



## CHAPTER ONE

# PUTTING VENGEANCE AND FORGIVENESS BACK INTO HUMAN NATURE

There seems to be no end to people's appetite for debating the big questions about human nature. Do humans have free will, or are we hopelessly pushed back and forth by forces that are essentially out of our control? To what extent is our behavior a product of culture and to what extent does it emerge from the basic biological realities of human existence? How would people behave if we removed the civilizing influences of parenting, religion, culture, and government? Are we just very smart animals, or is there something more to what makes us distinctively human? Best of all: Are people basically good or basically evil?

A pair of books published in 1996 renewed my interest in the endless debate surrounding the are-we-basically-good-or-are-we-basically-evil question. They sparked my curiosity in part because they addressed the question by looking not at humans, but at

some of our closest living primate relatives. In *Good Natured*, primatologist Frans de Waal uses case studies and decades of his own research to argue that humans have inherited not only greed, deceit, and the love of power from the long-extinct species from which we descended, but also the capacity for a variety of highly moral behaviors: setting and enforcing rules that benefit the group, sharing with the needy, sympathizing with those that suffer, offering consolation to the vanquished, and returning favors to the generous. By de Waal's lights, our biological heritage has resulted in a human nature that's both "fundamentally brutish" and "fundamentally noble."<sup>1</sup>

Case closed? Not so fast. For sure, de Waal's depiction is an important and novel installment on the age-old debate, but the book right next to *Good Natured* on my shelf shows that there's something very important still to be said about the "fundamentally brutish" side of humanity's moral repertoire. In *Demonic Males*, Harvard anthropologist Richard Wrangham and his writing partner Dale Peterson acknowledge that chimpanzees have the cooperative and moral streak that de Waal writes about, but what strikes Wrangham and Peterson about chimpanzee morality is that it's very much an "ingroup" morality.<sup>2</sup> Chimpanzees seem to have a certain set of rules for how to treat members of their own living groups and a very different—and more cold-blooded—set of rules for how to treat chimpanzees from other groups.

After many years of believing that chimpanzees were mostly peace-loving and docile (save for petty squabbles, protests over unfair treatment, and rowdy competitions for leadership within the community), naturalists began to publish case after case in which chimpanzees from one community went out of their way to seek out the members of other chimpanzee communities, and then to maim and kill them. As primatologists began to put the disturbing clues together—clues such as the chimpanzee corpses left in the bloody aftermath of these encounters—they came to the conclusion that bands of adult and adolescent chimpanzee males occasionally gather in something like "war parties" for the purpose of patrolling the borders of their territories and killing males from other communities. These killings usually seem opportunistic—if you find a strange chimpanzee male that you

can overpower with force of numbers, get him—but on occasion the attacks seem more calculated, more sinister.

Here's a grisly example of what can happen. In the early 1960s, when Jane Goodall began studying the community of chimpanzees in Tanzania's Kasekela region, the community was already getting too large. Fifteen boisterous adult males were just too many for a single group to manage comfortably. Eventually, the Kasekela community splintered and a new Kahama community was formed, with roughly equal numbers of males in each. The individuals in these two emerging communities were once close associates, of course, but after the split, relations between the Kasekela group and the new Kahama group gradually became more distant and more tense. Eventually, relations between the two groups became downright hostile, and later, deadly. Raids and opportunistic attacks ensued over the course of several years. One by one, the Kahama males (and many of the females) began to disappear. Then one day, Kahama was no more. Their former friends from Kasekela had annihilated them.

Blame it on male bonding. Wrangham and Peterson argue that at some point back in chimpanzees' evolutionary history, males began to develop strong positive psychological attachments (called *coalitional bonds*) to other males within the community. Coalitional bonding developed, they argue, precisely because it helped the group to function better, but with its benefits for group cohesiveness came hostility and an attack-on-sight ethic toward individuals from other communities.<sup>3</sup> Male bonding helped ancestral apes preserve their own territories and look after their own relatives and associates, but it also generated antipathy toward members of other groups.

