ )

FIGURE 10-5. How empathy and reason resolve the Pacifist's Dilemma

and animals preceded the reforms that outlawed or reduced those practices. Though chronology does not prove causation, the laboratory studies showing that hearing or reading a first-person narrative can enhance people's sympathy for the narrator at least make it plausible (chapter 9).

Literacy, urbanization, mobility, and access to mass media continued their rise in the 19th and 20th centuries, and in the second half of the 20th a Global Village began to emerge that made people even more aware of others unlike themselves (chapters 5 and 7). Just as the Republic of Letters and the Reading Revolution helped to kindle the Humanitarian Revolution of the 18th century, the Global Village and the electronics revolution may have helped along the Long Peace, New Peace, and Rights Revolutions of the 20th. Though we cannot prove the common observation that media coverage accelerated the civil rights movement, antiwar sentiment, and the fall of communism, the perspective-sympathy studies are suggestive, and we saw several statistical links between the cosmopolitan mixing of peoples and the endorsement of humanistic values (chapters 7 and 9).<sup>14</sup>

### THE ESCALATOR OF REASON

The expanding circle and the escalator of reason are powered by some of the same exogenous causes, particularly literacy, cosmopolitanism, and education.<sup>15</sup> And their pacifying effect may be depicted by the same fusion of interests in the Pacifist's Dilemma. But the expanding circle (as I have been using the term) and the escalator of reason are conceptually distinct (chapter 9). The first involves occupying another person's vantage point and imagining his or her emotions as if they were one's own. The second involves ascending to an Olympian, superrational vantage point—the perspective of eternity, the view from nowhere—and considering one's own interests and another person's as equivalent.

The escalator of reason has an additional exogenous source: the nature of reality, with its logical relationships and empirical facts that are independent of the psychological makeup of the thinkers who attempt to grasp them. As humans have honed the institutions of knowledge and reason, and purged superstitions and inconsistencies from their systems of belief, certain conclusions were bound to follow, just as when one masters the laws of arithmetic certain sums and products are bound to follow (chapters 4 and 9). And in many cases the conclusions are ones that led people to commit fewer acts of violence.

Throughout the book we have seen the beneficial consequences of an application of reason to human affairs. At various times in history superstitious killings, such as in human sacrifice, witch hunts, blood libels, inquisitions, and ethnic scapegoating, fell away as the factual assumptions on which they rested crumbled under the scrutiny of a more intellectually sophisticated

populace (chapter 4). Carefully reasoned briefs against slavery, despotism, torture, religious persecution, cruelty to animals, harshness to children, violence against women, frivolous wars, and the persecution of homosexuals were not just hot air but entered into the decisions of the people and institutions who attended to the arguments and implemented reforms (chapters 4 and 7).

Of course it's not always easy to distinguish empathy from reason, the heart from the head. But the limited reach of empathy, with its affinity for people like us and people close to us, suggests that empathy needs the universalizing boost of reason to bring about changes in policies and norms that actually reduce violence in the world (chapter 9). These changes include not just legal prohibitions against acts of violence but institutions that are engineered to reduce the temptations of violence. Among these wonkish contraptions are democratic government, the Kantian safeguards against war, reconciliation movements in the developing world, nonviolent resistance movements, international peacekeeping operations, the crime prevention reforms and civilizing offensives of the 1990s, and tactics of containment, sanctions, and wary engagement designed to give national leaders more options than just the game of chicken that led to the First World War or the appeasement that led to the Second (chapters 3 to 8).

A broader effect of the escalator of reason, albeit one with many stalls, reversals, and holdouts, is the movement away from tribalism, authority, and purity in moral systems and toward humanism, classical liberalism, autonomy, and human rights (chapter 9). A humanistic value system, which privileges human flourishing as the ultimate good, is a product of reason because it can be *justified*: it can be mutually agreed upon by any community of thinkers who value their own interests and are engaged in reasoned negotiation, whereas communal and authoritarian values are parochial to a tribe or hierarchy (chapters 4 and 9).

When cosmopolitan currents bring diverse people into discussion, when freedom of speech allows the discussion to go where it pleases, and when history's failed experiments are held up to the light, the evidence suggests that value systems evolve in the direction of liberal humanism (chapters 4 to 9). We saw this in the recent decline of totalitarian ideologies and the genocides and wars they ignited, and we saw it in the contagion of the Rights Revolutions, when the indefensibility of oppressing racial minorities was generalized to the oppression of women, children, homosexuals, and animals (chapter 7). We saw it as well in the way that these revolutions eventually swept up the conservatives who first opposed them. The exception that proves the rule is the insular societies that are starved of ideas from the rest of the world and muzzled by governmental and clerical repression of the press: these are also the societies that most stubbornly resist humanism and cling to their tribal, authoritarian, and religious ideologies (chapter 6). But even these societies

may not be able to withstand the liberalizing currents of the new electronic Republic of Letters forever.

