"The Monkey's Uncle Theory": Darwinian Evolution

My purpose in this handout is to set down some of the most basic among Charles Darwin's concepts and to discuss some implications of these scientific concepts for what we might call, in accordance with the general aims of this seminar, "cultural criticism." Make no mistake about it, Darwin's theory of evolution was important to the course of British theory and culture. Evolutionism had a profound impact on the Victorian Era's more advanced thinkers—it caused a great deal of anxiety in sensitive, intelligent people whose faith in Christianity had for some time been buckling under the weight of the Industrial Revolution and capitalism, ecclesiastical infighting, and historicist biblical scholarship, among other things. Unfortunately, the doctrine of evolution also provided matter for the least responsible cultural theorists; it affected not only the Huxleys and Tennysons of England but the Herbert Spencers as well, the "social Darwinists" who stole the master's ideas and used them to prove, or so they thought, that human poverty, misery, and vice were somehow "natural" and, therefore, *necessary*. What was the intellectual material that created such a storm? Darwin's fundamental principle, we know, was simply that all life, including human life, evolved from some lower ancestral form or forms. In order to understand this idea in its basic scientific context, however, we must briefly consult Darwin's own writings. After doing so, we shall review the implications of Darwinism for cultural theory.

How, according to Darwin, did higher life forms evolve? What are the basic principles of evolutionism? In the second of his two main treatises, The Descent of Man, Darwin's answer is that *variation, natural selection, and sexual selection* are responsible for all life that now exists on our planet. By variation, Darwin refers to nine "laws" that he believes may be responsible for physical changes in living things:

1. The direct and definite action of changed [environmental] conditions
2. The effects of the long-continued use or disuse of parts
3. The cohesion of homologous parts
4. The variability of multiple parts
5. Compensation of growth
6. The effects of the mechanical pressure of one part on another
7. Arrests of development, leading to the diminution or suppression of parts
8. The reappearance of long-lost characters through reversion
9. Correlated variation

All of the above laws would, time permitting, deserve some attention, but here I must limit myself to what Darwin seems to consider one of the most important, if most "perplexing" (30) among them: the "direct and definite action of changed [environmental] conditions." At base, this law implies that a change in external living conditions somehow affects the physical structure of a given set of organisms. The clearest examples Darwin provides of such environmental impact are variations in stature, weight, and hair or fur growth on the basis of geographical, climactic differences. Now let us move on to Darwin's next vehicle of evolution, "natural selection." This concept implies that the better adapted a given organism, or group of organisms, is to a certain set of environmental conditions, the more likely it will be to survive and thrive. Simply put, the creatures that can best cope with their environment—the best hunters, foragers, burrowers, hiders, and so on—will tend to propagate more of their kind and crowd out less well-adapted species, subspecies, and individuals. Darwin's point is not that of Lamarck—he does not believe that

animals *directly* change their structure to suit a given environment; rather, Darwin means that certain animals possess characteristics that allow them to survive in that given environment. Thus, such animals will tend to survive while animals born with less favorable characteristics will die and fail to propagate their kind. Variation and natural selection seem to go together as agents of evolution; that is, when certain variations occur (for whatever reasons) in an organism's structure and behavior, the change either will or will not serve that organism well in its surroundings, which surroundings, one might add, are also subject to change. Here Darwin presents us with a dynamic model for evolutionary change, one in which very little can be taken for granted with respect to "survival value." A creature may be finely adapted to its environment, and then suddenly find itself literally out in the cold or hunted when that environment and its other inhabitants change. Unlike Lamarckian theory, in which "improvements in the structure of animals took the form of the inheritance by offspring of some modified characteristic acquired by a parent as a result of some environmental circumstance faced by that parent" and in which evolution is propelled by "a natural drive towards perfection," natural selection operates without teleological purpose. "Survival of the fittest" may be the phrase used to characterize natural selection, but this phrase does not imply that nature has any *pre-established* purpose in selecting individuals and species as it does. ("Herbert Spencer's Liberalism" in Victorian Liberalism: Nineteenth-Century Political Thought and Practice, ed. R. Bellamy. London: Routledge, 1990. 118; The Oxford Companion to Philosophy, ed. Ted Honderich. Oxford: Oxford UP, 1995. 453.)