It's hard to resist comparing the Kasekela and Kahama communities to the Jets and the Sharks of *West Side Story*, or to the stranded boys in *Lord of the Flies* who splinter into two mutually hostile groups under the leadership of Jack the hunter and Ralph the guardian of civility. Like us, it seems, chimpanzees have a coalitional psychology—a tendency to form tightly structured ingroups that foment hostility toward outgroups. Scores of studies in social psychology now show that human beings maintain a certain set of moral rules for kith and kin, and a very different set for outsiders.<sup>4</sup>

The realization that chimpanzees divide their social worlds into Jets and Sharks with so little cognitive effort—just as we do—came home for me one crisp October day in 2003 when I was touring the field station of the Yerkes National Primate Research Center, part of Emory University. The Center includes two separate communities of chimpanzees—the very communities that Frans de Waal has been studying for many years. Even though I had read about chimpanzee aggression, I was surprised to learn that the two colonies of chimpanzees at the Center are completely isolated from each other, and that they probably don't even know of each other's existence. The researchers at Yerkes aim to keep it that way: they house the two colonies on opposite sides of the Center's large wooded property. When I asked my tour guide what would happen if the two colonies got together one afternoon for a "mixer," she shot me a look: "Let's just say that it wouldn't be pretty."

Having read *Demonic Males* some years previously, I didn't press for details, but I got some details to mull over a couple of years later. In a newspaper article, I read how Buddy, age sixteen, and Ollie, age thirteen—two male chimpanzees living at an animal sanctuary called "Animal Haven Ranch" near Bakersfield, California—escaped from their cages and attacked a human male visitor, chewing off most of his face and tearing off his testicles and a foot before they were shot by the owners' son-in-law.<sup>5</sup>

De Waal's titular implication that chimpanzees (and maybe we) are "good natured," and Wrangham and Peterson's suggestion that they (and maybe we) are "demonic," gets us right into a critical point about the place of forgiveness and revenge in human nature: Maybe they're both natural. But this assertion is a major departure from the way that most social scientists, and in fact, most people, think about revenge and forgiveness today.

## IS REVENGE A COMMUNICABLE DISEASE? IS FORGIVENESS THE CURE?

Most people view the desire for revenge as something decidedly abnormal—something like a disease that invades a hapless host, replicates, and then infects other poor souls. This view is, in fact,

the orthodox view of revenge in Western society: revenge is an infection that invades a vulnerable host (perhaps one whose resistance to the infection has been weakened by a poor constitution or a bad childhood), releases a toxin that poisons the host morally, physically, and psychologically, and then wreaks destructive effects on the avenger and the objects of his or her vengeance—sometimes spreading from one host to another until the outbreak reaches epidemic proportions. I call the orthodox Western view of revenge the *disease model* of revenge.

Because revenge is seen as dirty, dangerous, and communicable, talking about it has become taboo. Even when we're really angry, resentful, and filled with a desire for retribution, we dare not use the name revenge to justify our own behavior toward our attackers for fear of seeming petty, base, immoral, immature, or just plain evil. As Susan Jacoby writes in *Wild Justice*—one of the few books that has questioned the disease model of revenge—“We are more comfortable with the notion of forgiving and forgetting, however unrealistic it may be, than with the private and public reality of revenge, with its unsettling echoes of the primitive and its inescapable reminder of the fragility of human order.”<sup>6</sup>

The disease model of revenge has been standard fare in Western thought for millennia. Part of its appeal comes from the most influential Western religious traditions. Scriptures and popular piety in Christianity and Judaism both stress the notion that forgiveness is a good thing to do (they've got their own ways of praising and motivating vengeance, too, but I'm saving that for Chapter Ten).<sup>7</sup> The Western world's greatest dramatists, essayists, and novelists have also made the disease model of revenge their stock-in-trade. Many of the tragedies of antiquity, as well as the poetry and drama of the Elizabethan era, for example, are soaked in bloody revenge that spreads like the Ebola virus.<sup>8</sup>

If Western religion and Western literature set the disease model of revenge in motion, Western society's therapeutic mindset raised the disease model of revenge to the exalted place it enjoys today. The influence of the mental health profession was once restricted to preventing and treating mental disorders, identifying and nurturing intellectual talent, and assisting veterans in their transitions from the battlefield to civilian life. But mental

health professionals now claim authority over the entire range of human behavior—revenge included. The mental health profession, which models itself after the field of medicine, conceptualizes many undesirable behaviors as illnesses, so mental health professionals were in a very good position to promulgate the disease model of revenge during the twentieth century.

