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CHAPTER ONE

## The Making of Darwinism

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The contemporary debate about the nature of human nature, centering around the implications of Darwin's theory of evolution, is the newest chapter in a long history of explorations. Conflicting ideas about human nature have always sat at the core of philosophical debates, often educational ones. Plato and Aristotle, for example, had differing views on human nature, and thus different approaches to educational philosophy.<sup>1</sup> So too did Descartes, Hobbes, Locke, Hume and Rousseau.<sup>2</sup> Whether we are essentially atomistic or social beings; whether we are primarily motivated by selfishness or altruism; whether our rationality is an extension of, or at war with, our emotions—all these are of critical import for defining what education can and should be. However, Darwin's theory of evolution radically changed this historical debate on human nature, offering for the first time an empirical basis for the normative discussion. At its heart, I argue, is a simple but far-reaching insight—we have evolved as a profoundly social species, biologically related to the rest of the natural world, and at home in the only planet in the universe for which we are adapted to live. Such a view of human nature, rooted in our best scientific knowledge, has significant implications for how we think about educational philosophy.

Not all proponents of Darwinism, of course, agree with such an interpretation of the meaning of Darwin's theory of human nature. While debates continue to rage between Darwinists and anti-Darwinists, making headlines most recently with the evolution versus intelligent design debates, internal debates between Darwinists are often no less heated. Many Darwinists have essentially continued what can be called the blank slate worldview, a view which has had tremendous

influence on progressive ideas. The most famous of such advocates is Stephen Jay Gould, who argued that, although evolved from the rest of the natural world, our intelligence has largely allowed human beings virtually unlimited plasticity.<sup>3</sup> Differences in society are matters of sociology, not biology. And if human society created the differences between rich and poor, black and white, men and women, human society can also erase those differences. The blank slate position, with roots in John Locke's liberalism, gained much influence in the early twentieth century as a reaction to the use of Darwin's theories to justify supposed innate differences between people. Gould continued the tradition of the blank slate, but explained it in Darwinian terms. He called it 'biological potentiality.' As his ideological compatriots argued, biology could probably only explain the most basic human behaviors of "eating, excreting and sleeping."<sup>4</sup> Education in this view has the power to correct social inequalities, and to help reshape human society based on a chosen set of progressive social values.

Richard Dawkins has served as Gould's foil, and in many ways defines the other pole of the debate. Dawkins' extraordinarily powerful metaphor of "selfish" genes suggests an underlying moral truth about the world, where the innate nature of human beings, like the rest of the natural world, can best be described as selfish.<sup>5</sup> Reaching back at least to Hobbes' description of the ultimately self-serving, aggressive and competitive nature of human life, and resurrecting motifs from popular notions of social Darwinism from the late nineteenth and early twentieth centuries, in which such behavior was celebrated as the motor of progress, Dawkins and his supporters accept social Darwinist descriptions of human nature. However, unlike the social Darwinists, Dawkins holds that our natures, like in Freud's psychology, are not our allies. We need to rebel against our genes if we want to create a humane society, but we always need to know that our efforts will be thwarted by our natures, and therefore we need to have realistic expectations about what is possible.<sup>6</sup> In educational terms, our rationality, while always compromised by our baser motives through rationalizations, is our major, if flawed, tool with which to combat our innately selfish motives. Our ideals are built through rational inquiry, transcendent and in opposition to our natures.

It is interesting and important to notice that, although Gould and Dawkins stand in some sense as polar opposites, their worldviews share one very central and critical characteristic. Both see human ideals as originating through rational thought, which can stand independent of genetic determinism, and which is something uniquely human. For Dawkins, our ideals are a rebellion against an insidious nature; for Gould, there is

nothing to rebel against. But for both, the natural world is not prescriptive for human beings.

I argue a different position. Following in the footsteps of Kropotkin, Dewey and the contemporary philosopher Mary Midgley, I hold that, indeed, humans have an innate nature, and that, while not dictating human actions, it shapes them far more widely than Gould would accept. However, unlike Dawkins, I hold that we are not at war with ourselves. We are a coherent species, like all species, and our motives and intellect are integrated, not conflicting, parts of a whole. Nor are we innately selfish beings, in competition and at war with each other. Our innate natures can be trusted as good, although certainly not foolproof, beginner's guides which are shaped through our intellects and cultures, and which lead us outward and help to structure life's meaning.

This book, then, argues for a particular interpretation of Darwin, one which affirms that humans indeed have an innate nature, but that it is largely cooperative rather than competitive, social rather than self-centered, communal rather than atomistic. This is not to say that motives of aggression, selfishness and individualism, for example, are socially constructed and foreign to innate human nature. They too, are part of the human condition. While they can indeed be destructive, as can any motive when it eclipses all others, they are more properly seen as moderated by a complex set of interconnected emotions which emerge in a wide set of human behaviors. Evil is a real possibility, but it is not predetermined by our genes. I believe, as shall become evident, that this is a proper interpretation of Darwin, and that such a position can form the basis for a compelling educational philosophy.

