

CHAPTER 5

THE TRANSITION TO THE HISTORIC PERIOD

Any animal whatever, endowed with well-marked social instincts ... would inevitably acquire a moral sense or conscience, as soon as its intellectual powers had become as well, or nearly as well developed, as in man. Charles Darwin

A man who possessed no trace of such feelings [social instincts] would be an unnatural monster. Charles Darwin

The Major Shift to the Historic Period

The major human shift from prehistoric to historic times arrived with four cultural/technical innovations: settled agriculture, animal and plant domestication, metallurgy, and writing. The appearance of these innovations began around 10,000 years ago with agriculture and ended around 4,500 years ago with writing. These major changes all seem to have begun in the Middle East, then spread into Eurasia and Africa. Some centuries later these innovations arose independently in New World cultures such as the Maya, Inca, and Aztec. As Niles Eldridge¹ has pointed out, settled agriculture and animal domestication made humans practically the first species in biological history to break free from a very tight, day-to-day dependence on a local natural ecosystem for food as a source of energy. For the first time, humans could not only predictably produce their own food supply but could also—in a form such as grains and livestock—store food in reserve and transport it for trade. For the first time, a single adult could produce enough food to feed several humans and in a much more reliable manner. The domestication of the major animal breeds happened, of course, one by one, but by 6,000 years ago all five of them—goat, pig, sheep, cow, and horse—were domesticated. Bronze, the first widely useful metal, was created around 5,000 years ago. Writing was probably first used by the Sumerians and the Babylonians to keep trading records about 4,500 years ago. Civilization had arrived. The historic period had started. And, in more than one way, humans had truly taken over the planet. For example, these developments combined to trigger a massive

population explosion that is only now beginning to slow down. Population scholars estimate that the world population during the transition period was around six million. Now, of course, it is a thousand times more—about six billion.

Pattern of Life among Hunter-Gatherers at the Start of the Transition to Civilization

Before moving forward, we will take a look at the pattern of life of contemporary hunter-gatherers on the assumption that it approximates that of all humans at the start of the transition to civilization. This will allow us to characterize, in a rough way, the human genetic heritage that would be carried forward to the present, essentially unchanged.

Anthropologists have studied in detail those relatively few hunter-gatherer tribes who still existed in the 20th century, still following their time-honored ways, relatively undisturbed by modern civilization. There are, of course, variations in their ways of life, but the amount of consistency is significant.

On the whole, hunter-gatherer tribes appear to be distinctly peaceable, cooperative, egalitarian, and non-violent within their own tribes. Their bodies all reflect the ongoing process of gracilization that is the mark of being domesticated, of having a drive to bond. They all display a moral sense in their dealings with others of their group. The members of each tribe are strongly bonded interpersonally and to the whole tribe as a collective entity. Within the tribe there is a continuing effort to help members maintain a reasonable balance in their lives between the four drives by using face-to-face social skills.

Consistent with Darwin's theories about conscience and "monsters", a few tribal members seem to have neither a drive to bond nor a conscience, but they seem to have been marginalized by face-to-face social control within the tribe, without much damage to others. Wrangham suggests that hunter-gatherer tribes at times probably punished this free-rider behavior severely by ostracism, exile or even execution. The evidence for this point is limited but the clues do exist. For example, it has been reported by various anthropologists that American Indian tribes had rituals to humiliate powerful persons—such as the leaders of war parties, who may have

been free-riders—in order to normalize their power and influence after successful battles. Similar rituals have been reported among some African tribes. We will offer a story illustrating such practices in Chapter 10.

In terms of differences, each hunter-gatherer tribe would probably have had its own dialect or language, its own tool kit reflecting its stage of technical development, its own science and art, its own religion and god(s), its own political and economic institutions. Each tribe, or set of adjacent tribes, probably evolved superficial but visible differences from others in skin color, facial features, hair color, and so on.

The general pattern of domestic tranquility seen in these tribes contrasts sharply with their pattern of intertribal relationships, which are characterized by hostility and sporadic but often extremely violent warfare. As Wrangham has put it, “In humans peace lives side by side with mayhem.”ⁱⁱ This pattern appears clearly in the studies by anthropologists in New Guinea where Stone Age cultures have survived in arguably their purest form. Wrangham cites the work of Karl Heider among the Dani people of New Guinea. Heider entitled his book *Peaceful Warriors* to encapsulate this paradox in just two words. The Dani had one of the highest homicide rates ever recorded.ⁱⁱⁱ It is as if the drive to bond dominates face-to-face relationships and the drive to acquire dominates relationship with strangers. Perhaps a small number of the ruthless free-riders were even deliberately tolerated within each tribe because of their unique ability to lead in the fights with outsiders. This is a hypothesis that can perhaps even be tested by further search of the anthropological record. Wrangham closes his discussion of this topic by noting that industrial societies, too, are characterized by peace within nations and warfare between them. It is somewhat encouraging to note that laws and police have now pacified intertribal relations in New Guinea.

This sketch of the life of hunter-gatherers serves as a base line to clarify the changes that were triggered by the four big innovations. A list of the major changes would include a population explosion; a growth of personal wealth due to the ability to store edibles; the start of “land ownership” rather than just “foraging territory”; the growth of permanent villages into towns and then trading-center cities; greater division of labor with the growth of artisans, soldiers, priests, teachers, permanent

political leaders, and so on; the explosion of the invention of new tools for transport, energy, shelter, food-gathering, and warfare; the growth in the size of institutionalized collectives of all kinds; greatly increased stratification of wealth and power; and finally tribes growing into nations and empires with continuing boundary warfare..

Changes in the Genetic Heritage at the Time of the Transition to Civilization

What can be said about the human genetic heritage at the time of the transition to civilization? What important developments had occurred since the rise of *H. sapiens* some 140,000 years earlier in some single interbreeding group? In addressing this question it should be remembered that during this period humans had spread throughout the entire world, with the exception of some smaller islands and Antarctica, and had frequently survived for many thousands of years as semi-isolated groups.

Three important changes probably came about as extensions and elaborations of the basic genetic-based changes that established *H. sapiens* in the first place and were described in the previous chapters. They are (a) the development of the development of morality, (b) the variation in visible physical features, and (c) the reduction of free-riders to a small minority, but still a surviving group, as we will see, able to regain inordinate influence in human affairs. One additional important cultural change came about as environmental differences around the globe led to a significant divergence in the rate of cultural/technical development in the scattered human populations.

The Development of Morality

The issue of human morality has been a difficult one for the human sciences to deal with. Historically it has been left to philosophers and theologians. In fact, some scientists argue that science should have no voice in this matter. Stephen Jay Gould devoted an entire book to making this argument.^{iv} Nevertheless, this issue is now being studied systematically by evolutionary biologists and the various social sciences. It should come as no surprise to my readers that I will base my analysis of this important but prickly subject on the thoughts of Darwin.