Actually, psychiatry didn't have much to say about revenge until 1948, when Karen Horney, an influential psychoanalyst, published an essay titled "The Value of Vindictiveness." Horney describes how the desire for revenge could absorb people for a moment in time, or for life—becoming, effectively, a chronic illness: "This drive can be the governing passion of a life-time to which everything is subordinated, including self-interest. All intelligence, all energies, then, are dedicated to the one goal of vindictive triumph."<sup>9</sup> Horney goes so far as to argue that people prevented from exercising their vengeful impulses may exhibit symptoms such as headaches, stomachaches, fatigue, and insomnia—in short, the desire for revenge produces such a powerful psychological toxin that it literally makes you sick.

Horney's ideas were warmly received—hardly surprising given that the ideas were familiar to anyone acquainted with the great works of Western literature (which Horney cites aplenty). The notion that vindictiveness is evidence that something has gone awry in the sufferer, who therefore should be treated for a disorder, is now so well established that we rarely think about it. Even mental health professionals have tended simply to assume its veracity rather than to test this link empirically.

For example, a paper in the *British Journal of Psychiatry* titled "Psychiatric Problems Following Bereavement by Murder or Manslaughter" described "obsessive revenge seeking," along with post-traumatic stress disorder, major depression, and anxiety disorders, as one of the common "diagnostic categories" that people experience after the murder of a loved one.<sup>10</sup> In another study, scientists who examined the mental health of Kosovar Albanians during some of the most intense violence of the war in Kosovo thought it was important to measure their subjects' hatred and feelings of revenge toward the Serbs.<sup>11</sup> I'm not saying that it's *not* important to measure the hatred and feelings of revenge of a victimized group, or that obsessive revenge-seeking

is *not* a common characteristic of people who have had a loved one murdered. To the contrary, such reactions are typical, if not universal. Nevertheless, the assumption that the desire for vengeance is a symptom or, even more strongly, a cause of illness or disease is just that—an assumption.

Horney and other proponents of the disease model of revenge are correct to link the desire for revenge with mental illness: vindictiveness is a feature of many of the mental disorders that psychiatrists call “personality disorders.”<sup>12</sup> And, of course, some of the most outrageous acts of revenge-motivated violence that we see in the real world are committed by people who really are suffering from some form of mental disorder. Seung-Hui Cho—the Virginia Tech undergraduate who killed twenty-seven fellow students and five professors before killing himself one morning in April 2007 during a rampage that he attributed, incomprehensibly, to a desire for vengeance—was surely hobbled by a severe mental illness that compromised his reality-testing, his moral judgment, and his ability to empathize with others.<sup>13</sup> But not even this means that the desire for revenge makes people crazy: an equally plausible (and in Seung-Hui Cho’s case, more plausible) explanation is that mental disorders and emotional problems make people sensitive to interpersonal injury, and then make it difficult for them to resist the natural vindictive impulses that arise when they perceive that they’ve been injured.<sup>14</sup>

More recent studies show that when people think vengeful or vindictive thoughts about someone who harmed them in the past, they experience increases in blood pressure and heart rate.<sup>15</sup> Such findings suggest that holding a grudge for years or decades could contribute to wear and tear on the cardiovascular system, which in turn could be one of the physiological mechanisms by which hostile thoughts and feelings cause people to die prematurely.<sup>16</sup> But none of this evidence makes the desire for revenge itself a disease either. For me, thinking about cleaning out the garage increases cardiovascular arousal and negative emotion, but nobody would argue that gearing up to clean out the garage is a disease or some form of pathology for which we need a cure. Still, the power of the disease model is such that when problems get framed as diseases, well-meaning people often go off in search of cures.

## REVENGE AS “ILLNESS” AND FORGIVENESS AS “CURE”: THANK THE STANDARD SOCIAL SCIENCE MODEL

Looking through the lens of the disease model, many contemporary mental health professionals see forgiveness as the best “treatment” for vindictiveness and resentment—like a cure for a disease, an antidote for a poison, or a balm for a wound. One psychiatrist recently endorsed a colleague’s work on forgiveness by saying that it “may be as important to the treatment of emotional and mental disorders as the discovery of sulfa drugs and penicillin were to the treatment of infectious diseases.”<sup>17</sup> Another recent book title dubs forgiveness “the greatest healer of all.”<sup>18</sup> But the “cure” model of forgiveness is as erroneous as is the disease model of revenge.