The metaphor of an escalator, with its implication of directionality superimposed on the random walk of ideological fashion, may seem Whiggish and presentist and historically naïve. Yet it is a kind of Whig history that is supported by the facts. We saw that many liberalizing reforms that originated in Western Europe or on the American coasts have been emulated, after a time lag, by the more conservative parts of the world (chapters 4, 6, and 7). And we saw correlations, and even a causal relation or two, between a well-developed ability to reason and a receptiveness to cooperation, democracy, classical liberalism, and nonviolence (chapter 9).

## REFLECTIONS

The decline of violence may be the most significant and least appreciated development in the history of our species. Its implications touch the core of our beliefs and values—for what could be more fundamental than an understanding of whether the human condition, over the course of its history, has gotten steadily better, steadily worse, or has not changed? Hanging in the balance are conceptions of a fall from innocence, of the moral authority of religious scripture and hierarchy, of the innate wickedness or benevolence of human nature, of the forces that drive history, and of the moral valuation of nature, community, tradition, emotion, reason, and science. My attempt to document and explain declines of violence has filled many pages, and this is not the place to fill many more in exploring their implications. But I will end with two reflections on what one might take away from the historical decline of violence.

The first concerns the way we should view modernity—the transformation of human life by science, technology, and reason, with the attendant diminishment of custom, faith, community, traditional authority, and embeddedness in nature.

A loathing of modernity is one of the great constants of contemporary social criticism. Whether the nostalgia is for small-town intimacy, ecological sustainability, communitarian solidarity, family values, religious faith, primitive communism, or harmony with the rhythms of nature, everyone longs to turn back the clock. What has technology given us, they say, but alienation, despoliation, social pathology, the loss of meaning, and a consumer culture that is destroying the planet to give us McMansions, SUVs, and reality television?

Lamentations of a fall from Eden have a long history in intellectual life, as the historian Arthur Herman has shown in *The Idea of Decline in Western History*.<sup>16</sup> And ever since the 1970s, when romantic nostalgia became the conventional wisdom, statisticians and historians have marshaled facts against it. The titles of their books tell the story: *The Good News Is the Bad News Is Wrong*,

*It's Getting Better All the Time, The Good Old Days—They Were Terrible!, The Case for Rational Optimism, The Improving State of the World, The Progress Paradox, and most recently, Matt Ridley's The Rational Optimist and Charles Kenny's Getting Better.*<sup>17</sup>

These defenses of modernity recount the trials of daily living before the advent of affluence and technology. Our ancestors, they remind us, were infested with lice and parasites and lived above cellars heaped with their own feces. Food was bland, monotonous, and intermittent. Health care consisted of the doctor's saw and the dentist's pliers. Both sexes labored from sunrise to sundown, whereupon they were plunged into darkness. Winter meant months of hunger, boredom, and gnawing loneliness in snowbound farmhouses.

But it was not just mundane physical comforts that our recent ancestors did without. It was also the higher and nobler things in life, such as knowledge, beauty, and human connection. Until recently most people never traveled more than a few miles from their place of birth. Everyone was ignorant of the vastness of the cosmos, the prehistory of civilization, the genealogy of living things, the genetic code, the microscopic world, and the constituents of matter and life. Musical recordings, affordable books, instant news of the world, reproductions of great art, and filmed dramas were inconceivable, let alone available in a tool that can fit in a shirt pocket. When children emigrated, their parents might never see them again, or hear their voices, or meet their grandchildren. And then there are modernity's gifts of life itself: the additional decades of existence, the mothers who live to see their newborns, the children who survive their first years on earth. When I stroll through old New England graveyards, I am always struck by the abundance of tiny plots and poignant epitaphs. "Elvina Maria, died July 12, 1845; aged 4 years, and 9 months. *Forgive this tear, a parent weeps. 'Tis here, the faded floweret sleeps.*"

Even with all these reasons why no romantic would really step into a time machine, the nostalgic have always been able to pull out one moral card: the profusion of modern violence. At least, they say, our ancestors did not have to worry about muggings, school shootings, terrorist attacks, holocausts, world wars, killing fields, napalm, gulags, and nuclear annihilation. Surely no Boeing 747, no antibiotic, no iPod is worth the suffering that modern societies and their technologies can wreak.