Add "sexual selection" to these two principles of variation and natural selection, and you have the least inadequate model for Darwinian evolution I can provide here. Sexual selection, according to Darwin, produces even more dramatic effects than the more general "natural selection." Male and female animals, he says, often develop the most extraordinary means of charming one another and defeating rival lovers, and these physical characteristics and behaviors are far less limited in their power to induce "good" changes in an animal's structure and habits than are the more general demands of natural selection. For example, so long as a male's courage and claws do not violate the overall dictates of natural selection—of getting by in the environment—that male is free to develop a great number of interesting, and perhaps useful, new "tricks" and structural differences.

Variation, natural selection, and sexual selection, then, all work together to make up what Darwin calls "evolution." Now we must ask what kind of "evolution" evolution caused, however partially or indirectly, in British culture and cultural analysis. Darwin's theory, as I mentioned above, was by no means comforting to an age that is with some justice called "the great age of doubt." It would be inexcusably simplistic to claim that Darwin's ideas *caused* a crisis of doubt, but they *did* help to shake some thoughtful Victorians' belief in such basic concepts as god, a reasonably benevolent natural world, morality, and progress. If evolution is the governing law of the universe, how can human beings regard themselves as the center of that universe, or even as significant? In The Victorian Frame of Mind (New Haven: Yale UP, 1957), Walter Houghton writes perceptively on this problem, and I can do no better than quote extensively from his work:

> In spite of some notable anticipations, in Hobbes, for example, nature had been thought of as the manifestation of a good and beneficent God. Natural theology, culminating in [William] Paley, had emphasized the order and design of a creative intelligence; the romantic sensibility had found the divine spirit rolling though all things, and had worshiped nature as the nurse and guide of life. But once Lyell's *Principles of Geology* had appeared (1830-33), followed by Chambers' *Vestiges of*

Creation (1844) and Darwin's *Origin of Species* (1859), nature became a battleground in which individuals and species fought for their lives and every acre of land was the scene of untold violence and suffering. If *this* nature was the creation of God, then God, as Tennyson put it, "is disease, murder, and rapine." Or if not, then either there is no God and no immortality, but only Nature, indifferent to all moral values, impelling all things to a life of instinctive cruelty ending in death; or else God and Nature are locked in an incredible and inexplicable strife. These terrible alternatives are all present, directly or by implication, in the famous passage on evolution in *In Memoriam*:

> Are God and Nature then at strife,
> That Nature lends such evil dreams?
> So careful of the type she seems,
> So careless of the single life,
> That I, considering everywhere
> Her secret meaning in her deeds,
> And finding that of fifty seeds
> She often brings but one to bear,
>
> I falter where I firmly trod,
> And falling with my weight of cares
> Upon the great world's altar-stairs
> That slope thro' darkness up to God,
>
> I stretch lame hands of faith, and grope,
> And gather dust and chaff, and call
> To what I feel is Lord of all,
> And faintly trust the larger hope.
> (Houghton 68-69)

Although Tennyson finished In Memoriam in 1850—nearly a decade before Darwin published The Origin of Species—and thus expresses his concerns about *pre*-Darwinian developments in the natural sciences, his description of nature as "red in tooth and claw" inadvertently expresses later Victorians's anxiety about the implications of Darwinian evolution. Even Tennyson's pre-Darwin nature is not the cheering, if now rather illegible, handwriting of God. What can nature be, then, but some vast, heartless thing, clawing and screeching its way toward a doubtful end? After quoting Tennyson, Houghton astutely allows sway to the fears of Carlyle, that best of English analysts of the Industrial Revolution, about the possibility that evolution might be true. What if it *was* true? What of ethics? What if, in Houghton's paraphrase, "conscience and intellect were 'but developments of the functions of animals'" and if "[f]ar from being the special gift of God, they . . . [were merely] natural mechanisms which all the higher animals had acquired, perhaps by 'natural selection,' and developed because of their enormous utility in the long struggle for existence"? (70) In short, Carlyle was afraid that Darwinian evolution would render it nearly impossible to counter the effects of an economic system that threatened to turn human beings into no more than machines. After all, if humans are but animals exquisitely programmed by an amoral Nature, from what standpoint could one oppose the worst effects of the Industrial Age and capitalism? If men are animals, why should they not be tool-using, laboring machines just as we often say a shark or tiger is a

"killing machine"? And why, indeed, should not only the "strongest"—or richest—tiger thrive? Grant that evolution is the only regulatory law in the universe, and you must admit that a mere sophisticated bundle of nerves and muscle like man can hardly invoke "ethics" as a weapon against what *works;* that is, against what has proven to be successful in evolutionary terms. Perhaps, as Thomas Henry Huxley argued, "man is simply a human automaton" (Houghton 70). Perhaps, too, everything comes down to what Herbert Spencer grandly calls "the persistence of force." In short, Darwin's theory, understood in a raw and somewhat exaggerated fashion, did its part in unsettling many of the most cherished cultural values in nineteenth-century England.