The idea that the desire for revenge is a disease, and that forgiveness is its cure, sounds so right to so many people because it fits so well with the reigning paradigm in the social sciences—what John Tooby and Leda Cosmides have called the “Standard Social Science Model.”<sup>19</sup> The Standard Social Science Model is based on the proposition that everything that exists in your mind was put there by forces acting on your mind from the outside—the reinforcements and punishments you receive throughout life, your interactions with caregivers and role models, and the norms and folkways of your particular culture. According to the Standard Social Science Model, your emotions, thoughts, preferences, and perceptual biases are cultural products. Sure, maybe chimpanzees can be characterized as “good natured” or “demonic,” but humans? The Standard Social Science Model says, “no way.”

The Standard Social Science Model has many conceptual roots. The first is the radical behaviorism that preoccupied psychologists from the 1920s until well into the 1960s, when the field of “cognitive science” gained greater control over psychology. The second is the cultural relativism (that is, the conviction that human culture is created entirely in response to local conditions) that preoccupied anthropologists in the first half of the twentieth century. The third is the belief that culture, rather than

biology, is the predominant cause of human behavior, which continues to preoccupy sociologists right up to the present day. Social scientists have labored under the influence of the Standard Social Science Model for decades, and the model has blinded them to profound realities about human nature.<sup>20</sup>

Most critically, the Standard Social Science Model would have us believe that there aren't any universal human psychological characteristics. According to the Standard Social Science Model, I as an American could not tell if an Andaman Islander were experiencing joy just because I happened to see a certain type of smile on his face, because there is no universal facial expression for joy. There are also no universal human tendencies to fear snakes, to care for our own children better than the children of strangers, or to deepen our friendships with people by eating with them. None of these traits is universal, according to the Standard Social Science Model, and none could be: human beings think, feel, and act the way they do solely because of the experiences they've had, and because every culture is different, the people that emerge from those cultures will be different too. Even though there is a universal human anatomy—every properly developed human has a circulatory system, a four-chambered heart, a liver, and a giant brain sitting atop his or her nervous system—there is no universal human psychology. Humans, as a species, can't be “good-natured” or “demonic” or anything else because there's no “human nature” there about which we might make such generalizations in the first place.

## PUTTING REVENGE AND FORGIVENESS BACK INTO HUMAN NATURE

Despite the pervasiveness of the Standard Social Science Model and the safe harbor it provides for the “revenge is a disease/forgiveness is the cure” conceit, I don't believe that the desire for revenge is “out there,” like a virus waiting to get inside vulnerable human beings. The scientific evidence against such an idea is overwhelming, as we'll soon see. And it's beginning to look like the Standard Social Science Model has one foot in the grave as well.<sup>21</sup>

So perhaps there really are human universals after all. And if there are, should the desire for revenge and the ability to forgive be counted among them? I believe the answer is yes, and if I'm correct, it has profound implications for how we understand the desire for revenge, control its devastating effects, and help people forgive old grievances and move on with their lives in a peaceful, constructive way. This seems like a good time to restate the first basic truth about revenge and forgiveness that we're going to be exploring: *The desire for revenge isn't a disease to which certain unfortunate people fall prey. Instead, it's a universal trait of human nature, crafted by natural selection, that exists today because it was adaptive in the ancestral environment in which the human species evolved.*

I'm hardly the first writer to suggest that the desire for revenge is part of human nature. The ethical theorist Joseph Butler made a similar point nearly three hundred years ago,<sup>22</sup> as did the philosopher-cum-economist Adam Smith.<sup>23</sup> Butler, Smith, and their ilk used theological and philosophical arguments to bolster their claims, but to make a case today that revenge is a built-in feature of human nature, we have two resources that Butler and Smith didn't have.

First, we have a set of conceptual tools from evolutionary theory that can explain the universal psychological and behavioral features of human nature as well as it can explain the universal physical features of human nature. When Charles Darwin published *The Origin of Species* in 1859, seeds were planted in the biological sciences that would eventually germinate into a theory that made the concept of human nature scientifically plausible. Indeed, the application of evolutionary theory to human behavior and mental processes has begun to supplant the Standard Social Sciences Model. I'll have a lot more to say about evolutionary theory in the chapters to come.