And here is where unsentimental history and statistical literacy can change our view of modernity. For they show that nostalgia for a peaceable past is the biggest delusion of all. We now know that native peoples, whose lives are so romanticized in today's children's books, had rates of death from warfare that were greater than those of our world wars. The romantic visions of medieval Europe omit the exquisitely crafted instruments of torture and are innocent of the thirtyfold greater risk of murder in those times. The centuries for which people are nostalgic were times in which the wife of an adulterer could have her nose cut off, a seven-year-old could be hanged for stealing a petticoat, a

prisoner's family could be charged for easement of irons, a witch could be sawn in half, and a sailor could be flogged to a pulp. The moral commonplaces of our age, such as that slavery, war, and torture are wrong, would have been seen as saccharine sentimentality, and our notion of universal human rights almost incoherent. Genocide and war crimes were absent from the historical record only because no one at the time thought they were a big deal. From the vantage point of almost seven decades after the world wars and genocides of the first half of the 20th century, we see that they were not harbingers of worse to come, nor a new normal to which the world would grow inured, but a local high from which it would bumpily descend. And the ideologies behind them were not woven into modernity but atavisms that ended up in the dustbin of history.

The forces of modernity—reason, science, humanism, individual rights—have not, of course, pushed steadily in one direction; nor will they ever bring about a utopia or end the frictions and hurts that come with being human. But on top of all the benefits that modernity has brought us in health, experience, and knowledge, we can add its role in the reduction of violence.

To writers who *have* noticed declines of violence, the sheer abundance of them, operating on so many scales of time and magnitude, has an aura of mystery. James Payne wrote of a temptation to allude to "a higher power at work," of a process that seems "almost magical."<sup>18</sup> Robert Wright nearly succumbs to the temptation, wondering whether the decline of zero-sum competition is "evidence of divinity," signs of a "divinely imparted meaning," or a story with a "cosmic author."<sup>19</sup>

I can easily resist the temptation, but agree that the multiplicity of datasets in which violence meanders downward is a puzzle worth pondering. What do we make of the impression that human history contains an arrow? Where is this arrow, we are entitled to wonder, and who posted it? And if the alignment of so many historical forces in a beneficial direction does not imply a divine sign painter, might it vindicate some notion of moral realism—that moral truths are out there somewhere for us to discover, just as we discover the truths of science and mathematics?<sup>20</sup>

My own view is that the Pacifist's Dilemma at least clarifies the mystery, and shows how the nonrandom direction of history is rooted in an aspect of reality that informs our conceptions of morality and purpose. Our species was born into the dilemma because our ultimate interests are distinct, because our vulnerable bodies make us sitting ducks for exploitation, and because the enticements to being the exploiter rather than the exploited will sentence all sides to punishing conflict. Unilateral pacifism is a losing strategy, and joint peace is out of everyone's reach. These maddening contingencies are inherent in the mathematical structure of the payoffs, and in that sense they are in the nature of reality. It is no wonder that the ancient Greeks blamed their wars on

the caprice of the gods, or that the Hebrews and Christians appealed to a moralistic deity who might jiggle the payoffs in the next world and thereby change the perceived incentive structure in this one.

Human nature, as evolution left it, is not up to the challenge of getting us into the blessedly peaceful cell in the upper left corner of the matrix. Motives like greed, fear, dominance, and lust keep drawing us toward aggression. And though a major work-around, the threat of tit-for-tat vengeance, has the potential to bring about cooperation if the game is repeated, in practice it is miscalibrated by self-serving biases and often results in cycles of feuding rather than stable deterrence.

But human nature also contains motives to climb into the peaceful cell, such as sympathy and self-control. It includes channels of communication such as language. And it is equipped with an open-ended system of combinatorial reasoning. When the system is refined in the crucible of debate, and its products are accumulated through literacy and other forms of cultural memory, it can think up ways of changing the payoff structure and make the peaceful cell increasingly attractive. Not least among those tactics is the super-rational appeal to another abstract feature of reality: the interchangeability of perspectives, the nonspecialness of our parochial vantage points, which corrodes the dilemma by blending the payoffs of the two antagonists.

Only an inflated sense of our own importance could turn our desire to escape the Pacifist's Dilemma into a grand purpose of the cosmos. But the desire does seem to tap into contingencies of the world that are not exactly physical, and so it is different from the desires that were the mothers of other inventions such as refined sugar or central heating. The maddening structure of a Pacifist's Dilemma is an abstract feature of reality. So is its most comprehensive solution, the interchangeability of perspectives, which is the principle behind the Golden Rule and its equivalents that have been rediscovered in so many moral traditions. Our cognitive processes have been struggling with these aspects of reality over the course of our history, just as they have struggled with the laws of logic and geometry.