Morality, I will argue, arose from the existence in humans of both a drive to bond and a superior cognitive ability. It was the emergence of dB in humans that has led to the evolution of a genetically-based starter skill set for morality, an intuitive moral sense of right and wrong. It was the emergence of dC in humans that established the capacity to reason about complex moral dilemmas. Darwin first articulated this exact formulation of morality, although since his time, his propositions on the subject have been almost entirely ignored. To quote Darwin directly:

The following proposition seems to me in a high degree probable—namely, that any animal whatever, endowed with well-marked social instincts ... would inevitably acquire a moral sense or conscience, as soon as its intellectual powers had become as well, or nearly as well developed, as in man. For, firstly, the social instincts lead an animal to take pleasure in the society of its fellows, to feel a certain amount of sympathy with them, and to perform various services for them...

Secondly, as soon as the mental faculties had become highly developed, images of all past actions and motives would be incessantly passing through the brain of each individual; and that feeling of dissatisfaction, or even misery, which invariably results as often as it was perceived that the enduring and always present social instinct had yielded to some other instinct, at the time stronger, but [not] enduring in its nature.^v

This translates exactly into my formulation that human morality is a skill set that arose in humans as a “means” to fulfill an “end,” namely the basic human drive to bond in mutual caring with others. Darwin identifies two essential preconditions: namely, in our terms, advanced cognitive powers and a drive to bond. Given these conditions, he argues, the emergence of morality would be *inevitable*; in other words, the content of moral rules can be deduced by logic from the prior state.

It is interesting that Darwin added a footnote to his thoughts about morals that takes unusually strong exception to the position of John Stuart Mill, the dominant economist of the day and one of the founding fathers of modern economics. The

footnote follows: “Mr. J. S. Mill speaks, in his celebrated work, ‘Utilitarianism,’ (1864, pp. 45, 46) of the social feelings as a ‘powerful natural sentiment,’ [in our terms an innate drive to bond]... He [Mill] also remarks, ‘if, as in my own belief, the moral feelings are not innate, but acquired, they are not for that reason less natural.’ It is with hesitation that I venture to differ at all from so profound a thinker, but [since] it can hardly be disputed that the social feelings are instinctive or innate, [Mill’s belief] that the moral sense is acquired by each individual during his lifetime is at least extremely improbable. The ignoring of all transmitted mental qualities will, as it seems to me, be hereafter judged as a most serious blemish in the works of Mr. Mill.”^{vi} The discipline of economics might have unfolded in a different way if Darwin had convinced Mill of this point.

A number of contemporary scholars from different disciplines have reiterated Darwin’s point about the human race’s innate moral compass. James Q. Wilson, a political scientist, has expressed this idea in *The Moral Sense*:^{vii}

We suggest that these [moral] principles have their source in the parent-child relationship, wherein a concern for fair shares, fair play, and fair judgments arises out of the desire to bond with others. All three principles are rational in a social and evolutionary sense, in that they are useful in minimizing conflict and enhancing cooperation. At some stage in the evolution of mankind—probably a quite early one—cooperative behavior became adaptive. Groups that could readily band together to forage, hunt, and defend against predators were more likely to survive than were solitary individuals.^{viii}

This explanation of morality is also offered by Fran deWaal, a leading primatologist. “This common benevolence nourishes and guides all human morality. Aid to others in need would never be internalized as a duty without the fellow-feeling that drives people to take an interest in one another. Moral sentiments came first; moral principles, second.”^{ix}

E. O. Wilson also makes this point. He states, “Orthodox social theory holds that morality is largely a convention of obligation and duty constructed from mode and custom. The alternative view, favored by Westermarck in his writings on ethics,

is that moral concepts are derived from innate emotions... The evidence now leans strongly to Westermarck.”^x

This entire line of theorizing about morality has recently been pulled together in a comprehensive way by an evolutionary psychologist, Jonathan Haidt. He argues that human morals are based on intuition and emotions and are subsequently elaborated and rationalized by reasoning. “The social intuitionist model ... proposed that morality, like language, is a major evolutionary adaptation for an intensely social species, built into multiple regions of the brain and body, that is better described as emergent than as learned, yet that requires input and shaping from a particular culture. Moral intuitions are therefore both innate and enculturated.”^{xi}

The Rules of Innate Morality

The writers quoted about are explicit in their argument that morality is a universal and innate aspect of humans. However, they do not specify any of the discrete rules of such a moral sense. I addressed this question in an earlier article of mine as follows:

So far we have discussed morals in a very general sense. Can progress be made by using deductive logic to reason carefully about the content, the specific morals that could have been established as a skill set in human genetic memory? At this point a thought experiment, as philosophers would say, is relevant. If one strongly desires to establish a relationship of mutual caring with another, what kinds of behavior toward the other would help fulfill that desire? It is not a big step from the drive to bond to the practical rule that the key is to treat the other person, most of the time, as one would desire to be treated oneself.^{xii}

This “Golden Rule” has appeared in religious and philosophical teaching with regularity for three thousand years.^{xiii} From this start, and presuming that the four drives are in the other person’s head, what behavior would help the other person fulfill his or her own dA, dB, dC, and dD without violating one’s own drives? My preliminary list went as follows:

In support of the other’s drive to acquire:

- Help preserve rather than steal or destroy, the other's property.
- Facilitate, not frustrate, the other's pleasurable experiences.

In support of the other's drive to bond:

- Keep, rather than break, one's promises.
- Seek fair, not cheating, exchanges.
- Return a favor with a favor.

In support of the other's drive to comprehend:

- Tell truths, not falsehoods.
- Share, not withhold, useful information.
- Respect, not ridicule, the other's beliefs, even in disagreement.

In support of the other's drive to defend:

- Help protect, not harm nor abandon, the other.^{xiv}

Based on this logic and on the existence in humans of many other skill sets that support the other three basic drives, I hypothesize that genetic intuitions such as these have become an innate skill applied whenever a person wishes to bond with another person or with a collective. And how many important decisions do not involve the drive to bond to some extent?

These rules are not always followed, of course. The other drives are always competing for preference and sometimes win. Therefore, the true confirmation of my hypothesis is not perfect observance of the rules but feelings of guilt, of a "bad conscience," when they are knowingly broken.

The scholar who has gone the farthest in testing for the content of the moral intuitions of all humans is Marc Hauser. His path breaking 2006 book, *Moral Minds: How Nature Designed Our Universal Sense of Right and Wrong*,^{xv} pulls together his own work on the subject and the widely scattered research of many others, mostly evolutionary psychologists and specialists in child development. He reports from these many studies that there is strong evidence of an innate moral sense in all humans. He goes much further than this by presenting empirical evidence for the existence of some specific moral rules, primarily the following:

- Help others rather than harm them.
- Tell truths, not lies—except for white lies.

- Keep promises.
- Seek fair exchanges that reflect merit differences.
- Detect and punish cheaters.

Hauser also reports the evidence that these moral rules appear in children in their early years: “Children’s sense of fairness is in play as early as four years old, probably earlier. Their sense of fairness is intuitive, based on an internal logic that they are only dimly aware of but that computes the payoffs of an exchange and then generates a permissibility judgment.”^{xvi} This leads him to argue that such rules are genetically-based in humans, but also that they are subject to cultural variation. “For example... though all cultures have some notion of fairness, as revealed by cross-cultural work on bargaining games, cultures differ in terms of where they set the different parameters.”^{xvii} The Ultimatum Game experiments discussed in Chapter 2 offer a clear example of such cultural parameter variation.