Darwin didn't have a great deal to say about the desire for revenge, but he didn't exempt this desire from his theory of natural selection either. For Darwin, the capacity for revenge was, in fact, characteristic of *all* humans and at least some other vertebrates. In *The Descent of Man* he writes, "It has, I think, now been shewn that man and the higher animals, especially the Primates, have some few instincts in common. All have the same senses, intuitions, and sensations—similar passions, affections,

and emotions, even the more complex ones, such as jealousy, suspicion, emulation, gratitude, and magnanimity; they practise deceit and are revengeful. . . .”<sup>24</sup>

Let me be clear: there’s no single “evolutionary hypothesis” about revenge. Evolutionary theory provides many potential explanations for why revenge exists in the human behavioral repertoire, but the explanation that I’ll pursue in this book is a straightforward one: that the capacity for revenge is a universal human trait because natural selection specifically crafted it for its ability to help humans’ ancestors to solve social problems that threatened their survival and their ability to produce descendants.

For this story about the origin of revenge to be correct, two important things need to have happened during human evolution. The first is that the desire for revenge must have been effective in helping organisms to solve specific *adaptive problems*: challenges in their environment (including the social environment) that, if not surmounted, would have detracted from reproductive success. The second is that individual differences in the motivation to seek revenge must have been transmittable through some mechanism (evolutionary theorists traditionally assume, as do I, that the primary mechanism of transmission is genetic, but the process of cultural transmission has its own role to play, too).<sup>25</sup> If those two conditions—selection and transmission—hold over many generations of reproduction, the capacity for vengeance could become typical of a species, even a species such as ours. The science writer Robert Wright aptly describes the orthodox (and quite possibly correct) genetic-evolutionary view on the place of resentment in human nature: “It evolved not for the good of the species, or the good of the nation, or even for the good of the tribe, but for the good of the individual. And, really, even this is misleading; the impulse’s ultimate function is to get the individual’s genetic information copied. . . . Its origin is no more heavenly than that of hunger, hatred, lust, or any of the other things that exist by virtue of their past success in shoving genes through generations.”<sup>26</sup>

Today, we may view revenge as a problem (and, as we’ll see in the next chapter, it is), but through the lens of evolution, it’s also a solution (as we’ll see in Chapters Three and Four). Echoing

Wright's take on resentment, the emotion theorist Nico Frijda wrote of revenge, "[B]y itself it is tailored to be for the individual's benefit. Revenge is a natural thing to desire, and sometimes it is a natural thing to take."<sup>27</sup>

The second resource we have to understand the place of revenge in human nature is a massive database of scientific evidence that tells a remarkably consistent story. Thanks to legions of social scientists, biological scientists, and computer scientists who have examined revenge over the years (some working from an evolutionary point of view, others not), we really don't need theistic or stoic presuppositions, as Joseph Butler and Adam Smith did, to explain why the desire for revenge might be an intrinsic part of human nature. Instead, we can evaluate established scientific facts and then interpret them through the lens of an evolutionary theory that has become ever more sophisticated during the past century and a half.

### THE "IS" AND THE "OUGHT" OF REVENGE

You might be starting to worry that an evolutionary explanation for revenge could be used to justify our species' penchant for revenge. After all, evolutionary theory has been used to justify everything from male infidelity to genocide. But the proposition that revenge is the way things *should be* because it's the way things *are* is called the "naturalistic fallacy": it's just not possible to derive "ought" exclusively from "is."<sup>28</sup> Just because human nature includes a tendency toward a certain behavior, this doesn't mean that the behavior is morally justified or that the tendency should be indulged. For example, even if rape were a sexual strategy that arose in some species due to natural selection, as two evolutionary theorists recently speculated,<sup>29</sup> this wouldn't—and logically, it couldn't—provide a moral justification for rape.

