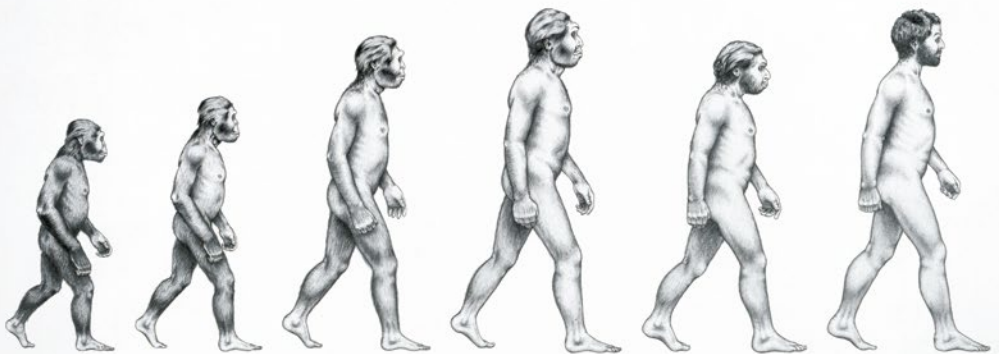


HUMAN NATURE AND THE LIMITS OF DARWINISM

Whitley R.P. Kaufman



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CONTENTS

1	Introduction: Bridging the Two Cultures	1
2	The Traditional Theory of Human Nature	25
3	Does Science Refute Free Will?	49
4	Reason, Truth, and Evolution	67
5	Does Science Undermine Morality?	89
6	Is Utilitarianism a Scientific Morality?	111
7	Art, Beauty, and Darwinism	129
8	Literary Darwinism: Can Evolution Explain Great Literature?	151

9 Darwinism and the Meaning of Life	173
10 Conclusion	197
Bibliography	213
Index	219

Introduction: Bridging the Two Cultures

For the last 500 years, the natural sciences have enjoyed an astonishing record of success in uncovering the mathematical laws that govern the natural world. Science has revolutionized human society, both in terms of technological advances that have vastly improved our standards of living and in its intellectual influence as a new way of understanding the world that has put the traditional worldview, that of religion, on the defensive. It has been one of the greatest intellectual achievements in human history, starting in Europe and spreading rapidly to the rest of the world. The term “science” has become a generic term of praise, an ideal standard by which to measure all other disciplines (“he’s got it down to a science”). In just a few centuries, science has replaced religion as the leading intellectual authority on the nature of reality—at least, among intellectuals and academics, if not always among the general population.

And yet there remains one glaring gap in the record of the natural sciences: the human mind, the very thing that is of most interest to us, and further that is the last great redoubt of the traditional worldview. Geoffrey Miller calls this the “last citadel” for science to conquer.¹ Steven Pinker declares there is “one wall standing in the landscape of knowledge... It divides matter from mind, the material from the spiritual, the physical from the mental, biology from culture, nature from society, and the sciences from the social sciences, humanities and arts.”² With respect to understanding the body, we turn to science—medicine in particular—to help it function well and repair it from illness or injury.

Medical doctors are held in high prestige, and religion has almost entirely ceded the healing function to these applied scientists. Yet the scientists of the mind—the psychologist and psychiatrists—have nothing approaching this prestige. To the contrary, the field of psychology suffers from a bewildering variety of schools without a single unifying framework, and has struggled to make itself relevant to the vast majority of people in making sense of their mental world: their goals, beliefs, values, and ideals. As Steven Pinker writes, “the topics in psychology that most interest laypeople—love, hate, work, play, food, sex, status, dominance, jealousy, friendship, religion, art—are almost completely absent from psychology textbooks.”³ The dominant theory of psychology, even among intellectuals, remains “folk psychology,” the traditional, pre-scientific theory of mind dating back to the ancient world, with its familiar body of entities such as beliefs, desires, and values. Psychology largely remains in a pre-scientific mode, as if the scientific revolution never happened, built upon the traditional conception of the nature of mind.