While Hauser does not explain the evolution of the moral conscience of humans in the way, following Darwin, that I do, his findings clearly reinforce this explanation by serving to confirm the existence of several of the moral rules that I had earlier logically deduced and cited above. This finding is one additional piece of empirical evidence that supports the accuracy of the four-drive theoretical formulation of ultimate human motives, and in particular the drive to bond.

Probably the most common punishment for violating moral commitments is (as indicated by Darwin) social ostracism, vocally or by the “silent treatment.” Less common—reserved for extreme cases—is the use of solitary confinement or even, as cited by Wrangham above in regard to historical tribal practices, exile or execution. Ostracism as an enforcer of social norms is not only powerful but also low in cost. Infants almost instantly cry out in distress when their welcoming smile to an adult is met with a frozen stare.

This description of human morals moves well beyond the limited type of morals observed in chimpanzees, monkeys and some other mammals. The most revealing work on this subject has been that of Fran de Waal, the primatologist at Emory University. Starting in 1960 he has conducted experiments primarily with chimpanzees and monkeys, mostly rhesus, macaques, and capuchin. In general de

Waal has seen behavior in these animals that was undertaken for the greater good of the community, as distinct from longer-term person-to-person relationships that are a precursor of morality in human societies. While de Waal does not contend that even chimpanzees possess morality, he argues that human morality would be impossible without certain emotional building blocks that are clearly at work in chimp and monkey societies.

By drawing on Fiske's work on the four forms of human sociality as well as on our four drive theory, de Waal's observations can now be tied together with the newer work on human morality explained above. Dr. de Waal reports that monkeys display the social rules of hierarchies to maintain a kind of social order. Each group member is taught to know its place in the pecking order. Young rhesus monkeys occasionally get a finger or toe bitten off to clarify such hierarchical matters. Monkeys also display the basic rules for market exchanges. Capuchin monkeys show their displeasure if given a smaller reward than a partner receives for performing the same task. Monkeys and many other mammals and social birds must have innate mental skill sets for hierarchical behavior built upon the rewards and punishments of dA and dD drives. Chimps also know these rules but they and other apes go further. They show evidence of having the mental skill set called 'theory of mind'. Dr. de Waal noticed that after fights between two chimps, other chimpanzees would console the loser. He found that consolation was universal among the great apes but not among monkeys. Consolation, he argues, requires empathy and a level of self-awareness (theory of mind) that only great apes and humans seem to possess. This mental skill set leads chimpanzees (as well as humans) to act as peacemakers in conflict situations. Chimpanzees as other great apes also display a sense of reciprocity and fairness. Chimps are more likely to share food with those who have groomed them. We should remember, however, that, as revealed by the chimp experiments reported in Chapter 2, chimps do not have a drive to bond in long-lasting relationships (except between mother and infant). Chimpanzee studies also reveal the prevalence of deception and trickery in the social relations of these primates. For example, chimps have been observed going to great trouble to appear to other chimps as if they were hiding food, when they have actually already hidden the food

somewhere else. Since humans have a drive to acquire as well as to bond, such opportunistic behavior obviously also occurs among humans, but to a much lesser extent. This means that the aspects of human morality built upon market exchanges, hierarchy and at least short-term reciprocity are built upon the innate mental skills of other primates, but that the long-term mental skill set of communal sharing is not. It is dependent on the emergence of dB in *H. erectus*.

For a more complete understanding of morality our analysis now needs to address the role of moral reasoning and ethics as reflected in religions teaching and the work of many philosophers. In terms of RD theory this would be tied to Darwin's observation about the intellectual powers of humans and to the emergence of the drive to comprehend in *H. sapiens*. A recent set of experiments conducted by neurologist Damasio along with Michael Koenig of NIH and his coworkers, as reported in Science News of March 24, 2007, provides strong empirical support for the idea that, to quote Damasio, "Human beings can judge [moral dilemmas] on the basis of reason alone [dC] of emotion alone [dB] or on a mixture. Life is too complicated for it to be an simpler than that."

The report in Science continues, "Koenig's' team studied six people with damage limited to the ventromedial prefrontal cortex, a brain region previously implicated in social emotions. The researchers compared [these] patient's responses to 50 hypothetical nonmoral and moral dilemmas with the responses of 12 adults who had no brain damage and of 12 people with brain damage that didn't affect the emotional structures. In about two-thirds of the responses to the nonmoral and impersonal situations, members of all three groups endorsed the greater good, such as killing one worker to spare five others. A disparity emerged on personal judgments, however. In half of the responses, people with prefrontal damage advocated behavior of the greater good, such as smothering one's crying baby to keep enemy soldiers away. Within the other two groups, only one-quarter of responses reflected that pattern.

The researchers ;propose that prefrontal damage dilutes emotional reactions to harm that one inflicts on others. People with such damage solve moral dilemmas by following social conventions for helping as many folks as possible and hurting as few

as possible, rather than by considering personal feelings. “This study vividly illustrates the way that emotions animate or color moral judgments in healthy people,” remarks psychologist Jonathan Haidt of the University of Virginia, “In real life, the loss of social emotions is disastrous for moral judgment and action.”

The Harvard neuroscientist and philosopher Joshua Greens puts it this way, “Usually, the human brain is of two minds when it comes to morality; selfish but self-sacrificing, survivalist yet altruistic, calculating but also compassionate. Many dilemmas force a choice between the lesser of two evils, invoking a clash of competing neural networks. Intuition tempers rational deliberation, especially when our actions to help some people will harm others.”^{xviii} Greens analysis mirrors our argument that what humans identify as moral dilemmas indicate a conflict of drives, often between dA and dB, but at times between dB and dC, between our moral sense and our moral reasoning. And since these choices are often between the lesser of two evils they are never easy.

This analysis of chimpanzee morals and that of ventromedial brain damaged humans makes it clear that, if theirs is the only type of morality that our genetic heritage supports, then any substantial moral code among healthy humans would have to be created almost exclusively by culture and the fear of retribution created by dD. In fact, our moral codes—built upon the moral sense of dB and the moral reasoning of dC—are more enduring and trustworthy.

Darwin made this points about morality in very strong terms: “A moral being is one who is capable of reflecting on his past actions and their motives—of approving of some and disapproving of others; and the fact that man is the one being who certainly deserves this designation, is the greatest of all distinctions between him and the lower animals.”^{xix}

To be sure that people took this point seriously, Darwin repeated it in even stronger terms: “I fully subscribe to the judgment of those writers who maintain that of all the differences between man and the lower animals, the moral sense of conscience is by far the most important.”^{xx} When scholars write off such observations as no more than a reflection of Darwin’s Victorian culture, they ignore the substance of his careful observations and the quality of his scientific reasoning. Of course,

Darwin was not always right, but his batting average was so good that we cannot afford to brush off any of his conclusions.

It is difficult to know when the human moral sense and moral reasoning became established in the human gene pool. It clearly must have developed after the emergence of the drives to bond and to comprehend. Moral sense and moral reasoning has been found in all human societies, so it must have moved with the tribes as they dispersed around the globe, starting around 50,000 years ago. Hauser argues that human morality probably coevolved gradually alongside the evolution of the innate features of language, and this would be consistent with our analysis.