Similarly, if we conclude that the capacity for revenge is a fundamental characteristic of human nature that exists in every healthy human being from every culture, this fact could not serve as a moral justification for taking revenge. I am not going to suggest that we suddenly discard millennia of ethical and legal thought, not to mention the heartbreaking lessons of history, that counsel us to find ways of disciplining our vengeful impulses

(and no one would listen to me even if I did). But if it's true that the desire for revenge is deeply embedded in human nature, we need to know about it. We're not going to improve humanity's lot by ignoring the true state of the human nature.

### FORGIVENESS IS ALSO AN EVOLVED FEATURE OF HUMAN NATURE

By misunderstanding an evolutionary take on revenge, we could also fall prey to a second fallacy: if it turned out that revenge really were an evolved feature of human nature, we could begin to believe that revenge is somehow more “real” or authentically human than is the capacity for forgiveness. For years, many biologists and social scientists alike viewed positive human characteristics—love, friendship, faithfulness, gratitude, honesty, altruism, cooperation, forgiveness, and so forth—as exceptions to the rule of human nature, as self-delusions, or as a white-wash that we've brushed on top of humanity's ruthless, competitive, aggressive, authentic nature.<sup>30</sup> Marty Seligman and Mihaly Csikszentmihalyi recently addressed this blinkered scientific view of the human virtues: “It has been a common but unspoken assumption in the social sciences that negative traits are authentic and positive traits are derivative, compensatory, or even inauthentic, but there are two other possibilities: that negative traits are derivative from positive traits and that the positive and negative systems are separate systems.”<sup>31</sup>

Seligman and Csikszentmihalyi are right. Forgiveness, like other positive human attributes, isn't a pretty façade that we use to mask the ugly reality that we're vengeful brutes. The capacity to forgive is every bit as authentic, every bit as intrinsic to human nature, and every bit as much a product of natural selection as is our penchant for revenge. Frans de Waal's “good-natured” primates are no less authentic, no less biologically grounded, no less a product of evolutionary forces than are Wrangham and Peterson's “demonic males.” Which takes us back to the second basic truth that we'll be exploring: *The capacity for forgiveness, like the desire for revenge, is also an intrinsic feature of human nature—crafted by natural selection—that exists today because it was adaptive in the ancestral environment in which the human species developed.*

When people have been harmed by family members, romantic partners, good neighbors, or close friends, they often feel the urge to reconcile. Sometimes this urge conflicts with urges to engage in other potentially useful responses, including the desire to avoid the harmdoer and the desire to retaliate. But often the urge to reconcile wins out, and people therefore let go of their desires to avoid or retaliate against the wrongdoer. In other words, people forgive, and when they do so, valuable relationships can continue, often better and stronger than they were before the harm occurred.

Such everyday acts of forgiveness are so commonplace that we scarcely take notice. Until recently, scientists didn't take much notice either. In fact, because scientists have been toiling under the influence of the disease model of revenge, we think of forgiveness as the cure for a disease or the balm for a wound. Yet in daily life, forgiveness is often more like a Band-Aid on a scrape, and at first glance, perhaps only slightly more interesting.

But of course uninteresting does not mean unimportant. These mundane instances of forgiveness in our close relationships are the glue that keeps society from coming apart at the seams. The social institutions that make our society work are predicated upon the fact that people have a motivation and an ability to rid themselves of resentments and anger when they're harmed by their close relationship partners. People we care about are inevitably going to harm us, and we're inevitably going to harm them. We can't repair all of these breaches, but we repair many of them. We have to: *Homo sapiens* is a collaborative species that survives and thrives through bonds of affection, trust, and mutual aid. To forgive a friend is to salvage a vital resource. Preserving a relationship of trust and goodwill is much more efficient than developing a new one out of thin air.

It may come as no surprise, then, that humans, many non-human primates, and even domestic goats experience anxiety and tension in the aftermath of interpersonal transgressions—especially in relationships with relatives and close associates.<sup>32</sup> For these species, post-conflict anxiety appears to prompt individuals to reestablish positive contacts with each other as a way of moving forward with their damaged, but still valuable, relationships. The reason such mechanisms exist today is because as these species were evolving many millions of years ago, those individuals who could “forgive” their closest relationship partners

did better on the evolutionary treadmill than those who couldn't forgive, and thus the capacity to get over resentments and reestablish important relationships became typical of the species. Natural selection is also how forgiveness became typical of *our species*—how it became part of human nature.