I use the term 'innate' provocatively, but also warily. I am not ignorant of the massive amount of literature which exists, contextualizing scientific theory within social ideas and ideals. As is popularly known, we are all postmodernists now. Still, there is a very large difference between staying aware of the ways in which science and culture interface and deeming all scientific claims to be nothing more than hegemonic ideologies writ in supposedly scientific objectivity. The explanatory power of science is too great to deny its descriptive power of the world. Darwin was certainly a child of his times, and his Victorian ideals, and prejudices, are often painfully present. But his ideas can also transcend his times, even as they are embedded within them.

There are five parts to my argument, divided by chapter. In the first chapter, I look at Darwin's theory, and demonstrate why, although open for interpretation, the seeds for a cooperative view of human beings are planted by Darwin himself. In the second chapter I illustrate first attempts

to build an educational philosophy based on such a perception of human nature, concentrating on the earlier attempts by Peter Kropotkin, and then, subsequently, in the third chapter, the far more sophisticated and integrated attempts of Dewey. Kropotkin and Dewey are both examples of what I call first-generation Darwinists. In the fourth chapter, I analyze the work of the contemporary British philosopher Mary Midgley, a second-generation Darwinist, and her expansion of Darwin's intuitions about human nature into a robust view of human nature, and its implications for our connection with the natural and social world within which our lives find and express their meaning. I believe Midgley's philosophy powerfully recasts an Aristotelian worldview out of Darwinian biology, one in which our natures significantly help us to define the good, and move us in its direction. This Aristotelian tendency is present already in Darwin, and is developed by Kropotkin and surprisingly by Dewey. Finally, I look at what a contemporary Darwinian educational philosophy emerging from Kropotkin, Dewey and Midgley's philosophies looks like, a philosophy rooted in our understanding of ourselves as part of, and not apart from, the rest of the natural world.

#### DARWIN AND THE GOOD IN HUMAN NATURE

“He who understands baboon would do more toward metaphysics than Locke” (Darwin 16 August 1838. M notebook).

Darwin was in many ways the first Darwinist—that is to say, he understood that his theories on the evolution of the natural world had implications for how we understand human life and its meaning. In *On the Origin of Species*, however, he consciously ignored these implications, save for his closing paragraph's cryptic phrase: “light will be thrown on the origin of man and his history. . . .”<sup>7</sup> Darwin knew that evolutionary theory, when applied to human beings, would explicitly confront contemporary cultural and religious views of human origins and the meaning thereof. By tactically separating the question of evolution from that of human origins and meaning (although it was implicit in his argument), Darwin gave his theory of evolution a greater chance of being accepted. After the general theory gained legitimacy, Darwin assumed, it would be politically easier to address its meaning for human beings.<sup>8</sup>

Darwin's theory of evolution, as articulated in *On the Origin of Species*, was controversial enough. Ernst Mayr shows the ways that evolutionary theory as a scientific claim about the origins and development of the natural world challenged accepted orthodoxies, secular as well as religious.<sup>9</sup>

Darwin's theories, inspired by Malthus's theory of population growth, held that there was an inevitable *struggle for existence* of organisms, owing to the geometric growth of populations versus the arithmetic growth of resources.<sup>10</sup> Since resources cannot keep pace with population growth, eventually there would be a struggle for survival. Organisms of a species *vary* from one another in subtle ways, and those characteristics are *inherited* in the next generation—two facts which breeders had known for millennia. Characteristics which improved the survival skills of the individual would then be successfully passed down to the next generation, whereas those individuals who were less fit would be less successful at surviving, and their traits would be less likely to continue into the next generation. Over extended periods of time the traits that led to increased fitness would spread throughout the population. This change of traits within a population could eventually lead to the evolution of a new species. If populations of a species were isolated from one another, for example, they would change independently of one another, and could eventually develop into distinct species. By showing that species were not stable and timeless entities, but rather constantly in flux, Darwin was changing the concept of species from a static one to a dynamic one, in which the boundaries between species are matters of degree, and not kind. Darwin called this process leading to species change and speciation *natural selection*. While breeders had purposefully selected traits among a species, here nature was doing the selecting. The power of the theory is in demonstrating a material mechanism that could explain how species change and can, over geologic time, evolve into new species.<sup>11</sup>

Darwin clearly stated that he used the concept of the struggle for existence “in a large and metaphorical sense.”<sup>12</sup> It is often a struggle between organisms of a species, where one organism is more successful than others owing to certain physiological or character traits. This is the accepted meaning of struggle for existence, which Herbert Spencer popularized in his phrase “survival of the fittest,” but Darwin pointed out that it is not the only way that the struggle takes place.<sup>13</sup> The struggle for existence can also be a struggle for survival against the natural elements. Particularly in the extreme environments of deserts, mountains and tundra, for example, the struggle is in finding ways of exploiting nature successfully in order to survive.<sup>14</sup> Strategies of cooperation among individuals are particularly successful in such climates. Peter Kropotkin, the Russian prince, anarchist and first-generation Darwinist (that is, those applying Darwin's scientific ideas into its social implications in the years immediately after the publication of Darwin's theories), gave special attention to this form of struggle for existence, due to his natural

history education in the extreme climate of Siberia, and this significantly influenced his views on the meaning of nature and human nature, as we shall see. Darwin however, while maintaining that there are more possibilities for evolutionary struggle than that between individuals, nevertheless held that the struggle between individuals of the same species is the most significant and widespread variety of struggle that one actually finds in nature.<sup>15</sup>

The distinction is an important one. Although Darwin saw actual struggle between individuals as the primary strategy for surviving in the natural world, Darwin acknowledges that it is but one strategy, and that cooperation, for example, is an alternative strategy for survival. In other words, although 'struggle' as metaphor describes what individuals and species do, there are multiple strategies that can work. Struggle between individuals is not the only alternative open to species. For Darwin, as we shall see, cooperation is in fact the dominant strategy of the human species.