The Variability of Visible Physical Features

The second genetically-based change that humans experienced since the start of *H. sapiens* was the evolution of differences in the physical features of different human populations. The most recent findings about the complete human genome estimate that 99.9% of the genes of all humans are the same. Why, then, are there so many plainly visible differences in the appearance of humans from one group to another around the globe?

A recent study seems to provide a definitive explanation for the most conspicuous such difference—skin color. Two scientists at the California Academy of Sciences, Nina Jablonski and George Chaplin, used very modern methodologies to test the theory that skin color varies with climate, an old theory which had somewhat fallen into disrepute. Recent biological studies have demonstrated that human skin, in order for people to remain healthy, must absorb enough ultraviolet (UV) light to generate adequate amounts of folate (folic acid) and vitamin D-3. Folate is needed for the proper development of the nervous system in fetuses and for sperm production in adult males. Vitamin D-3 helps develop strong bones and an alert immune system. Too much ultraviolet light, however, can trigger skin cancer and even the destruction of the needed biochemicals themselves. As has long been known, skin color varies with the amount of melanin in the skin—the more melanin, the darker the skin. Melanin moderates the rate at which skin absorbs UV rays. Now add the latest methodology, the tracking of UV levels around the globe by NASA satellites. When

this information was compared to the worldwide distribution of local skin color recorded by anthropologists over the years, the puzzle disappeared. Jablonski and Chaplin found a strong correlation between local skin color and the local levels of UV light. Thus, the most conspicuous difference between the races, skin color, has a straightforward explanation based on climate variation and the Darwinian natural selection process.

But what explains differences in the texture and color of hair, in facial features, and so on? The most widely accepted explanation is that these are random fluctuations, which become genetically stabilized through persistent cultural preferences in mate selection. In the world of biologists, a favorite example of this process at work among animals is the preference of peahens for peacocks with large, brilliantly colored tail feathers. No one can say how this well-established genetic preference was started, but, once it was, it has continued to create larger, brighter tail feathers in each successive generation of males. So, in the case of peacocks, a single feature—apparently insignificant at the time from a natural selection standpoint but conspicuous from a mate selection standpoint—emerged as a mate selection preference that became genetically established over many generations. A similar process may have occurred in human populations. Changes in the cultural definitions of beauty, if practiced over multiple generations, would have changed the genes underlying physical appearance. Culture would have changed our genes.

Differences in physical appearance could not have developed if humans had not moved to isolated parts of the globe and stayed separated for long periods. This contingency seems to be how the variability of nonessential external features came about.

The Divergence of Cultural/Technical Development Rates

Jared Diamond, a physiologist at the UCLA Medical School, tells a marvelous story of a conversation he had with a close friend, a native of New Guinea where Diamond did research for several years. New Guineans valued and enjoyed all the equipment and gadgets arriving from the rest of the world—watches, jeans, cola drinks, cameras, radios, and the like—referring to all these imports as “cargo.”

Diamond's friend asked a simple but provocative question: "How come you guys got all the cargo?" Diamond has spent a great deal of time pondering and researching this question.^{xxi}

His answer is both clear and persuasive. He found that differences in the rates at which geographically dispersed societies evolved their cultures and technologies were, to a great extent, caused by differences in the biogeographic conditions to which each society had to adapt.

Diamond starts his analysis by summarizing the obvious large differences in technical and social development between Eurasia and the rest of the world at the time of Columbus. Most Eurasians had iron tools, writing, advanced agriculture, and multiple domesticated animals. They were organized in large centralized states and employed ocean-going ships, muskets, and cannons. Meanwhile, the people of the Americas lacked iron tools and had less-developed agriculture and writing.

Australians were still in the Stone Age without agriculture. Diamond writes:

Nineteenth-century Europeans had a simple, racist answer to such questions. They concluded that they acquired their cultural head start through being inherently more intelligent, and that they therefore had a manifest destiny to conquer, displace, or kill "inferior" peoples. The trouble with this answer is that it is not just loathsome and arrogant, but also wrong. It's obvious that people differ enormously in the knowledge they acquire, depending on their circumstances as they grow up. But no convincing evidence of genetic differences in mental ability among peoples has been found, despite much effort. Because of this legacy of racist explanations, the whole subject of the human differences in level of civilization still reeks of racism. Yet there are obvious reasons why the subject begs to be properly explained. Those technological differences led to great tragedies in the past five hundred years, and their legacies of colonialism and conquest still powerfully shape our world today. Until we can come up with a convincing alternative explanation, the suspicion that racist genetic theories might be true will linger.^{xxii}

Continents differed in the resources on which civilization depends, especially in the wild animal and plant species that proved useful for domestication. Continents

also differed in the ease with which domesticated species could spread from one area to another. Wherever it was practiced, agriculture vastly increased the carrying capacity of the land in terms of human population, releasing many individuals from food production to specialize in other skills such as crafts, the arts, and soldiering. At the same time, domestic animals provided richer food, a steadier supply of clothing materials, and power to transport people and goods and to pull plows. But domestic animals differ from place to place—most mammalian species cannot be domesticated no matter how hard anyone tries. The luck of the draw placed a significant fraction of the viable opportunities on the Eurasian landmass. None of these animals were available for domestication outside Eurasia. “By around 4000 B. C. west Eurasia already had its ‘Big Five’ domestic livestock that continue to dominate today: sheep, goats, pigs, cows, and horses... These animals provided food, power, and clothing, while the horse was also of incalculable military value.”^{xxiii} The llamas and guanacos of South America can be used as beasts of burden but not ridden, and no one has succeeded in getting kangaroos in captivity to do anything useful for humans.

Plants pose similar problems. Self-pollinators like wheat are easier to domesticate than cross-pollinators like rye, and were brought under cultivation far earlier. Australia has very few wild plants suitable for domestication. Although the Americas are rich in native species that are now important to worldwide agriculture, the chief crop—corn—proved very difficult to domesticate.

Diamond does not claim that biogeography is the only contingency that caused the world’s current diversity. The distribution of mineral resources and chance historical events also help account for the timing of the transition from hunter-gatherer to agricultural-pastoral life. Diamond has, however, made a very convincing argument for the way that the biogeographic contingency has had a significant impact on the timing of the shift and the consequent rate of change.

The effects of this contingency, in addition to the effects of the contingency of the isolation of various human groups, should put questions about racial differences to rest. The differences are really of *no* significance.