But does Darwin himself take such a gloomy, godless view? Does *he* seem to believe that human evolution is as unpromising as the above scenario suggests? To answer this question, we must examine Darwin's basic scientific stance and his views on the vexed question of human morality and its source. Because so many of the worst effects of Darwinism had to do with its presumptuous, overly general application in the newly-hatched social sciences, it would be most appropriate to deal first with Darwin's sense of scientific procedure and fairness. Although certain passages in The Descent of Man may seem anything but impartial or objective, at least to us today, we should try to be fair to this work and take the good with the bad. When Darwin describes his landing with the Beagle on the shores of Tierra del Fuego, he is, true enough, anything but fair-sounding: "For my own part I would as soon be descended from that heroic little monkey, who braved his dreaded enemy in order to save the life of his keeper . . . as from a savage who delights to torture his enemies, offers up bloody sacrifices, practices infanticide without remorse, treats his wives like slaves, knows no decency, and is haunted by the grossest superstitions" (634). The captain of the Beagle, to my recollection, was somewhat more generous to the inhabitants of the land he came to catalogue for the British empire. Nonetheless, when he is not exaggerating the flaws of what he calls with great regularity "the lowest savages" but instead dealing with the basic procedures of empirical science, Darwin is far more careful than his less scrupulous admirers, men like Herbert Spencer. In the debate between monogenists (those who believed that humans evolved from one common stock) and polygenists (those who claimed that the different races evolved separately and were, in fact, separate species altogether), for example, Darwin is careful to establish his own monogenist, evolutionist stance through a close, *inductive* examination of his opponents' position. In the course of working through the polygenist arguments, he makes this reasonable statement: "Every naturalist who has had the misfortune to undertake the description of a group of highly varying organisms, has encountered cases . . . precisely like that of man; and if of a cautious disposition, he will end by uniting all the forms which graduate into each other, under a single species; for he will say to himself that he has no right to give names to objects which he cannot define" (178). It is unfortunate that "scientists" like Spencer and Lombroso were not so aware of their limitations when they set out to define, quantify, or otherwise rank complex human qualities and situations. But then, these two "scientists" must already have decided that when it came to human vice, misery, and poverty, let alone intelligence, Alexander Pope's famous verse was good enough: "whatever is, is right." In any case, by the time Darwin concludes that "before long, the dispute between the monogenists and the polygenists will die a silent and unobserved death" (184), he has dealt well enough with his opposition to give his own statements the ring of authority. And in this particular debate over the single or multiple origins of humankind, Darwin's forceful words are all for the good, since anyone can see which way the polygenist school tends with respect to human relations; "separate but equal," itself a racist doctrine, was not even in the Victorian vocabulary.

The last thing to be considered here is Darwin's theory about the role of natural and sexual selection in the development of human morals. If we can reconstruct this theory, we should be able to make some

firm statement about the outlook that "evolution" led its chief proponent to take. Darwin's basic proposition about evolution is that "any animal whatever, endowed with well-marked social instincts, the parental and filial instincts being here included, 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" (Descent 99). Darwin posits, then, that very early in the evolution of any higher animal, natural selection would have led to the development of a social instinct. This instinct would have compelled the animal to feel affection and sympathy at least for members of its own immediate family or other unit. As Darwin says, "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" (99). Later, once the sociable animal's mental faculties become highly enough developed, *memory* comes into play and reinforces its sympathetic bond to the group:

> 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 . . . from any unsatisfied instinct, would arise, 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 neither enduring in its nature, nor leaving behind it a very vivid impression. (100)

It seems that once equipped with memory, our sociable creature is no longer able to obey its mere survival instincts in opposition to the wishes of the group, at least without unpleasant emotional consequences. The animal's act of satisfying its individual needs in a way that harms the community, that is, creates a dim feeling that the more enduring social instinct has been denied. To *sympathy* and *memory*, says Darwin, must be added *linguistic comprehension of communal "opinions"* and, lastly, *habit*. Both of these acquisitions greatly enhance the power of the community over the single being's wishes.