## HUMAN NATURE CAN BE MADE TO DO “UNNATURAL” THINGS

In “Jerusalem,” William Blake wrote that “It is easier to forgive an Enemy than to forgive a Friend,” but the scientific data show that Blake had it backwards. Forgiving someone you don't like, or who is different from you, or to whom you don't feel very close, is much more difficult than forgiving a friend, or someone to whom you're similar, or someone to whom you do feel close.<sup>33</sup> But sometimes people actually pull it off. In such cases, the relational distance between the victim and the harmdoer, not to mention the sheer magnitude of the harm done, makes forgiveness seem like a miracle rather than the outgrowth of the laws of human nature.

When grieving parents forgive a physician for the grave medical error that resulted in their child's death, they're forgiving someone whom they'll likely never see again. The physician clearly benefits (he or she is relieved of some of his or her guilt, or can feel reasonably certain that a lawsuit has been averted), but it seems like the grieving parents have to absorb all of the cost (they can't get any satisfaction that might come from retaliating; perhaps they waive their right to sue). When a grieving father like Bud Welch forgives his daughter's murderer—and even fights to have him spared the death penalty—he's behaving in a way that, at first glance, might seem hard to explain using evolutionary thinking. During (and after) World War II, many Americans instantly hated anyone of Japanese or German descent whom they encountered. Today, few Americans of my generation feel anything special at all toward people of Japanese or German descent. The old hatred is gone. The fact that the United States managed to stay together as a nation, despite all the damage that our union suffered before, during, and after the Civil War, still amazes me at times.

Is it too much of a stretch to say that Americans managed to “forgive” the Japanese and Germans for the horrors of World War II? Or that the American North and South have (more or less) forgiven each other? I don’t think it is. But even if these instances really do show that forgiving our enemies is possible, why would ideas developed over 150 years ago by an English naturalist who studied barnacles and orchids be the proper way to explain them?

A superficial understanding of evolutionary theory—one that emphasizes truisms such as “survival of the fittest” and so on—would cast doubt on the idea that evolution could lead to mental mechanisms that could produce forgiveness of our enemies. If that’s your understanding of how evolution works, then you’re right to think that perhaps I’m barking up the wrong tree if I’m expecting evolutionary theory to explain forgiveness. But it can. Thus we come back to the third basic truth about revenge and forgiveness that will propel this book along: *To forgive a stranger or a sworn enemy, we have to activate the same mental mechanisms that natural selection developed within the human mind to help us forgive our loved ones, friends, and close associates. To encourage more forgiveness in our communities, and on the world stage, we must create the social conditions that will activate those mechanisms.* Whenever we forgive a bitter enemy, members of a warring faction, or even the insensitive jerk in the next cubicle, the same processes that developed in the human mind to help us forgive our close relationship partners must be activated. When forgiveness occurs, it’s often because we’ve managed to get human nature to do “unnatural” things. This might sound like wishful thinking, but it isn’t. In fact, we make nature do “unnatural” things all the time.

## NEW TRICKS WITH OLD DOGS: CREATING THE CONDITIONS FOR FORGIVENESS

Primatologist Frans de Waal tells of a strange zoo exhibit he once saw in Lop Buri, Thailand. In this exhibit, three large tigers and two dogs were living together in the same enclosure. As the tigers lazed idly in the enclosure, the dogs walked over the tigers’ heads

with no apparent fear of being devoured by the giant cats, even though the tigers outsized them severalfold, and even though tigers' favorite prey are all four-legged mammals.

De Waal explains that the tiger cubs had been orphaned or abandoned by their birth mother, so the zookeepers had enlisted the help of a surrogate dog mother to raise the three tiger cubs along with her own puppy. This social experiment was a tremendous success. The tigers thrived. The mother dog and her puppy did well, too. The five of them lived as one bizarre, happy, blended family.<sup>34</sup> Indeed, the practice of using dogs and even domestic pigs to provide maternal care for infant tigers has become quite common.