The Survival of Free-Riders

In the previous chapter, I argued that the female selection of mates for the drive to bond was key to the establishment of this drive and the transition from *H. habilis* to *H. erectus* with its pair-bonded nuclear family. This mate-selection process started reducing the proportion of the male population who were free-riders—those who only had the drives to acquire and defend. The later transition to *H. sapiens*, with its tribal bonding, depended on further reducing the number of free-riders to the tipping point where they could be marginalized by various forms of face-to-face social control. But did the genes supporting bonding become universal, or were some genomes without dB still present in the *H. sapiens* pool, producing a small number of humans without a drive to bond and therefore without a healthy moral sense? Were such people still part of the human population, even in a marginalized way, at the transition to historic times? Based on current evidence, the answer to these questions is yes. And based on the historical record since the start of civilization, we can say that this fact appears to have had terrible consequences. Therefore, the existence of contemporary free-riders urgently needs to be confirmed or refuted by further research and, if confirmed, widely recognized. Darwin, himself, warned us about such people. In speaking of social instincts, he said, “A man who possessed no trace of such feelings [social instincts] would be an unnatural monster.”^{xxiv}

Robert Hare, a professor of psychology at the University of British Columbia, has been leading the way for more than 25 years in research on what he and his colleagues call *psychopaths*. I will draw heavily on his findings and those of others whom he cites, all pulled together in his book, *Without Conscience: The Disturbing World of the Psychopaths Among Us*.^{xxv} It will become clear why Hare’s psychopaths are the same people I have been calling free-riders. Psychiatrists and neurologists join Hare in calling these people psychopaths. But sociologists and psychotherapists have tended to label these same people as sociopaths. Many readers will probably find Hare’s evidence about psychopaths almost unbelievable. I will quote Hare’s book extensively to assure readers that I am not overstating the evidence. Hare begins as follows:

Several years ago two graduate students and I submitted a paper to a scientific journal. The paper described an experiment in which we had used a biomedical recorder to monitor electrical activity in the brains of several groups of adult men while they performed a language task. This activity was traced on chart paper as a series of waves, referred to as an electroencephalogram (EEG). The editor returned our paper with his apologies. His reason, he told us: “Frankly, we found some of the brain wave patterns depicted in the paper very odd. Those EEGs couldn’t have come from real people.” Some of the brain wave recordings were indeed odd, but we hadn’t gathered them from aliens and we certainly hadn’t made them up. We had obtained them from a class of individuals found in every race, culture, society, and walk of life. Everybody has met these people, been deceived and manipulated by them, and forced to live with or repair the damage they have wrought. These individuals—often charming but always deadly—have a clinical name: *psychopaths*. Their hallmark is a stunning lack of conscience; their game is self-gratification at the other person’s expense... This book confronts psychopathy head-on and presents the disturbing topic for what it is—a dark mystery with staggering implications for society; a mystery that finally is beginning to reveal itself after centuries of speculation and decades of empirical psychological research. To give you some idea of the enormity of the problem that faces us, consider that there are at least 2 million psychopaths in North America; the citizens of New York City have as many as 100,000 psychopaths among them. And these are conservative estimates.^{xxvi}

Psychopaths are social predators who charm, manipulate, and ruthlessly plow their way through life, leaving a broad trail of broken hearts, shattered expectations, and empty wallets. Completely lacking in conscience and in feelings for others, they selfishly take what they want and do as they please, violating social norms and expectations

without the slightest sense of guilt or regret. Their bewildered victims desperately ask, “Who are these people?” “What makes them the way they are?” “How can we protect ourselves?” Although these and related questions have been the focus of clinical speculation and empirical research for over one hundred years—and of my own work for a quarter-century—it is primarily within the last few decades that the deadly mystery of the psychopath has begun to reveal itself.^{xxvii}

Hare captures the essence of the psychopath’s behavior: “A frightful and perplexing theme runs through the case histories of all psychopaths: a deeply disturbing inability to care about the pain and suffering experienced by others—in short, a complete lack of empathy, the prerequisite for love.”^{xxviii}

Hare has developed a list of the symptoms of this underlying defect in psychopaths.^{xxix}

Key Symptoms of Psychopathy

Emotional/Interpersonal	Social Deviance
glib and superficial	impulsive
egocentric and grandiose	poor behavior controls
lack of remorse or guilt	need for excitement
lack of empathy	lack of responsibility
deceitful and manipulative	early behavior problems
shallow emotions	adult antisocial behavior

He not only describes what psychopaths lack (empathy and conscience) but what they have a great abundance of, “an insatiable appetite for power and control.”^{xxx}

Without any knowledge of the theory of human drives presented in this book, Hare has identified psychopaths as people who, in our terms, have *no* dB drive with its associated feelings of empathy and, therefore, *no* skill set of conscience. Furthermore he has named precisely the insatiable drive for power and control (our dA) that is, in the absence of dB, free to be carried to an excess. These are precisely the people that biologists, and later economists, have named “free-riders.”

Hare has developed a preliminary set of conclusions about how the abnormality works, its genetically-based nature, its locus in the limbic area of the brain, its likely forms of overt expression, its various effects on others, and the success and failures of various forms of corrective intervention. I will use Hare's own words to summarize these findings:

Like the color-blind person, the psychopath lacks an important element of experience—in this case, emotional experience—but may have learned the words that others use to describe or mimic experiences that he cannot really understand... Recent laboratory research provides convincing support for these clinical observations. This research is based on evidence that, for normal people, neutral words generally convey less information than do emotional words... When we used this laboratory task with prison inmates [measuring their brain's response to both neutral and emotionally loaded words by means of electrodes on their scalp connected to an EEG recorder], the nonpsychopaths showed the normal pattern of responses,.. but the psychopaths did not: *They responded to emotional words as if they were neutral words* [italics in original]. This dramatic finding provided strong support for the argument that words do not have the same emotional or affective coloring for psychopaths as they do for other people.^{xxx1}

It is the *emotionally charged* [italics in original] thoughts, images, and internal dialogue that give the “bite” to conscience, account for its powerful control over behavior, and generate guilt and remorse for transgressions. This is something that psychopaths cannot understand. For them conscience is little more than an intellectual awareness of rules others make up—empty words. The feelings needed to give clout to these rules are missing.^{xxxii}

“Though psychopaths may talk a lot they are not necessarily skilled wordsmiths. It is primarily the “how,” not eloquent use of language, that attracts our attention and cons us. Good looks, a touch of

charisma, a flood of words, contrived distractions, a knack for knowing which buttons to press—all these can go a long way toward obscuring the fact that the psychopathic presentation is nothing more than a “line.”^{xxxiii}

Many people feel uncomfortable applying the term *psychopath* to children. They cite ethical and practical problems with pinning what amounts to a pejorative label on a youngster. But clinical experience and empirical research clearly indicate that the raw materials of the disorder can and do exist in children. Psychopathy does not suddenly spring, unannounced, into existence in adulthood. The precursors of the profile described in the preceding chapters first reveal themselves early in life.^{xxxiv} . . . Many adolescents go off track because of a poor social environment—abusive parents, poverty, lack of job opportunities, bad companions—but the psychopath seems off track from the start. Again: Why? Unfortunately, the forces that produce a psychopath are still obscure to researchers.^{xxxv} . . . On balance, . . . I can find no convincing evidence that psychopathy is the direct result of early social or environmental factors.^{xxxvi} . . . There is no evidence that parental behavior causes psychopathy.^{xxxvii}

Although psychopathy is not primarily the result of poor parenting or adverse childhood experiences, I think they play an important role in shaping what nature has provided. Social factors and parenting practices influence the way the disorder develops and is expressed in behavior. Thus, an individual with a mix of psychopathic personality traits who grows up in a stable family and has access to positive social and educational resources might become a con artist or white-collar criminal, or; perhaps a somewhat shady entrepreneur, politician, or professional. Another individual, with much the same personality traits but from a deprived and disturbed background, might become a drifter, mercenary, or violent criminal... No amount of

social conditioning will by itself generate a capacity for caring about others or a powerful sense of right and wrong.^{xxxviii}