Darwin's use of the term 'struggle' ultimately did not apply to simple physical survival. From an evolutionary perspective survival is not an ends in itself, but rather a necessary although not sufficient condition for having descendents. Longevity is only important insofar as allowing a long enough lifetime to have offspring, in order to pass one's characteristics down and have them spread through subsequent generations. An organism whose life span might be several hours, but who produces thousands of offspring, many of whom survive to themselves reproduce, is more successful from an evolutionary perspective than an organism of the same species which lives longer but produces fewer descendents who can survive and reproduce. Natural selection is not purposeful. Its sole criteria are the effects of physiological or character traits on the success of the organism to pass on its features to the next generations. Traits which contribute to such success relative to other traits gain precedence, since they give the organism a competitive advantage and thus a greater chance of survival and reproduction.

Because successful strategies of survival are ultimately linked to questions of reproduction, Darwin spoke of sexual selection as a secondary filter for evaluating traits.<sup>16</sup> Both females and males have an evolutionary interest in finding a mate with desirable traits to pass on to their progeny, including traits which will secure them an evolutionarily desirable mate. This can lead, for example, to the selection for physical strength, a potentially desirable characteristic for winning a sexual partner. In bird species, Darwin showed that males often advertise their physical strength through peaceful means—such as being the most colorful, or having the most attractive birdsong. Darwin recognized that, because

of the centrality of reproduction in natural selection, the competition for sexual partners was critical and would lead to different sets of traits being advantageous to males and females, with clear implications for innate differences between men and women.<sup>17</sup> Darwin's attempts to describe these differences were not his best moments, as we shall see.

Darwin did not see natural selection as the sole means of modification of the species. Although many later Darwinists, principally Dawkins and his advocates, see natural selection as the almost exclusive way in which species evolve, Darwin allowed room for other mechanisms, as well. He recognized that there might be other factors involved in evolutionary change, and expressed frustration that he was interpreted as arguing that only natural selection could explain the development within species, and of new species.<sup>18</sup> He did, however, see it as the most critical and dominant factor.<sup>19</sup> This point is central in contemporary Darwinian debates as well. Gould, in opposing Dawkins, attempted to weaken the explanatory power of natural selection. The implication of acknowledging additional mechanisms is that not all characteristics of a species can therefore be explained through their contribution to a species' fitness. Since for Dawkins, natural selection is the predominant explanation for species' characteristics, all characteristics are shaped by their contribution to survival, which Dawkins ultimately describes as a competitive, selfish process. Darwin's position clearly does not support Dawkins' view, here and elsewhere.

One of the most misunderstood components of Darwin's theories, one with perhaps the most radical of implications, was the blindness of the process of natural selection. Evolution was not, in Darwin's view, a slow, steady climb, as argued by a disciple of Herbert Spencer, from gas to genius.<sup>20</sup> The traditional view of the Middle Ages had been of the great chain of being heading linearly downward from God and the angels to the animals and the plants, and from the animate to the inanimate, with human beings located "a little lower than the angels."<sup>21</sup> Advocates of evolution, both before and after Darwin, reversed the direction. It was a steady ladder of progress, with human beings representing the pinnacle of evolution.<sup>22</sup> Such a view does not seem to conform with Darwin's view of the process of evolution, with random variations of character traits occurring between generations, selected by nature according to their relative contribution to survival and reproduction.

*On the Origin of Species* was published in 1859. It immediately ignited a debate about its implications, but was also debated within the scientific community. Within a decade Darwin felt that it had sufficiently established itself as a credible theory and had been widely adopted.<sup>23</sup> At that

point, Darwin was ready to deal with the implications of his theory for human beings. The publication of *The Descent of Man* in 1871 was Darwin's foray into the danger zone of human origins, nature and meaning. After the acceptance of his theory of natural selection spread, Darwin felt confident addressing the issue: "in consequence of views now adopted by most naturalists, and which will ultimately, as in every other case, be followed by other men, I have been led to put together my notes, so as to see how far the general conclusions arrived at in my former works were applicable to man."<sup>24</sup>

Darwin focused his work on showing that there is no boundary of significance between human beings and the rest of nature: human beings are not different in kind from the rest of the natural world. All human characteristics can be found in other species. Curiosity, imitation, attention, memory, imagination, a sense of wonder, reason, progress, tool-making, language and self-consciousness can all be found in the natural world, particularly among other social animals.<sup>25</sup> Darwin argued that humans, like other species, are different from the rest of nature in degree, but not in kind. All species are different from one another, and all have unique properties, but that doesn't mean that they are not part of the same evolutionary story, sharing many common traits on which their uniqueness is built.