While theology has almost entirely disappeared as an academic discipline (other than in religious colleges), its place has been taken by the humanities as the arbiter in those things that really matter to us: values, goals, meanings, including the study of art, ethics, literature, political philosophy. Thus, today we see in intellectual life what C.P. Snow famously called the “two cultures”: a division between the natural sciences, which provide a theory of the behavior of matter in all its manifestations (including the human anatomy), and the humanities, which take as their field of study the human mind, both as individual entity and as social entity. (To be sure, the social sciences do not clearly belong to either culture; they sit at the uneasy border between the natural sciences and the humanities and do not constitute a third separate culture so much as an as-yet unsuccessful attempt to overcome the division. The social sciences face a dilemma: the more they attempt to be scientific, the less they speak to topics that matter to people. The last great psychological theory to have a widespread cultural impact was Freud’s psychoanalytic theory, a theory now widely considered to be a discredited pseudoscience. Thus the principal divide remains the sciences versus the humanities as two distinct ways of understanding the world.)

The humanities, however, are widely considered to be in a crisis mode in the universities, as students increasingly turn to more “practical” fields such as science and engineering. The prestige of the humanities in our culture has dropped dramatically, and the field is increasingly derided as a

“soft” and unscientific form of inquiry. Science, technology, engineering, and mathematics (STEM) fields receive vastly more federal research funding than the humanities do, and critics widely cite the failure of the humanities to make progress in their disciplines in the way the sciences have as evidence that the humanities are a dead end in human inquiry. Increasingly, one hears the claim that the humanities—not merely the academic study of the humanities, but the field of arts and literature in general—are simply a failed enterprise. Biologist Jerry Coyne, for example, has challenged “literature professors and critics” to give “examples of truths actually *revealed for the first time* by literature, rather than affirmed by it,” and he claims not to have “received a single convincing answer.”⁴ Philosopher Alexander Rosenberg goes even further, calling the entire discipline of the humanities an “illusion,” with the implication that they should be eliminated as academic disciplines entirely (notwithstanding that he is a member of a philosophy department).⁵

It is important to note that Rosenberg’s target is not merely the academic discipline of the humanities—admittedly an easy target, given the frequent excesses of humanities professors—but the very idea of humanism itself. That is, his target is the folk belief in such queer entities as “minds” and the explanation of behavior in terms of motives, purposes, values, and the like.⁶ For, according to Rosenberg (and this is a very widespread theory, though few are as blunt in endorsing its full implications), the real causal work is being done at the material level. So the humanities, including all of folk psychology, will have to be replaced by a “neuroscientific explanation of human behavior”; only then will we have a true science of human beings.⁷ According to Steven Pinker, we stand at just that moment when the “last wall” is falling, the wall between matter and mind. “New ideas from four frontiers of knowledge—the sciences of mind, brain, genes, and evolution—are breaching the wall with a new understanding of human nature.”⁸

It does not seem an overstatement to say that we stand at one of the great turning points in history, or at least in intellectual history. The assault on the last wall has begun, the wall that divides the two cultures and the two kinds of substance, mind and matter. Science has turned its methods on human beings themselves. The great question before us is how far will natural science be able to take us. Will science be a totalizing theory, a theory of everything, a unifying theory of the two great aspects of reality, mind and matter? Will science provide us with a successful explanation of human behavior, comparable to its account of the natural world: stars,

planets, atoms, chemicals? Can it provide a full theory of mind itself: our ideas, goals, values, purposes, motives, beliefs? Or will science discover its own limits—will mind prove irreducible to materialist explanation? Are human beings just another, albeit far more complex, organization of material particles? Or are they something different, not amenable to mechanistic scientific explanation?

THE PROBLEM OF THE SCIENTIFIC STUDY OF VALUES

The enormous challenge to the idea of applying the methods of science to human beings is that the concepts and theories of science, focused on the idea of mechanical forces operating between material entities, seem ill-suited to the explanation of rational, intelligent behavior. Human beings are moved, at least to all appearances, by purposes, goals, and values, not by mechanistic forces. They are teleological beings, guided by a *telos* or purpose. The sort of methods appropriate to investigate inanimate, inert objects such as particles or planets do not fare well with respect to rational beings who deliberate about their goals. It is for this reason that behaviorism became influential in the first half of the twentieth century, for it promised to explain human behavior without recourse to mental vocabulary, entirely in terms of mechanistic stimulus and response. But this approach was doomed from the beginning. Intelligence cannot be reduced to causal stimulus–response patterns. Take for example a debate on a moral or political issue, say capital punishment: a decision to favor or oppose the death penalty is the result of deliberation about values and about facts (e.g. deterrence); to analyze it as merely a “response” to a “stimulus,” ignoring the role of the internal deliberations and of the conscious goals being aimed at, misses everything that is important and unique about human behavior and rationality itself.