Though our escape from destructive contests is not a cosmic purpose, it *is* a human purpose. Defenders of religion have long claimed that in the absence of divine edicts, morality can never be grounded outside ourselves. People can pursue only selfish interests, perhaps tweaked by taste or fashion, and are sentenced to lives of relativism and nihilism. We can now appreciate why this line of argument is mistaken. Discovering earthly ways in which human beings can flourish, including stratagems to overcome the tragedy of the inherent appeal of aggression, should be purpose enough for anyone. It is a goal that is nobler than joining a celestial choir, melting into a cosmic spirit, or being reincarnated into a higher life-form, because the goal can be justified to any fellow thinker rather than being inculcated to arbitrary factions by charisma, tradition, or force. And the data we have seen in this book show that it is a goal

on which progress can be made—progress that is halting and incomplete, but unmistakable nonetheless.

A final reflection. In writing this book I have adopted a voice that is analytic, and at times irreverent, because I believe the topic has inspired too much piety and not enough understanding. But at no point have I been unaware of the reality behind the numbers. To review the history of violence is to be repeatedly astounded by the cruelty and waste of it all, and at times to be overcome with anger, disgust, and immeasurable sadness. I know that behind the graphs there is a young man who feels a stab of pain and watches the life drain slowly out of him, knowing he has been robbed of decades of existence. There is a victim of torture whose contents of consciousness have been replaced by unbearable agony, leaving room only for the desire that consciousness itself should cease. There is a woman who has learned that her husband, her father, and her brothers lie dead in a ditch, and who will soon "fall into the hand of hot and forcing violation."<sup>21</sup> It would be terrible enough if these ordeals befell one person, or ten, or a hundred. But the numbers are not in the hundreds, or the thousands, or even the millions, but in the hundreds of millions—an order of magnitude that the mind staggers to comprehend, with deepening horror as it comes to realize just how much suffering has been inflicted by the naked ape upon its own kind.<sup>22</sup>

Yet while this planet has gone cycling on according to the fixed law of gravity, that species has also found ways to bring the numbers down, and allow a greater and greater proportion of humanity to live in peace and die of natural causes.<sup>23</sup> For all the tribulations in our lives, for all the troubles that remain in the world, the decline of violence is an accomplishment we can savor, and an impetus to cherish the forces of civilization and enlightenment that made it possible.

## Preface

1. Estimating probability from availability in memory: Slovic, 1987; Tversky & Kahneman, 1973.
2. Long Peace: Coined by Gaddis, 1986.
3. Discussions of the decline of violence in my previous books: Pinker, 1997, pp. 518–19; Pinker, 2002, pp. 166–69, 320, 330–36.
4. Other books on the decline of violence: Elias, 1939/2000; Human Security Report Project, 2011; Keeley, 1996; Muchembled, 2009; Mueller, 1989; Nazaretyan, 2010; Payne, 2004; Singer, 1981/2011; Wright, 2000; Wood, 2004.

## Chapter 1: A Foreign Country

1. Survey data: Bennett Haselton and I presented 265 Internet users with five pairs of historical periods and asked them which they thought had higher rates of violent death: prehistoric hunter-gatherer bands or the first states; contemporary hunter-gatherer bands or modern Western societies; homicide in 14th-century England or 20th-century England; warfare in the 1950s or the 2000s; homicide in the United States in the 1970s or the 2000s. In each case respondents thought the later culture was more violent, by a factor of 1.1 to 4.6. In each case, as we shall see, the earlier culture was more violent, by a factor of 1.6 to more than 30.
2. Ötzi: B. Cullen, "Testimony from the Iceman," *Smithsonian*, Feb. 2003; C. Holden, "Iceman's final hours," *Science*, 316, Jun. 1, 2007, p. 1261.
3. Kennewick Man: McManamon, 2004; C. Holden, "Random samples," *Science*, 279, Feb. 20, 1998, p. 1137.
4. Lindow Man: Joy, 2009.
5. Severed skull with preserved brain: "2000-year-old brain found in Britain," *Boston Globe*, Dec. 13, 2008.
6. Murdered family: C. Holden, "A family affair," *Science*, 322, Nov. 21, 2008, p. 1169.
7. Homeric warfare: Gottschall, 2008.
8. Agamemnon encourages genocide: Homer, 2003, p. 101.
9. "Fast ships with shallow drafts": Gottschall, 2008, p. 1.
10. "Breached with surprising ease": Gottschall, 2008, pp. 143–44.
11. "Many sleepless nights": *Iliad* 9.325–27, quoted in Gottschall, p. 58.
12. The Hebrew Bible: Kugel, 2007.
13. "Should our sister": Genesis 34:25–31.
14. "kill every male": Numbers 31.
15. "Thou shalt save alive nothing": Deuteronomy 20:16–17.
16. "utterly destroyed" Jericho: Joshua 6.
17. "destroyed all that breathed": Joshua 10:40–41.
18. "Now go and smite Amalek": 1 Samuel 15:3.
19. Saul plots to have him killed: 1 Samuel 18:7.
20. "wasted the country": 1 Chronicles 20:1–3.
21. Solomon's "divine wisdom": 1 Kings 3:23–28.
22. Quantifying biblical homicide: Schwager, 2000, pp. 47, 60.
23. Victims of the Noachian flood: Biblical literalists date the flood to around 2300 BCE. McEvedy & Jones, 1978, estimate that the world contained around 14 million people in 3000 BCE and 27 million in 2000 BCE.