No characteristic of human beings seemed to Darwin more suggestive of the illusory gap between humans and the rest of the natural world than morality:

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 or conscience is by far the most important. . . . It is summed up in that short but imperious word ought, so full of high significance. It is the most noble of all the attributes of man, leading him without a moment's hesitation to risk his life for that of a fellow-creature; or after due deliberation, impelled simply by the deep feeling of right or duty, to sacrifice it in some great cause.<sup>26</sup>

Morality was the "ought" of society. Although morality has been largely described as emerging from our rationality, and rationality is often seen as that which most distinguishes us from the rest of the natural world, Darwin believed that the emergence of most characteristics of a species are explained through the mechanism of natural selection. Morality was a central characteristic of human societies. Being able to explain the emergence of morality in evolutionary terms would show



that even the loftiest of human characteristics is rooted in the story of evolution. Darwin was arguing that what societies have come to view as moral behavior has been shaped by natural selection. The “is” of natural selection and its products could explain the origin, and perhaps content, of the “ought” of human morality.

Darwin believed that morality had its basis in social instinct, and that the social instincts were an evolutionary development which instinctively motivated individuals of the species to live in a group, which would give them evolutionary advantages for survival.<sup>27</sup> Like hunger, which developed as an instinct to induce eating (those animals which felt the instinct of hunger were more likely to eat, and therefore had a competitive advantage over individuals who did not feel hungry and would thus presumably eat less), so too the social instinct developed to induce group living. Group living was a successful evolutionary strategy, and therefore social instincts, which encouraged and maintained group living, became favored through natural selection. These social instincts supported a certain personality type, essentially common to all social animals: “they would have felt uneasy when separated from their comrades, for whom they would have felt some degree of love; they would have warned each other of danger, and have given mutual aid in attack or defense. All this implies some degree of sympathy, fidelity and courage.”<sup>28</sup> The evolutionary advantage of cooperation with its supporting characteristics emerged out of evolution. From natural selection, which speaks of competition as a mechanism, behaviors of cooperation can develop in species. The human species’ strategy of survival was one of cooperation based on sympathy and mutual aid.

Still, it is not clear how Darwin’s principles of natural selection could explain the evolution of the moral instincts of sympathy, fidelity and courage from the rudimentary social instincts. If, for instance, in human evolution, individuals living in a group would display acts of courage in battles with neighboring tribes, they would be the most likely to be killed, and the least likely to survive. Properties which might benefit group welfare, therefore, would seem to be selected against, whenever the interest of the individual conflicts with the interest of the group. As most contemporary Darwinists would argue, selection takes place at the level of the individual, making it extremely improbable for behaviors to develop which are beneficial to the group, but detrimental to the individual. Contemporary Darwinists have strengthened the rule, by showing how altruism could develop, as benefiting the group can be a successful survival strategy for the individual.<sup>29</sup> Group selection theory, however, argues that it is possible that at times attributes will be selected which

damage the individual's fitness, but increase the fitness of the group. Although largely discredited today, Darwin made a case that this indeed is what takes place:

It must not be forgotten that although a high standard of morality gives but a slight or no advantage to each individual man and his children over the other men of the same tribe, yet that an increase in the number of well-endowed men and advancement in the standard of morality will certainly give an immense advantage to one tribe over another. There can be no doubt that a tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, obedience, courage, and sympathy, were always ready to give aid to each other and to sacrifice themselves for the common good, would be victorious over most other tribes; and this would be natural selection. At all times throughout the world tribes have supplanted other tribes; and as morality is one element in their success, the standard of morality and the number of well-endowed men will thus everywhere tend to rise and increase.<sup>30</sup>

Darwin never articulated how large a role such group selection, as opposed to individual selection, could play. Darwin's choice of explaining natural morality through group selection is from today's evolutionary perspective problematic; individual selection has primarily been the source for evolutionary explanations of morality in second-generation Darwinism. However, while group selection allows for behaviors which can benefit the group while being detrimental to the individual, contemporary theories of individual selection strongly support the idea that behaviors which benefit the group can often benefit the individual, as well, and thus there is often no contradiction between the two.

Darwin also understood that altruism could be beneficial to the individual, and could therefore be explained at the level of the individual. Darwin believed that reason would allow individuals to understand that if one aided a fellow creature, s/he would be more likely to aid in return, what in contemporary Darwinism became known as reciprocal altruism.<sup>31</sup> Individual creatures could then learn that cooperation was to their benefit. Although their social instincts enabled the rudimentary motivation to aid another, probably through sympathy, reason reinforced the instinct and elaborated upon it.

The combination of social instinct and reason was not limited to human beings. Darwin's *Descent of Man* was not only about the descent of humans into the natural world and humans being continuous with the

rest of nature, but was also about the ascent of the natural world into the privileged place of humans, by showing nature to be continuous with humans.<sup>32</sup> Darwin's *The Expression of the Emotions in Man and Animals*, published a year after *Descent of Man*, demonstrated how much human emotions and animal emotions were alike, and how much human behavior, like that of other species, was universal and innate.<sup>33</sup> While Darwin demonstrated that humans were not only rational, but also instinctual beings, he conversely showed that social animals could do rudimentary reasoning and learning. In fact, Darwin saw the combination of social instincts with reason as a necessary result of evolution that would result in the development of morality in any creature:

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 of conscience, as soon as its intellectual powers had become as well developed, or nearly as well developed, as in man.<sup>34</sup>

Since human nature is particular to humans, and human morality emerges out of a particular human nature, it stands to reason, according to Darwin, that different social animal natures would evolve different moralities. Other social animals with advanced reasoning abilities would also develop morality, but the moral codes would be different as a result of their differing natures. If, for example, bees had the same reasoning facilities as humans, bee moral codes might claim that unmarried females sacrificing for the good of the community is their moral responsibility, which would indeed be the natural and moral thing to do.<sup>35</sup> For Darwin, moral behavior was embodied in the nature of the species, and not imposed on the natural world as something foreign to it.