A dog or a pig that suckles and rears tiger cubs is engaging in a behavior that, on the surface, seems to make no evolutionary sense. The dogs and pigs gain nothing—in fact, there are tremendous metabolic costs associated with raising three tigers to maturity—and the tigers gain everything. Dogs and pigs have no genetically inherited tendency to take care of infant tigers. Similarly, tigers have no genetically inherited tendency to treat dogs with benevolent indifference, much less filial loyalty. If anything, tigers are genetically prone to view dogs as meals. However, when presented with helpless tiger cubs, a nursing mother dog's natural childrearing instincts kick in and she treats them as her own. And because the tigers were reared by their surrogate mother from early in their lives, they developed a strong attachment to her that prevented them from doing anything to harm her. Who could raise a paw against dear old mom?

Such unusual family arrangements work out because human beings put these creatures together in the right place, and at the right time, so that behavioral inclinations they inherited through thousands of generations of evolutionary history—the mother dog's childrearing instinct and the tigers' attachment to their caregivers—can be used to solve problems that evolution did not select them to address. The mother dog was acting on evolutionarily acquired capabilities that were triggered by a twist of fate: being presented with cute, helpless tiger cubs at the same time she was rearing her own puppy. She perceived these creatures as in need of maternal care, so she absorbed them into her sphere of concern. The mere presence of the infant tigers, which clearly

were no threat to her at that young age, was sufficient to trigger her evolutionarily honed instincts to provide care to small and helpless creatures. Likewise, the tigers' natural tendencies to develop bonds of attachment to their caregivers are not so carefully designed that they discriminate between tiger mothers and dog (or pig) mothers. Instead, "be nice to whomever is supplying you with milk" seems to be the rule at work. This instinct prevented the tigers from viewing their canine foster mother and new sibling as food.

This bringing together of orphaned tigers and a pregnant dog wasn't an environmental accident. Human beings *designed* it, but it only worked because the nature of pregnant dogs and the nature of (infant) tigers provided the right stuff for the human designers to work with. Another animal story shows just how eagerly nature will often go along with such man-made schemes. While pregnant with her own puppies, Mademoiselle Giselle, a papillon, began to show an unnatural interest in the young squirrel named Finnegan that Debby Cantlon (the papillon's human owner) had been nursing back to health after it had fallen out of a tree in the neighborhood. Days before Giselle was to give birth to her own puppies, she began dragging Finnegan's cage over to her own bed on the floor. Repeatedly, Debbie would move the cage away from Giselle's bed, but each time she did so, Giselle would just drag it back over. Eventually, Debbie let Giselle have her way. After giving birth, the papillon continued to show nearly as much interest in the six-week-old Finnegan as in her own pups, so Debbie decided to open the cage and see what would happen. Finnegan emerged and slowly joined the new litter of puppies. He fit right in. After two days, Giselle allowed Finnegan to nurse alongside her five puppies. He began sleeping among, and playing with, his new littermates as if he had belonged there from the start. As if Giselle didn't have enough on her plate with five new pups, it seemed as though she went out of her way to adopt a sixth.<sup>35</sup>

If humans can design environmental conditions in which a dog's evolutionarily crafted instinct to care for its young can be directed toward other animals (even a natural predator like a tiger), why can't we do something similar to ourselves? Why can't we tinker with society so that people are motivated to forgive,

even when the default setting on their evolutionarily crafted social-problem-solving software would motivate them in such a situation to seek revenge instead?

Even though our basic behavioral inclinations are shaped by natural selection, we humans aren't slaves to our instincts. From the perspective of natural selection, it's in our best interests to eat, but people occasionally starve themselves to death because of their loyalty to a compelling idea or an ideal of beauty. Likewise, it would be in our best evolutionary interests to rear many children to maturity, but many couples voluntarily go childless so that they can invest their energies in other pursuits.<sup>36</sup> Because our large brains enable us to reflect on our own condition, to view things from the perspectives of other people, to reason about the causes of our behavior and the behavior of others, to exert control over our appetites and emotions in the service of higher ideals, and to inspire and persuade others to do the same, there is every reason to believe that we can construct social institutions that will encourage forgiveness rather than revenge.

But before we get too far into this exploration of revenge, forgiveness, and human nature, we need to stop briefly to better understand the destructive power of revenge in the modern world. Some of us are so unfamiliar with revenge in our personal lives—we know the feeling but never act on it in any significant way—that we may be seduced into believing that revenge is a problem that plagues other people, in other societies, or at other points in history, but not us. Not so: the desire for revenge is alive and well, and it's still making problems for our species.