There is yet another equally daunting problem, perhaps even more daunting, in applying the methods of science to human affairs. Being teleological beings (at least, to all appearances), humans make decisions by deliberating about the goals they should pursue. But science has no method for investigating goals or ends—indeed it has long been definitive of the scientific method that it excludes any teleological inquiry. Science seeks description, not prescription. So at most it could give us a descriptive account of human behavior, but not a prescriptive one. But at the end of the day, we still have to answer the question: what goals should we pursue? What choices should we make? This is not just a matter of the big social

issues such as capital punishment, but of choices at every level: how should we live our lives? So the problem is a double one: first, can an entirely descriptive account make sense of the normative aspect of human behavior? Can it explain the apparent goal-directedness of human action? And second, can science provide us guidance as to what goals to act on? We need to know what we should aim at in order to know how to act. What should we do, on matters such as capital punishment or even on individual questions such as what career to pursue or who to vote for.

This problem creates a dilemma for the scientific explanation of human behavior with respect to the question of human goals and purposes. One option, though hardly plausible, is to deny that there are such things, to hold that the very idea that humans are purpose-seeking creatures is a delusion.⁹ The second option is equally problematic: to admit the reality of purposes but to admit that science, while it can help us choose the best means to achieve our goals, has no guidance to offer on how to choose the proper goals in the first place. This second option would be to acknowledge the limited usefulness of science to our most basic concerns, and hence the failure of the project to achieve a full scientific account of human behavior.

There would thus appear to be an insuperable barrier between the domain of science, the study of facts, and the domain of the humanities, the latter of which involves the study of beings that must be understood in the context not only of facts but also of values. However, Darwin's theory of evolution by natural selection, it has been widely hoped, could offer a way around this is/ought barrier. For the idea of an evolutionary function would seem to allow a way of treating values and purposes as entities susceptible to scientific analysis. The key idea of function in biology allows the explanation of behaviors without recourse to teleology. Behaviors—whether mating, feeding, fleeing, or whatever—evolved because they led to reproductive success. Hence an entirely mechanistic natural process—natural selection—can give rise to forward-looking behavioral tendencies, giving us the appearance of teleology. Even complex behaviors can thus be explained functionally, in terms of a disposition or tendency to defend oneself, pursue prey, and seek mates. Rationality itself, on this view, can be explained in terms of the functional benefits of intelligence, allowing for a flexible assessment of alternative possibilities. Thus the idea of function could provide a bridge between the physical and mental world; complex mental properties are functional tendencies that evolved because they reliably led to greater reproductive success.¹⁰

At least, that is the hope. Whether in fact this idea of function does provide a genuine alternative to teleology, rather than just a new name for it, remains an open question. It is far from obvious that there is much in common between physiological functions such as the heart pumping blood and psychological functions such as rationality. Arguably, the attempt to use a single (and rather vague) concept to assimilate the physical and mental realms ends up obscuring what is special and distinctive about the mental realm. While the heart can be understood as a mechanical process, the very question is whether the mind can also be understood this way. What seems correct is that the concept of function provides us with a common mechanistic *origin* of the physiological and the psychological. But to explain the origin of a phenomenon is not necessarily to explain its present nature (this is the so-called Genetic Fallacy). Whatever the mechanistic origins of the human mind, its nature appears to be teleological not mechanistic. To be rational is to engage in the conscious, deliberate pursuit of goals, something clearly different from the mechanistic function of the heart pumping blood. And perhaps most troubling of all on this attempted functionalist reduction is what happens to the normative element of mind, the idea that certain goals *ought* to be pursued. Recall that this raises the problem of what guidance a scientific approach can provide to answering the central human question, how ought we to live?

THE RISE OF SOCIOBIOLOGY

That the theory of evolution provides the hope for a comprehensive theory of human nature was recognized early on by Darwin himself. In *On the Origin of Species* (1859), Darwin predicted that “In the distant future I see open fields for far more important researches. Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history.”¹¹ In fact, the future was not so distant: Darwin himself in *The Descent of Man* (1871) and *The Expression of Emotion in Man and Animals* (1872) attempted to provide a biological account of all of the “higher” or “nobler” faculties of the human being that had long been thought to radically distinguish the human from the merely animal. Darwin argued that all of these differences are matters of degree not of kind, and that all higher mental faculties have their origins in animal behavior. Darwin thus inaugurated the field of sociobiology¹² by beginning the process of speculating on the possible evolutionary origins of human institutions and

capacities such as the moral sense, religious belief, aesthetics, language, and reason.