Thanks to the complexity of the human animal, of course, Darwin feels bound to concede that the development of a fully *moral* sense in mankind is rather more complex than his "social animal" narrative implies. Men, he confesses, are not the same as bees. Nonetheless, he goes on to insist strongly enough to disturb any diehard believers in divinely sanctioned ethics that the intellectual and emotional differences between the one species and the other are more of degree than of kind. Both men and the higher animals, proclaims Darwin, are "likewise in part impelled by mutual love and sympathy, assisted by some amount of reason" (111). There is one thing about humans, though, that separates man from his less sophisticated counterparts; it has to do with what is commonly known as "conscience," that something over and above mere discomfort at having done something reproachable. Darwin brings up this issue and asks the relevant question:

> Although some instincts are more powerful than others, and thus lead to corresponding actions, yet it is untenable, that in man the social instincts (including the love of praise and fear of blame) possess greater strength, or have, through long habit, acquired greater strength than the instincts of self-preservation, hunger, lust, vengeance, &c. Why then does man regret, even though trying to banish such regret, that he has followed the one natural impulse rather than the other; and why does he further feel that he ought to regret his conduct? (113)

The human animal, then, not only becomes upset when he does wrong in the eyes of the community; he continues to feel remorse long after the deed and even says to himself that he *ought* to feel bad about his anti-social behavior. This imperious *ought* is a far cry from mere immediate sensation; it is a binding intellectual construct. Why should this ethical conviction take hold of man? Darwin explains that of all the animals, humans most demonstrably cannot escape the power of memory and reflection. Because of the desire for fellowship and approbation that has been instilled in them by the arduous process of natural selection, they cannot think of violating communal standards without feeling extreme pain, and because of their powerful intellect and memory, they cannot *help* but think of their acts when they have once done them. These two factors, along with habit, mutually reinforce the social instincts and result in a "moral sense" so strong as to bring into existence "conscience," the internal agent that reproves all infractions of the moral sense. (118)

Darwin believes so strongly in this account of the development of the moral sense and conscience that he is able to remove the "reproach . . . of laying the foundation of the noblest part of our nature in the base principle of selfishness; unless, indeed, the satisfaction which every animal feels, when it follows its proper instincts . . . be called selfish" (123). This is a very important point in Darwin's moral theory because he has just stated that even though the selfish instincts are very compelling, there is no need to make the utilitarian claim that civilization was and remains founded upon humankind's mere self-interest. It is not, Darwin explains, the "greatest happiness principle" that has been the prime mover in human societies but rather the social instincts and sympathetic feelings that have been generated through ages of evolutionary success. The Benthamite precept about happiness may, he says, be the current *standard* for human conduct, but it is not and never really was the *motive* for it; that motive is far more closely connected to the greatest *good* and general wishes of the entire community than to some individual concern like "happiness." (122-23) In fact, says Darwin, regard for the welfare of the group eventually becomes so great that it begins to prohibit *even in thought* the transgression of that group's laws and opinions: "The highest possible stage in moral culture is when we recognize that we ought to control our thoughts, and 'not even in inmost thought to think again the sins that made the past so pleasant to us'" (125). Darwin's quotation, fittingly enough, comes from the stoic Emperor Marcus Aurelius, a man not easily to be outdone in the virtue of self-restraint and patience.

With the classic example of Aurelius as his springboard, Darwin is able to make his peroration on the moral sense. In sum, he offers the social instincts, moral sense, and conscience as our best hope of keeping civilization on the advance. Even before the development of truly Aurelian conscience, according to Darwin, changes for the better in men's relations begin taking place:

> As man advances in civilisation, and small tribes are united into larger communities, the simplest reason would tell each individual that he ought to extend his social instincts and sympathies to all the members of the same nation, though personally unknown to him. This point being once reached, there is only an artificial barrier to prevent his sympathies extending to the men of all nations and races. (124)

Moreover, says Darwin, thanks to long our long experience of true conscience, there is all the more reason to feel confident about humanity's chances of getting along in relative peace:

> Looking to future generations, there is no cause to fear that the social instincts will grow weaker, and we may expect that virtuous habits will grow stronger, becoming perhaps fixed by inheritance. In this case the struggle between our higher and lower impulses will be less severe, and virtue will be triumphant. (127)

One wonders what Darwin would have thought about this optimistic passage had he lived to see the horrors of the twentieth century. His prime statement, nonetheless, and for what it may be worth to us, is that the moral sense and conscience are no mere excrescences on the framework of life; they are instead so deeply rooted in mankind by evolution, by "natural selection," that the human species need not fear that it will one day be able to dismiss them. At least, *we* might add, not without dire consequence.