[With] few exceptions, the traditional forms of psychotherapy, including psychoanalysis, group therapy, client-centered therapy, and psychodrama, have proved ineffective in the treatment of psychopathy. Nor have the biological therapies, including psychosurgery, electroshock therapy, and the use of various drugs, fared much better.^{xxxix}

A basic assumption of psychotherapy is that the patient needs and wants help for distressing or painful psychological and emotional problems... Psychopaths don't feel they have psychological or emotional problems, and they see no reason to change their behavior to conform to societal standards with which they do not agree... Psychopaths are not "fragile" individuals. What they think and do are extensions of a rock-solid personality structure that is extremely resistant to outside influence.^{xl}

But isn't the behavior of psychopaths maladaptive? The answer is that it may be maladaptive for society but it is adaptive for the individuals themselves. When we ask psychopaths to modify their behavior so that it conforms to our expectations and norms, we may be asking them to do something that is against their "nature." They may agree to our request, but only if it is in their own best interests to do so. Programs designed to get psychopaths to change their behavior will have to take this into account or be doomed to failure.^{xli}

To a large extent, the personalities of psychopaths are "carved in stone." There is little likelihood that anything you do will produce fundamental, sustained changes in how they see themselves or others.^{xlii}

The fact is, compared with other major clinical disorders, little systematic research has been devoted to psychopathy, even though it is

responsible for far more social distress and disruption than all other psychiatric disorders combined.^{xliii}

I have spared my readers the vast amount of evidence Hare cites of the extreme mental anguish, the financial losses, to say nothing of the numbers of violent assaults and even murders, for which psychopaths have clearly been responsible. In this regard, we should recognize that the psychopaths who have become available for clinical diagnostic examination have done so almost entirely because of their criminal behavior. We should remember that psychopaths carry their anti-social behavior to the limit of what they think they can get away with without significant external punishment. This is key to understanding their behavior. So the ones who show up in the criminal system are the ones who misjudged the limits of what they could get away with without being punished in ways that are significant to them. Note that an isolated event of social ostracism, that would usually be an effective deterrent for normal people, would not bother psychopaths. It simply would lead them to seek out other more vulnerable victims. No sanctions short of widespread social ostracism, heavy fines, and prison terms would likely alter their behavior. So the people who wind up in the criminal justice system are not the smartest psychopaths, not the *successful* “con artists” or the *successful* “shady entrepreneurs, politicians or professionals”, to quote Hare, but rather the psychopaths who have essentially gotten away with their extreme anti-social behavior.

In 2006, Robert Hare and Paul Babiak co-authored a book, *Snakes in Suits*, that focuses on those clever psychopaths who manage to achieve powerful positions in major contemporary institutions such as corporations and government without becoming enmeshed in the criminal justice system. Such individuals are of special interest to our account of historic events in Part III and its implications in Part IV. I will go into some detail regarding Hare and Babiak’s book in Chapter 11.

I am aware of only one study of psychopaths which used fMRI technology as a diagnostic tool. This study offers evidence that psychopaths’ abnormality is affective, not cognitive, and that it originates in the limbic area of the brain. To quote the study’s conclusion: “These data suggest that the *affective* abnormalities so often observed in psychopathic offenders may be linked to deficient or weakened input

from *limbic* structures [Italics added].”^{xliv} The limbic area is, of course, exactly where the renewed Darwinian theory proposes that the unconscious innate drive to bond is located in normal humans.

Even more conclusive evidence of the genetic basis of psychopathic behavior comes from three recent independent studies of the behavior of twins. Twin studies are well-established as the most reliable way to distinguish genetic (inherited) influences on behavior from environmental influences. These three British studies were conducted on same-sex fraternal twins, one of whom had been diagnosed as having psychopathic symptoms and both of whom had been raised in the same environment. The results were described by Hare and Babiak:

Researchers Blonigen, Carlson, Krueger and Patrick stated that the results of their study of 271 adult twin pairs provided “substantial evidence of genetic contributions to variance in the personality construct of psychopathy.” Subsequently, researchers Larrson, Andershed and Lichstenstien arrived at a similar conclusion in their study of 1090 adolescent twin pairs: “A genetic factor explains most of the variation in the psychopathic personality.” Viding, Blair, Moffitt and Plomin studied 3687 seven-year-old twin pairs and also concluded “the core symptoms of psychopathy are strongly genetically determined.”^{xlv}

Viding, Blair, Moffitt, and Plomin’s study is of special interest because of its large sample size and its careful method of distinguishing between callous-unemotional traits (CU), which they call the core symptom of psychopathy, and overt, often violent, antisocial behavior (AB). Careful separate ratings on these two factors were made by these children’s teachers at the end of the children’s first year of school. The researchers concluded: “Our results indicate that exhibiting high levels of callous-unemotional traits at 7 years is under strong genetic influence. Minimal shared environmental influences on callous-unemotional traits were detected, suggesting that at the age of 7, environmental factors common to both members of the twin pair (such as socio-economic status, school and neighborhood) do not account for extreme CU.... In contrast, the extreme AB of those without psychopathic traits was under strong environmental influence.”

Further on, the authors remarked: “The remarkably high heritability for CU, and for AB in children with CU, suggests that molecular genetic research on antisocial behavior should focus on the callous-unemotional core of psychopathy. Finally, combining neuroscience and genetic methodologies should be at the forefront of future research on psychopathy. Current research implicates emotion-related dysfunction in the amygdala and orbitofrontal cortex (both important for emotion processing) as possible brain correlates of adult psychopathy.”

Viding, Blair, Moffitt, and Plomin also conclude that “antisocial individuals who [also] present the affective core of callous-unemotional traits (individuals with psychopathy) start offending at a young age and continue across the lifespan with acts that are often predatory in nature.”

Of the recent general literature on free-riders (clinically known as psychopaths or sociopaths), the book I have found especially useful is *The Sociopath Next Door* by Martha Stout, a clinical psychotherapist.^{xlvi} Her book makes two significant contributions to the literature on free-riders.

First, Stout helps us understand why the existence of such people seems so unbelievable to normal people. She does so by (a) providing logical explanations for the mental blocks normal people have in recognizing the dB-less people for what they are and (b) giving us several blow-by-blow accounts of how such abnormal people come into the everyday lives of normal people with disastrous consequences. She also provides the most reliable indicator of how such people (at least the less cognitively talented ones) can be identified when we encounter them. She reports that their most reliable symptom is their consistent habit of appealing to our pity. They manipulate the bonding drive of their victims by making normal people feel sorry for them.

Stout’s second distinctive contribution is her explanation of how and why normal people sometimes follow the orders of free-riders, even at the cost of seriously violating their own moral consciences. She does this by providing a careful summary of the well-known psychological experiments of Milgram.^{xlvii} I will quote this summary at some length since the message is in the details.

In 1961 and 1962, in New Haven, Connecticut, Yale University professor Stanley Milgram designed and filmed one of the most astonishing

psychological experiments ever conducted. Milgram set out to pit the human tendency to obey authority figures as squarely as possible against individual conscience.

Concerning his method of inquiry he wrote: "Of all moral principles, the one that comes closest to being universally accepted is this: one should not inflict suffering on a helpless person who is neither harmful nor threatening to oneself. This principle is the counterforce we shall set in opposition to obedience."