Needless to say, the very project of sociobiology raised enormous controversy from its very beginning, and the misuse of evolutionary principles in Social Darwinism, the Eugenics movement, and Nazism largely discredited the field for much of the twentieth century. Thus it was not until the 1970s when the field was almost single handedly revived by the biologist E.O. Wilson. In 1975, Wilson published his major treatise *Sociobiology: The New Synthesis*, a book mostly concerned with the analysis of social behavior in animals. Only the final chapter addressed the human being. However, Wilson made it clear in his book that his ultimate goal was to analyze all of human behavior in a single “synthesis”: he declared at the beginning of the book that “sociology and the other social sciences, as well as the humanities, are the last branches of biology waiting to be included in the Modern Synthesis,” in which “each phenomenon is weighted for its adaptive significance and then related to the basic principles of population genetics.”¹³ At the end of the book, Wilson declared that the “social sciences [will] come to full flower” only when “we have progressed enough to explain ourselves in these mechanistic terms” of neuron and gene—though, he warned ominously, “the result might be hard to accept.”¹⁴

Unsurprisingly, the offhanded characterization of the social sciences and the humanities as branches of biology did not go over well with those in the field of social sciences and humanities (it did not help that Wilson seemed to treat the humanities as merely an afterthought, barely worth mentioning). Wilson responded quickly with a new book treating entirely of human beings: *On Human Nature* (1978). Rather than adopting a more cautious approach, Wilson declared that the controversy made him “more persuaded than ever that the time has at last arrived to close the famous gap between the two cultures, and that general sociobiology... is the appropriate instrument for the effort.”¹⁵ The approach of the book is, in Wilson’s words, an “uncompromising application of evolutionary theory to all aspects of human nature,” though Wilson concedes that, as with any scientific hypothesis, it might prove wrong in the details or even in the big picture.¹⁶ Still, Wilson insisted that the “philosophical legacy of the last century of scientific research” is that humankind evolved by Darwinian natural selection, not by divine creation, and that without this realization, “the humanities and the social sciences are the limited descriptors of surface phenomena.”¹⁷ This point oddly seems to presuppose what is clearly false, that the fields of social science and humanities assume as

their foundation a Creationist worldview.¹⁸ But the gist of Wilson's ambition is the insistence on a single unifying principle for the study of all living things (and indeed all things in the world), under the banner of "scientific materialism."¹⁹ Wilson's claim is that, if religion can no longer play that role, then science will have to, otherwise we will lack a comprehensive framework in which to understand the human being as part of the larger world. Biology, Wilson says, "is the key to human nature."²⁰

SOCIOBIOLOGY OF ETHICS

Wilson's sociobiology, like most sociobiological theories, has from the beginning taken a special interest in addressing the problem of ethics: how to give an evolutionary account of the origin of moral behavior. This focus on ethics has multiple motivations. First, as Darwin noted, the moral faculty has long been held to be what most distinguishes human as unique and as rising above the natural world: "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."²¹ Second, ethics would seem to pose the most challenging problem for an evolutionary account, as it appears to directly contravene the evolutionary imperative to pursue unrelenting self-interest. Even if cooperation is an important feature in social species, still the bottom line is that cooperation is only "justified" from the perspective of the individual if it pays off in terms of individual reproductive advantage. Thus for Wilson, self-sacrifice "when directed at total strangers... is so surprising (that is, 'noble') as to demand some kind of theoretical explanation."²² A third reason for the focus on ethics is the ever-present sense of competition between biology and religion, as if the real struggle is between evolution and creationism (as we already saw above in Wilson's comment on biology replacing religion). Religion has long seen its central role in society as providing ethical guidelines, the basic moral rules by which we ought to live. In this it most sharply contrasts with the natural sciences, which are not equipped to address the normative element of human behavior. For that reason sociobiologists have long made it a priority to defuse the power of religion by finding a biological reduction of our supposedly God-given moral rules, and ideally as well as an alternative source of morality. Thus Wilson insists that he finds the "scientific ethos superior to religion," and that it is "crucial" to explain religion "by the mechanistic models of evolutionary biology." For if religion "can be systematically analyzed and

explained as a product of the brain's evolution, its power as an external source of morality will be gone forever."²³