In the debate about the origins and nature of morality, Darwin clearly sided with Hume.<sup>36</sup> Morality was not a derivative of the social contract, or of intellectual reasoning about the greatest good for the greatest number, or about basic human rights derived from a categorical imperative, but was first and foremost a primary instinct rooted in the nature of humans as social, reasoning animals: “the social instincts, the prime principle of man’s moral constitution, with the aid of active intellectual powers and the effects of habit, *naturally* lead to the golden rule (emphasis mine).”<sup>37</sup> The golden rule was not a function of rationalizing self-interest, but of instincts, evolved through evolution, being expanded and acted upon.<sup>38</sup> Humans are not sacrificing their natures when they act morally; they are responding to them.

This seems to suggest that morality is not a matter of human choice, but is based on motives programmed into our instincts. Why then do we not live in a perfect world, where each individual is programmed to behave morally by his/her innate social instincts? For Darwin, evolution created conflicting instincts in species. Species are not perfectly integrated beings. Evolution shapes coherency enough to allow the species to survive and reproduce. As an example of conflict between instincts, Darwin discussed female birds at migration, who abandon their hatchlings in their nests in order to migrate, thereby abandoning their maternal instinct for the temporarily stronger migratory one. If birds had developed advanced abilities to reason, Darwin mused that they would no doubt feel enormous guilt when the more acute instinct subsided, and the eclipsed maternal instinct was felt again.<sup>39</sup> Darwin hypothesized that guilt and conscience were a result of reflecting on conflicting instincts, and trying to negotiate between them. He argued that the social instincts were always present, but often weaker than other instincts which could be felt more acutely. When acute instincts, such as self-preservation, hunger, lust and vengeance are acted upon but eventually subside, people are left with their social instincts of sympathy and compassion, and regret having made the wrong choice. For Darwin, this is the evolutionary birth of conscience.<sup>40</sup> Our moral instincts, while often eclipsed by stronger instincts, are more general in our character, and remain after the immediacy of these acute instincts fades away. This is a theme which Midgley develops extensively.

Conscience ultimately acts to temper the desire to act on stronger instincts rather than the weaker, although more persistent, moral ones. Conscience leads humans to develop personal and cultural habits which reinforce the moral instincts and allow them to dictate behavior at moments of conflict. Examples might be cultural and religious moral codes. These codes allow human society to develop to a state where there is no significant conflict between one's habitual instinctual behavior and what is deemed morally right: "Man thus prompted, will through long habit acquire such perfect self-command, that his desires and passions will at last instantly yield to his social sympathies, and there will no longer be a struggle between them."<sup>41</sup> For Darwin, the consummate moral individual is not one who conquers his/her base inclinations at the moment of choice, but rather one who does not experience them.

This shares much with Aristotle's position. Aristotle argued that the virtuous person eventually experiences pleasure at doing the right actions, and pain when doing the wrong ones.<sup>42</sup> For Aristotle, our innate natures suggest a golden mean, which is cultivated through education

of the virtues. The virtuous man has trained himself so that there is no felt tension between what one wants to do and what one ought to do. In general, it shouldn't be surprising that Darwin's perspectives often reflect an Aristotelian sensibility.<sup>43</sup> Aristotle, after all, was the philosopher who most systematically integrated a biological understanding into his philosophy.

So, for Darwin, refraining from acting on one's immoral impulses is not enough. Self-restraint is simply selfishness that has been repressed because of fear of societal punishment.<sup>44</sup> Morality is judged by the heart, and not only by deed. It is what motivates the action, and not only the action itself, which determines whether it should be understood as moral. The act is a natural extension of the motive, and cannot be separated from it.<sup>45</sup> An individual who had no moral instinct at all would be "an unnatural monster."<sup>46</sup> Indeed, Darwin claimed that some of the worst criminals have apparently been found to be without any conscience whatsoever, that is, without a moral instinct which stands in tension with baser, stronger ones.<sup>47</sup> There is something unnatural in the perpetrator, something missing from his/her nature, making him/her, on some level, inhuman. Their only instinctual motives are those that derive from serving their own needs, narrowly defined by the acute instincts. Those motivations which reach beyond the individual—of cooperation, sympathy, fidelity, and courage—and which are unique to the social animals, were absent.<sup>48</sup> There is a natural history to both morality and to evil.