284. Low but significant correlation between IQ and integrative complexity: Suedfeld & Coren, 1992. Correlation of 0.58 among presidents: Simonton, 2006.
285. Integrative complexity and violence: Tetlock, 1985, pp. 1567–68.
286. Integrative complexity and major wars: Suedfeld & Tetlock, 1977.
287. Integrative complexity and Arab-Israeli wars: Suedfeld, Tetlock, & Ramirez, 1977. Integrative complexity and U.S.-Soviet actions: Tetlock, 1985.
288. Teasing apart effects of integrative complexity: Tetlock, 1985; Tetlock et al., 1996.
289. Integrative complexity of American political discourse: Rosenau & Fagen, 1997.
290. Inane 1917 congressman: Quoted in Rosenau & Fagen, 1997, p. 676.
291. Inane 1972 senator: Quoted in Rosenau & Fagen, 1997, p. 677.
292. Sophistication of U.S. presidential debates: Gorton & Diels, 2010.
293. Inhabitant of the breast: Smith, 1759/1976, p. 136.

### Chapter 10: On Angels' Wings

1. Hitler was not an atheist: Murphy, 1999.
2. Nazism and Christianity: Ericksen & Heschel, 1999; Goldhagen, 1996; Heschel, 2008; Steigmann-Gall, 2003; Chirot & McCauley, 2006, p. 144.
3. Common cause between Nazism and the church: Ericksen & Heschel, 1999, p. 11.
4. Marxism and Christianity: Chirot & McCauley, 2006, pp. 142–43; Chirot, 1995.
5. Gifts and amity: Mauss, 1924/1990.
6. Unsexy merchants: Mueller, 1999, 2010b.
7. Only nursing mothers should command nuclear forces: D. Garner, "After atom bomb's shock, the real horrors began unfolding," *New York Times*, Jan. 20, 2010.
8. Handbagged: Shultz, 2009.
9. Surplus of men, deficit of peace: Hudson & den Boer, 2002.
10. Sparing bare branches: Hudson & den Boer, 2002, p. 26.
11. Bolus of men: Hudson & den Boer, 2002.
12. Number of young men and odds of war: Fearon & Laitin, 2003; Mesquida & Wiener, 1996.
13. *Sex and War*: Potts, Campbell, & Hayden, 2008.
14. Mixing of peoples fosters humanism: Examples include the findings that countries in which women are more influential have less domestic violence (Archer, 2006a); that people who know gay people are less homophobic (see note 232 to chap. 7); and that American counties along coasts and waterways are more liberal (Haidt & Graham, 2007).
15. Escalator of reason, expanding circle: Both are taken from Singer, 1981/2011.
16. The idea of decline: Herman, 1997.
17. Rational optimists: Bettmann, 1974; Easterbrook, 2003; Goklany, 2007; Kenny, 2011; Ridley, 2010; Robinson, 2009; Wattenberg, 1984.
18. A higher power?: Payne, 2004, p. 29.
19. Evidence of divinity?: Wright, 2000, p. 319. Divinely imparted meaning?: Wright, 2000, p. 320. Cosmic author?: Wright, 2000, p. 334.
20. Moral realism: Nagel, 1970; Railton, 1986; Sayre-McCord, 1988; Shafer-Landau, 2003; Harris, 2010.
21. "hot and forcing violation": *Henry V*, act 3, scene 3.
22. Hundreds of millions murdered: Rummel, 1994, 1997. "Naked ape": from Desmond Morris.
23. While this planet has gone cycling on: Charles Darwin, *The Origin of Species*, final sentence.