Hence Wilson's near-obsession with the question of ethics, both in his early books and throughout his prolific career. On the first page of *Sociobiology*, Wilson declares that the human-evolved emotional system, the "hypothalamus and limbic system," "must be pursued to explain ethics and ethical philosophers... at all depths."²⁴ This "hypothalamic–limbic complex" has "been programmed" such that it "orchestrates behavioral responses" that include personal survival as well as altruism.²⁵ Late in the book, Wilson makes the notorious claim that it is possible that "the time has come for ethics to be removed temporarily from the hands of the philosophers and biologicized."²⁶ He goes on to analyze and critique the moral and political philosophy of John Rawls, and to claim, remarkably, that the flaw in Rawls' moral philosophy was that he failed to realize that moral intuitions arise from the hypothalamic–limbic system as a product of evolution. For Wilson, such moral intuitions are the product of early evolutionary stages of man, a "relic of adjustment to the most primitive form of tribal organization."²⁷ Wilson thinks that the "requirement for an evolutionary approach to ethics is self-evident," and that this approach dictates a normative moral conclusion, a radical moral pluralism: "no single set of moral standards can be applied to all human populations, let alone all sex-age classes within each population."²⁸

Moral philosophers quickly and rightly dismissed such shoddy reasoning. Even if morality is in some sense the product of evolution (itself a problematic claim, as we will see in a later chapter), it by no means follows that morality must be a product of the emotions rather than of reason. The argument is an obvious non-sequitur, for reason is a product of evolution as well (mathematical intuitions are the product of evolution too, yet do not derive from emotions). Nor does it take much knowledge of ethics to see that reason does regularly play a role in moral deliberation, along with emotion. Moreover, Wilson's claim that morality must be based on emotion has arguably been falsified by the evidence from brain imaging that moral reasoning involves much of the brain, including cognitive areas, and not just the emotional centers. Further, it is astonishing to think that one could dismiss the philosophy of John Rawls—who serves, apparently, as a stand-in for the entire body of modern ethical theory—in a few sentences, merely by invoking the authority of evolutionary biology. Equally problematic is the wildly speculative assertion, again given without any argument, that since morality is a product of evolution, therefore there

must be multiple moral codes for different societies, for men and women, and for different ages (in a strange reversal of Plato's argument in the *Meno*). This no more follows than that, since mathematics is a product of evolution, there must be distinct mathematics for different ages and sexes. But most troubling of all is Wilson's implicit rejection of the is/ought barrier: the assumption that a scientific approach to ethics allows us to use facts about the origins of ethics to draw normative conclusions (we return to the is/ought issue below).

In fact, a rejection of the descriptive/normative distinction follows from Wilson's basic assumptions. Following out the "scientific materialist" worldview to its logical implications, Wilson deduces that the very idea of purposes, goals, or normativity beyond the causal forces of biology must disappear as well. In his book *On Human Nature* he is more explicit about this implication of the "new naturalism": that no species "possesses a purpose beyond the imperatives created by its genetic history."²⁹ There are no higher values, nor any "goal external" to one's "biological nature."³⁰ Indeed, since the values we espouse (such as human rights) are merely a product of evolution, then science can "investigate the very origin and meaning of human values."³¹ That is, Wilson's unrelenting materialism leads him to reject the is/ought divide, and indeed assert that *only* science can investigate normative ideals: it is the moral philosophers that are incapable of studying ethics properly, as most philosophers "lack an evolutionary perspective"³² and hence are capable only of mere "rationalization" of our biologically caused values.³³

Nor does Wilson hesitate to begin this process of reconstructing human ethics on a scientific, evolutionary basis, to create a "new morality based upon a more truthful definition of man."³⁴ Biology, he claims, will allow us to choose a "system of values on a more objective basis."³⁵ What might this scientifically derived ethics look like? To start with, biology dictates the "cardinal value of the survival of human genes in the form of a common pool over generations"³⁶ and "evolutionary theory" suggests we should, as a second central value, favor "diversity in the gene pool as a cardinal value."³⁷ However, Wilson also suggested that at some point in the future our greater knowledge of genetics will allow us to be more selective in what genes we keep in the gene pool and which we eliminate. We will be able to pursue a "democratically contrived eugenics."³⁸ Wilson's third suggested "primary value" is "universal human rights," which he claims to be able to derive from our mammalian heritage as social beings, on the grounds that severe inequity will be destructive, at least in the long run.³⁹