For Darwin, morality was the antithesis of selfishness, not a self-serving by-product. He criticized utilitarian philosophers, whom he associated with a "morality born out of selfishness" position, on two counts. First, since Darwin believed that the motives of social animals are what gave birth to morality, and selfishness is a behavior with roots in non-social, and even anti-social behavior, then selfishness cannot be the source of morality, "unless indeed the satisfaction which every animal feels when it follows its proper instincts, and the dissatisfaction felt when prevented, be called selfish."<sup>49</sup> Darwin attacked Adam Smith, for example, for believing that so-called altruistic acts are in fact selfish ones. Smith argued that seeing others suffer reminds us of our own past pains, and therefore relieving their suffering is primarily to relieve our own vicarious suffering.<sup>50</sup>

Secondly, both the selfishness position and the "greatest happiness principle" (which Darwin saw as a later development of utilitarian philosophy) share a view of morality rooted in consciousness and rationality, rather than instinct. The evaluation of whether any particular act increases pleasure or pain demands a level of conscious evaluation

which Darwin held is not consistent with the instinctual nature of many moral acts:

But man seems often to act impulsively, that is from instinct or long habit, without any consciousness of pleasure, in the same manner as does probably a bee or ant, when it blindly follows its instincts. Under circumstances of extreme peril, as during a fire, when a man endeavours to save a fellow-creature without a moment's hesitation, he can hardly feel pleasure; and still less has he time to reflect on the dissatisfaction which he might subsequently experience if he did not make the attempt. Should he afterwards reflect over his own conduct, he would feel that there lies within him an impulsive power widely different from a search after pleasure or happiness; and this seems to be the deeply planted social instinct.<sup>51</sup>

Darwin clearly and passionately rejected the widespread liberal notion of rational self-interest motivating human beings. This is particularly interesting, given the fact that Darwinism is so often seen as offering a biological justification for selfish behavior. Social Darwinism is historically seen as a philosophy which justified selfish behavior as the path to progress. Richard Dawkins has been particularly successful in describing selfishness as the underlying explanation for behaviors in the natural world. The idea that humans, and indeed all species, are at their core selfish, is often attributed to Darwin; it is an idea which is widespread throughout culture and it is fundamentally foreign to Darwin's view.

So, if morality is largely an intuition, what was the role of reason and rationality in Darwin's view? For Darwin, rationality emerges from the evolutionary story, and is linked to sociability and morality. Social species emerged out of the evolutionary process. Learning reinforced social and cooperative intuitions, but did not create them. Moreover, reason allowed the social species to develop a conscience, which also had an evolutionary advantage in allowing the individual to resist selfish behavior, and to pursue the weaker, but more persistent, social behaviors. Here there is choice. Rationality plays a role in negotiating between conflicting urges. The social instincts push in a moral direction, but the individual still needs to choose between opposing options. Rationality is critical to that process.

Ultimately, however, Darwin blurred the distinction between instinctual and chosen behavior, believing that, over time, learned behavior can be inherited:

. . . as the reasoning powers and foresight of the members became improved, each man would soon learn from experience that if he aided his fellow-men, he would commonly receive aid in return. From this low motive he might acquire the habit of aiding his fellows; and the habit of performing benevolent actions certainly strengthens the feeling of sympathy, which gives the first impulse to benevolent actions. Habits moreover, followed during many generations probably tend to be inherited.<sup>52</sup>

Notice the synergy between the different mechanisms. The feeling of sympathy is already present as a social species, but is reinforced initially by the “low motive” of helping others in order to have the favor returned. The combination of these two, one innate and one chosen, ultimately coevolved so that the selfish motive of helping others in order to help oneself in fact strengthened the sympathetic instinct. Over time the habit of acting benevolently, motivated by both selfish and selfless interests, will itself become inherited, and therefore instinctual.

Darwin believed that over generations learned habits could evolve into a moral instinct, a view that suggests Lamarck’s theory of inherited characteristics, which Darwin’s theory of natural selection is historically seen to have replaced. Lamarck believed that physical or character traits developed during a lifetime, in interaction with the environment, could be inherited into the next generation. The paradigmatic example of Lamarck’s theory is the enormous length of the giraffe’s neck, which Lamarck held had stretched a tiny bit in order to reach food in the higher branches of the tree, and the now longer neck was inherited by the giraffe’s prodigy.<sup>53</sup> Darwin, of course, was unfamiliar with genetics, and remained unclear as to the biological mechanism of inheritance selection. Mendel’s experiments with pea plants, although published before the writing of *The Descent of Man*, nevertheless remained unknown in the scientific community, and only became part of the larger scientific debate at the beginning of the twentieth century.<sup>54</sup> Darwin had his own estimation as to how the mechanism of biological inheritance worked, and at times Lamarckian explanations supplemented them.<sup>55</sup> According to Darwin, learned moral behavior could, over time, become an instinctual habit.<sup>56</sup> He never explained how this would take place, although John Dewey, for example, elaborated on such a process, and built his Darwinism around the concept of habit. Darwin remained pluralistic, assigning the origin of morality in humans to a series of causes: “actions of a certain class are called moral, whether performed deliberately after a struggle with opposing motives, or from the effects of slowly-gained

habit, or impulsively through instinct.”<sup>57</sup> He never prioritized between these three categories, and the debate continues to this day. For example, a neo-Lamarckian position which suggests that instincts can be learned through the development of habit suggests a complex nature–nurture dynamic, where morality, perhaps rooted in innate nature, nevertheless is developed and shaped by culture, which through formed habits can then ultimately influence innate human nature.