Milgram's experimental procedure was relentlessly straightforward, and the filmed version of his study has outraged humanists, and unsuspecting college students, for forty years. In the study, two men, strangers to each other, arrive at a psychology laboratory to participate in an experiment that has been advertised as having to do with memory and learning.

Participation is rewarded with four dollars, plus fifty cents for carfare.

At the lab, the experimenter (Stanley Milgram himself in the filmed version) explains to both men that the study concerns "the effects of punishment on learning." One of the two is designated as the "learner" and is escorted into another room and seated in a chair.

All watch as the learner's arms are matter-of-factly strapped to the chair, "to prevent excessive movement," and an electrode is attached to his wrist. He is told that he must learn a list of word pairs (*blue box, nice day, wild duck*, etc.), and that whenever he makes a mistake, he will receive a shock.

With each mistake, the shock will increase in intensity.

The other person is told that he is to be the "teacher" in this learning experiment.

After the teacher has watched the learner get strapped to a chair and wired for electric shock, the teacher is taken into a different room and asked to take a seat in front of a large, ominous machine called a "shock generator." The shock generator has thirty switches, arranged horizontally and labeled by "volts," from 15 volts all the way to 450 volts, in 15-volt increments. In addition to the numbers, the switches are branded with descriptions that range

from SLIGHT SHOCK to the sinister appellation of DANGER—SEVERE SHOCK. The teacher is handed the list of word pairs and told that his job is to administer a test to the learner in the other room. When the learner gets an answer right—for example, teacher calls out “blue,” and learner answers “box”—the teacher can move on to the next test item. But when the learner gives an incorrect answer, then teacher must push a switch and give him an electric shock. The experimenter instructs the teacher to begin at the lowest level of shock on the shock generator, and with each wrong answer, to increase the shock level by one increment.

The learner in the other room is actually the experimenter’s trained confederate, an actor, and will receive no shocks at all. But of course the teacher does not know this, and it is the teacher who is the real subject of the experiment.

The teacher calls out the first few items of the “learning test,” and then trouble begins, because the learner—Milgram’s accomplice, unseen in the other room—starts to sound very uncomfortable. At 75 volts, the learner makes a mistake on the word pair, the teacher administers the shock, and the learner grunts. At 120 volts, the learner shouts at the experimenter that the shocks are becoming painful, and at 150 volts, the unseen learner demands to be released from the experiment. At the shocks get stronger, the learner’s protest sound more and more desperate, and at 260 volts, he emits an agonized scream. The experimenter—the Yale professor in the white lab coat—stands behind the teacher, who is seated at the shock generator, and calmly gives a sequence of scripted prods, such as “Please continue,” or “The experiment requires that you continue,” or “Whether the learner likes it or not, you must go on until he has learned all the word pairs correctly. So please go on.”

Milgram repeated this procedure forty times using forty different subjects—people who were “in everyday life responsible and decent”—including high school teachers, postal clerks, salesmen, manual laborers, and engineers. The forty represented various educational levels, from one man who had not finished high school to others who had doctoral or other professional degrees.

The aim of the experiment was to discover how long the subjects (the teachers in this experiment) would take to disobey Milgram's authority when presented with a clear moral imperative. How much electric shock would they administer to a pleading, screaming stranger merely because an authority figure told them to do so?...

Here is what actually happens: Thirty-four of Milgram's original forty subjects continue to shock the learner, whom they believe to be strapped to a chair, even after he asks to be released from the experiment. In fact, of these thirty-four subjects twenty-five—that is to say, 62.5 percent of the total group—never disobey the experimenter at any point, continuing to press the switches all the way to the end of the sequence (450 volts) despite entreaties and shrieks from the man in the other room.

The teachers sweat, they complain, they hold their heads, but they continue.

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These experiments were later conducted with women and the obedience rate was almost the same as with men, but the women showed even more signs of being in mental conflict.

I have provided so much detail about these experiments partly to induce the reader's emotional empathy with this situation, to actually feel the conflicted emotions of the "teachers," who were clearly in psychological stress as they nevertheless continued to give the shocks. In terms of our Darwinian theory, they were caught up in a conflict between the pressure of their conscience and their drive to bond with a fellow human being, as against the pressure to obey instructions generated by the authority figure. But was it the teachers' drive to acquire their pay for the experiment (dA) that was driving their compliance or was it their drive to defend themselves (dD)? The experiment was not sharply designed to answer this question but I would venture that it was coming from their drive to defend. If the experimenter had asked if the "teachers" would forgo their monetary pay for the experiment in order to be excused from finishing the experiment, would they have done it? I believe most of them would have jumped at the chance. According to this way of thinking, they were actually being held into obedience by a vague

subconscious dread of some unknown punishment that would follow disobedience of an imposing authority figure.

This interpretation fits with some variations of the experiment. When an “ordinary man” who was clearly not a white-coated professor authority figure played the experimenter, the obedience level fell by two-thirds—from 62.5 percent to 20 percent. It also fell by a similar amount when Milgram himself left the room and told the teachers to “just keep going.” This suggests that the “obedient” behavior of the “teachers” was the kind of “hierarchical” behavior that Fiske would explain as one of the four basic forms of sociality (See Chapter 3). They would have been acting out the social pecking order of their primate ancestors, albeit a much diluted form of the chimpanzee pecking order, in which chimps learn the high cost of disobeying the alpha male.

Milgram himself summed up his conclusion from the experiments as follows: “A substantial proportion of people do what they are told to do, irrespective of the content of the act and without limitations of conscience, so long as they perceive that the command comes from a legitimate authority.” In Stout’s words, “Milgram believed that authority could put conscience to sleep mainly because the obedient person makes an “adjustment of thought” which is to see himself as not responsible for his own action. In his mind, he is no longer a person who must act in a morally accountable way, but the agent of an external authority to whom he attributes all responsibility and all initiative. This “adjustment of thought” makes it much easier for benign leadership to establish order and control,^{xlix} but by the same psychological mechanism, it has countless times rolled out the red carpet for self-serving, malevolent, and sociopathic authorities.”¹

I share Stout’s conclusion that Milgram’s experiments unintendedly revealed how free-riders (psychopaths or sociopaths) can sometimes manipulate normal people to follow their orders from a socially defined *position of authority*. Moreover, these normal people will often pay a high psychological price in negative aftereffects from this highly conflicted situation. At the extreme, this kind of pressure can create the kind of post-traumatic stress disorder (PTSD) that is associated with battlefield experiences. As Stout points out, the battlefield soldier at the point of pulling the

trigger with his weapon aimed at another human being is caught in the ultimate pressure between his conscience and his fear of disobeying authority. And the battlefield evidence that Stout cites suggests that, without the physical presence of a strong authority figure, most soldiers do not actually fire their weapons.

It was primarily in reaction to Milgram's work that experiments which placed human subjects in anything like such stressful situations were subsequently banned.

Milgram's experimental results bring to mind E. B. White's story about a New England farmer of his acquaintance. Having observed a single wire strand around the farmer's cow pasture, White asked the farmer if it was expensive to keep the wire electrified. The man replied that the cost was zero. "Years ago when my first battery ran out I discovered I did not need to replace it. The cows had learned their lesson. None of them have come within ten feet of that wire ever since. They could walk through that single strand at any time but they never do." White compared this behavior of cows to that of the humans who defer instinctively to authority figures long after the hazards of punishment have departed. Like the cows, people are free to speak the truth to power but they have great trouble shedding their ancient subconscious dread of the consequences of contradicting, much less disobeying, seemingly powerful authority figures.