In Darwin’s broadest presentation of the evolution of morals, he states:

Finally, the social instincts, which no doubt were acquired by man, as by the lower animals, for the good of the community, will from the first have given to him some wish to aid his fellows, and some feeling of sympathy. Such impulses will have served him at a very early period as a rude rule of right and wrong. But as man gradually advanced in intellectual power and was enabled to trace the more remote consequences of his actions; as he acquired sufficient knowledge to reject baneful customs and superstitions; as he regarded more and more not only the welfare but the happiness of his fellow-men; as from habit, following on beneficial experience, instruction, and example, his sympathies became more tender and widely diffused, so as to extend to the men of all races, to the imbecile, the maimed, and other useless members of society, and finally to the lower animals, so would the standard of his morality rise higher and higher.<sup>58</sup>

Darwin assumed that morality would progress, and, in keeping with Victorian sensibilities, believed that Western standards represented the pinnacle of human moral culture.<sup>59</sup> His Victorian sensibilities are also painfully evident when he applies evolutionary theory to a discussion of differences between men and women, a necessary distinction for Darwin, who noticed the prevalent differences between males and females throughout nature, as sexual selection predicts. Since Darwin held that the human being is, first and foremost, a product of the same evolutionary processes, it stands to reason that similar differences would be found between males and females of the human species:

With respect to differences of this nature between man and woman, it is probable that sexual selection has played a highly important part. I am aware that some writers doubt whether there is any such inherent difference; but this is at least probable from the analogy of the lower animals which present other secondary sexual characters. . . . Woman seems to



differ from man in mental disposition, chiefly in her greater tenderness and less selfishness; . . . Woman, owing to her maternal instincts, displays these qualities towards her infants in an eminent degree; therefore it is likely that she would often extend them towards her fellow-creatures. Man is the rival of other men; he delights in competition, and this leads to ambition which passes too easily into selfishness. These latter qualities seem to be his natural and unfortunate birthright. It is generally admitted that with woman the powers of intuition, of rapid perception, and perhaps of imitation, are more strongly marked than in man; but some, at least, of these faculties are characteristic of the lower races, and therefore of a past and lower state of civilisation. . . .<sup>60</sup>

While Darwin's descriptions of differences between men and women are all too reminiscent of Victorian ideas which continue to influence our cultural ideas today, many Darwinists, particularly contemporary Darwinists, have also ventured into this extremely contentious discussion, and made similar biological claims. I relate to this debate and try to present a more nuanced position in Chapter Four, through my analysis of the work of Mary Midgley, who, as a feminist, nonetheless argues for acknowledging and embracing innate differences between the sexes, which go beyond biological reproduction systems. One can see here in Darwin's presentation the classic dichotomy with, on the one hand, associating nature with emotions, indigeneous peoples and with women, and, on the other hand, associating culture with rationality, European culture and with men.<sup>61</sup> While rejecting such an equation, I nonetheless advocate for acknowledging and even embracing character differences between men and women, rooted in biology.

Although Darwin clearly celebrated Victorian values as an extension of evolutionary principles, he also believed that in the same way that morality could evolve based on laws of natural selection, its continued development could eventually conflict with group survival. Here we see Darwin's darkest side. For Darwin, a morality based on sympathy for the other would lead to concern for "the imbecile, the maimed, and other useless members of society." Too broad a concern for their welfare would ultimately weaken the group, rather than strengthen it. A gap therefore develops between cultural evolution, which is evaluated according to its moral character, and natural evolution, which is evaluated according to its ability to survive and reproduce, using whatever means necessary. Human ethics and evolutionary ethics part ways. While morals and ethics have their origins in the evolutionary story, their continued pursuit threatens group survival, as others with less concern for the weak gain

an evolutionary advantage. Advanced culture, Darwin argued, is in danger of losing its evolutionary fitness:

. . . if the various checks do not prevent the reckless, the vicious and otherwise inferior members of society from increasing at a quicker rate than the better class of men, the nation will retrograde, as has occurred too often in the history of the world. We must remember that progress is no invariable rule.<sup>62</sup>

He suggested that for cultured society to remain evolutionarily fit, and one supposes to be able to remain strong against threats from “the uncivilized,” steps need to be taken so that the gap between evolutionary ethics and human ethics does not lead to the fall of civilization and its advanced morality.<sup>63</sup> While recognizing the tension with moral progress, Darwin hinted that the solution to this loss of evolutionary fitness is to restrain moral progress, and to use artificial selection to keep civilization fit, thus foreshadowing and creating the scientific justification for the birth of eugenics in the late nineteenth and early twentieth century:

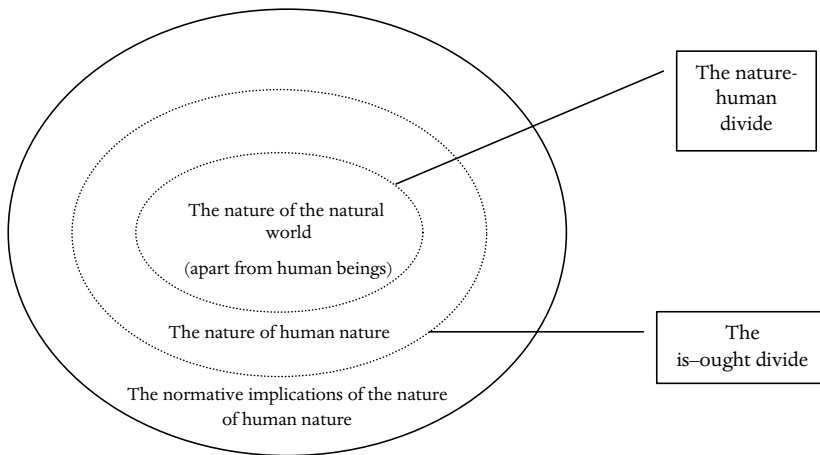
With savages, the weak in mind and body are soon eliminated; and those that survive commonly exhibit a vigorous state of health. We civilized men, on the other hand, do our utmost to check the process of elimination; we build asylums for the imbecile, the maimed, and the sick; we institute poor laws; and our medical men exert their utmost skill to save the life of every one to the last moment. . . . No one who has attended to the breeding of domestic animals will doubt that this must be highly injurious to the race of man. It is surprising how soon a want of care, or care wrongly directed, leads to the degeneration of a domestic race; but excepting in the case of man himself, hardly anyone is so ignorant as to allow his worst animals to breed.<sup>64</sup>

A morality of supporting the weak while selecting individuals strong in social instincts which are critical for group cooperation and strength, simultaneously keeps weaker members of the group alive, and therefore weakens the groups’ physical strength and ultimate survival. Darwin is contradictory about whether one should pursue a natural ethic or a human one. On one hand, he implied that steps should be taken against the biological proliferation of “inferior members of the society”; and yet, on the other hand, he argued that a morality of sympathy for the weak should outweigh the “contingent benefit” of improved biological fitness for the group.<sup>65</sup>

It is helpful to look at Darwin, and in fact all Darwinists, by looking at how they respond to three key questions that can be thought of as three concentric circles. The first, innermost circle is the implication of Darwin's theory for how we understand the natural world apart from human beings. For example, is Tennyson's famous passage—"nature red in tooth and claw" an accurate description of the way the world works?<sup>66</sup> Or is cooperation a more fitting metaphor than competition for the workings of the world? This kind of question sets the stage for the second circle of issues, which is whether this description of the natural world also describes human beings. Since Darwin's theory is popularly understood as tearing down the barricade between human beings and the rest of nature, the argument as to the character of nature is often also an argument about the character of human beings. For example, if there are clear differences in character between the sexes in species, does that mean that there are such differences between the sexes in human beings as well? It matters to education if boys and girls are different in personality because of biology. It matters to education if people are innately aggressive, or if they are socialized to be aggressive. The third circle from which the implications of Darwinism can be viewed is the normative one. Should the description of what is our biologically given human nature have implications for what human beings should be? Descriptive notions of human nature have historically been seen to have normative implications for society, and often, therefore, for educational goals. Rousseau's educational philosophy, for example, was rooted in his view of natural man. His view of human nature not only described the framework in which education works, but it also prescribed what education should strive to be, based on his understanding of human nature.<sup>67</sup> Much of the argument in the second circle, in fact, is predicated on its implications in the third circle. Arguing that boys and girls have no significant innate differences in character and abilities prevents having to confront whether those differences should be turned into a vision for how society should be. Each previous circle's argument is simultaneously about the argument to which it potentially moves. For example, the question about aggression between bands of chimpanzees is simultaneously and inevitably a discussion about whether it is possible for there to be non-aggressive human societies.<sup>68</sup> As we will see, others maintain that the circles are self-contained, that the boundaries are impermeable, and that the answers to an inner circle's questions do not have implications for the outer circle(s). For example, for those that hold that human beings are different in kind from the rest of the natural world, the membrane of the nature-human divide which separates the first and second circle is

impermeable. Piaget, for example, believed that humans are unique due to their rationality, and so there was nothing we could learn about human behavior and motives by looking at our animal cousins. For Piaget, the first circle has no implications for the second circle.<sup>69</sup> For those that hold that the “is” of the world has no implications for the “ought” of the world, the membrane of the is/ought divide is impermeable, so that the second circle has no implications for the third. For example, a common strategy in the struggle between science and religion is to claim that science is about facts, religion is about values, and there is no connection between facts and values, between “is” and “ought,” and therefore no conflict between science and religion. For such “separatists,” the second circle can have no implications for the third.<sup>70</sup>

In analyzing Darwin’s Darwinism according to these three concentric circles, several points should be emphasized. In the first circle, in examining how Darwin describes the natural world, it is clear that it is not, as Tennyson proclaimed, only “red in tooth and claw.” While the mechanism of competition between individuals within the species was central to explaining how new traits and new species could evolve, at



*From Darwin to Darwinism—Analytic Circles and Boundaries*

[Drawing: The inner circle relates to the debate on the nature of the natural world. If humans are similar to the rest of nature, and therefore it is possible to cross the nature–human divide, then the nature of the natural world will have significant implications for the nature of human nature. If who we are (the “is”) has implications for who we should be (the “ought”), and therefore the is–ought divide can be crossed, then the nature of human nature will have significant normative implications for human life.]