Based on my reading of Hare's and Stout's work, it seems abundantly clear that the people they have studied seem to have all the enhanced cognitive apparatus of *H. sapiens*, but they are clearly lacking the very features that Darwin identified as the distinctive features of our species: They have no independent drive to bond and no conscience. They clearly seem to have no innate sense of morality. This results in behavior that is so dramatically different from that of normal people that we find it very hard to see it accurately for what it is. Hare himself called the origin of psychopathy a "dark mystery." But, with the renewed Darwinian theory of how this behavior arose in the first place, we can for the first time take the mystery out of it and it see clearly what is causing this weird, super-selfish behavior.

The question then arises: What role in society has this small minority of people played in historic times and on up to the present? The specific people studied by Hare and Stout seem to have played rather marginalized roles in society, albeit

with painful results for the few people directly involved. This would be similar to the role hypothesized for them in hunter-gatherer tribes, as discussed above. But is this the whole story? Remember that evolutionary biologists have argued that the dominant free-riders among the *H. habilis* species would have been in a position to *wipe out* any males with dB in their system. To marginalize such people must at first have been highly problematical and to eliminate them entirely might well have been impossible. Is it conceivable, that, with the coming of civilization, the remnant of free-riders could have moved from being the “dirty rascals” of the tribes to being the “kings of the castles,” as the ancient children’s rhyme goes? Can this idea be tested?

Fortunately, relevant evidence is available in the record that historians have provided about the last two to three thousand years, especially the record of the powerful people who were heads-of-state. This record can provide more definitive answers to the question of whether or not free-riders have, in fact, succeeded with any frequency in securing the most powerful positions in society, becoming heads-of-state. In Part III, we will review the historic record with this question in mind. We will do this in the spirit of an historical detective—trying to tease out the evidence to test whether or not heads-of-state have displayed the behavior patterns of free-riders. Later, we will look for the presence or absence of free-rider behavior among the CEOs, the equivalent to heads-of-state, of large corporations, which have emerged comparatively recently as major institutions.

In Part III, we will use the term “free-rider” exclusively—rather than “psychopath” or “sociopath”—for people with the behavioral symptoms that Hare and Stout describe, but for whom there is no firsthand clinical testing on which to base a conclusive diagnosis. This is in keeping with Hare’s wise practice of refusing to label anyone with the loaded term “psychopath” or “sociopath,” regardless of the presence of relevant behavior symptoms, unless that person has been diagnosed by firsthand clinical or laboratory methods. For example, Hare has refused to label Saddam Hussein a psychopath for this reason. So the term free-rider will be used for all persons who can reasonably be *suspected*, based on their observable behavior, of being psycho(socio)paths.

In closing our coverage of the important events of the human transition to the historic period there is one remaining theme that must not be forgotten. This is the theme that was highlighted in our analysis in Chapter 4 of the human bonding process as it moved progressively from the initial mother-infant bond in all mammals to the nuclear family in the *H. erectus* species. Is the further widening of the circle of bonding to the level of the tribe and beyond evidence of progress in the capacity of the hominid line to achieve greater adaptability and hence survivability? Was this widening process proceeding during the years leading up to the historic transition and, if so, what form could it have taken? Was such widening associated with any social inventions such as emerging forms of leadership or emerging governance structures that were essential to the enlargement of the size of the bonded group?

Even though we can only glimpse parts of this story from the study of contemporary hunter-gatherer tribes, it does appear that the issues of leadership and governance structures did play a vital role in the enlargement of the bonding circle. In contrast to our concern above about free-riders attaining positions of social power, were much more positive leadership patterns also emerging as role models of effective leadership? We do know that some tribes selected dual chiefs—a ‘peace’ chief for handling domestic issues and a somewhat subordinate ‘war’ chief to handle external affairs with other tribes. Many tribes made prominent use of a council of elders who would deliberate on important tribal issues and work toward a consensus decision. This group seemed to be selected informally by the tribal members based on experience and signs of wisdom. Chiefs seemed in many cases to have been selected by this group from this group, at times, but not automatically, by following hereditary lines of succession. This system seems to have produced a hierarchical system but a relatively flat one. These leadership practices and governance structures must have helped bond together the numerous smaller primary face-to-face groups, often familial groups, that would of necessity made up the tribe. The extension of the bonding circle beyond the family probably was dependent on some social inventions some social institutions, of this type. I raise these issues in closing this chapter not to provide clear answers to these questions regarding tribal leadership, but rather to signal that these leadership and governance structure questions and the closely related

issue of widening the bonding circle will be issues of increasing importance as our story proceeds in Parts III and IV.

The three chapters that make up Part III will examine a few major turning points of the historic period from the perspective of the renewed Darwinian theory. Each chapter will consider one of the three major institutional streams of civilization: Chapter 7 concerns political institutional history, reflecting primarily the drives to bond and to defend; Chapter 8 concerns economic institutional history, reflecting primarily the drive to acquire; and Chapter 9 concerns the history of the creation of human meaning, as developed by the institutions of art, religion and science, reflecting primarily the drive to comprehend.

But first we will review the renewed Darwinian theory of human behavior in Chapter 6.

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- ⁱⁱ Wrangham, R., unpublished manuscript, Chapter 7, p. 8.
- ⁱⁱⁱ Heider, K., 1979, *Peaceful Warriors*, New York, Holt Rinehart and Winston.
- ^{iv} Gould, S. J., 1999, *Rock of Ages; Science and Religion in the Fullness of Life*, New York, Ballantine Publishing Group.
- ^v Darwin, 1998, *Descent*, p. 101.
- ^{vi} Darwin, 1998, *Descent*, p. 101, footnote
- ^{vii} Wilson, J. Q., 1993, *The Moral Sense*. New York, Free Press.
- ^{viii} Wilson, 1993, p. 70.
- ^{ix} deWaal, F., 1996. *Good Natured: The Origin of Right and Wrong in Humans and Other Animals*. Cambridge, Mass.: Harvard University Press. p. 87.
- ^x Wilson, E. O., 1998, p. 179.
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- ^{xii} Lawrence, P., 2004, "The Biological Basis of Morality?" *Business, Society and Ethics Journal*, Ruffin Series #4, p. 59-79.
- ^{xiii} Shermer, M., 2004, *The Science of Good & Evil*, New York, Times Books, p. 25-26.
- ^{xiv} Lawrence, 2004, p. 63.
- ^{xv} Hauser, 2006, *Moral Minds: How Nature Designed Our Universal Sense of Right and Wrong*, New York, HarperCollins.
- ^{xvi} Hauser, 2006, p. 262.
- ^{xvii} Hauser, 2006, p. 262.
- ^{xviii} Holz, R. L., "Scientist Draw Link Between Morality and Brain's Wiring", *Science Journal*, May 11, 2007, p. B1
- ^{xix} Darwin, 1998, *Descent* p. 633.

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- ^{xx} Darwin, 1998, *Descent*, p. 100.
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