This argument is as confused as the previous ones. Evolution is a morally neutral theory; it does not dictate any values at all, let alone “objective” ones. It produces behaviors that we consider good, such as cooperation and kindness, but also behaviors that we consider bad, such as rape, murder, and cruelty. So we cannot simply derive ethical rules from evolution; we need some principle that dictates a standard of good or bad, better or worse, to select some products of evolution as morally praiseworthy and others as morally wicked. But what could this principle be, and how could it derive from evolution? Wilson seems to think that the preservation of the human gene pool can provide us with our standard of value, but this is an unlikely candidate for an ultimate moral value (if it is even coherent—what would it mean to preserve the entire gene pool?). Indeed, Wilson himself rejects the idea of preservation of the human gene pool: his eugenics proposal is based on the assumption that there are good genes and bad ones, and that we need to eliminate the bad ones. But this would require a principle by which to select certain human genes as better than others, for his eugenics program: but that would require a moral principle in itself.

Wilson tries to make his new ethical system more palatable by suggesting that it supports universal human rights, based on the assertion (though presented without any empirical evidence) that an inequitable society is not in anyone’s long-term interest. But this is a fragile and implausible basis for human rights. Surely it will *sometimes* be in one’s self-interest to oppress and exploit others, and on Wilson’s theory, such exploitation would be morally justified. Equally problematic is Wilson’s assumption that the only valid foundation for ethical behavior must be self-interest.⁴⁰ Indeed, Wilson cannot help but introduce his own normative preferences into the theory, using words such as “nobility” or “liberation” or “great goals,”⁴¹ suggesting that what is really going on in this theory is Wilson’s defending traditional normative values and trying to rationalize them (unconvincingly) with a purported biological foundation. This is certainly not good evidence that the time has come to hand moral philosophy over to the biologists.

THE SECOND DARWINIAN REVOLUTION

The goal of the foregoing analysis is not to say that the project of evolutionary ethics is doomed from the start; whether others can do better than Wilson is a question addressed later. For the moment, the point is to recognize the extraordinary ambition of sociobiology, its attempt to

explain all aspects of human existence, from the most mundane to the most sublime, in terms of evolutionary origins. It is for this reason that sociobiology has been called a Second Darwinian Revolution: one that attempts to explain not merely the complexity of the physical organization of living beings, but one that explains the realm of mind itself as product of the process of natural selection. Indeed, it could also be called a Second Copernican Revolution, in that a key effect of the heliocentric model was to eliminate the distinction between the earthly, material, “sublunary” realm and the heavenly, ethereal realm, showing that the heavens and the earth were all made of the same substance and followed the same laws. So too in “universal Darwinism” do we see the aim of breaking down the barrier between mind and body, so that all organized complexity in the universe can be accounted for with a single explanatory framework (though as we will see, there are very different ideas of how this should take place: via a single Darwinian process acting on organisms, or by a sort of Darwinian dualism in which ideas and cultural elements evolve through a separate, though still Darwinian, process).

The rise of sociobiology has largely been defined by the idea of evolution providing the first comprehensive scientific account of human nature and its place in the world, permitting a unification of all fields of knowledge. Geoffrey Miller, much in the spirit of Wilson, writes that “The social sciences and the humanities would benefit, I think, from turning to evolutionary psychology as their conceptual basis, rather than Marxism, psychoanalysis, and French philosophy.”⁴² David S. Wilson similarly suggests that “Evolutionary theory provides a common language that can erase the distinction between the hard sciences, the social sciences, and the humanities.”⁴³ Philosopher Owen Flanagan holds that “Darwin’s theory is the cornerstone for a fully naturalistic theory of persons. The theory of evolution by natural selection provides prospects for philosophical unification of all the sciences that pertain to human being.”⁴⁴ For philosopher Daniel Dennet, Darwin’s theory promises “to unite and explain just about everything in one magnificent vision” (Dennet does not explain the qualification “just about”).⁴⁵ Joseph Carroll calls for the “next major step towards turning the evolutionary sciences into a truly comprehensive explanatory framework for all things human.”⁴⁶

This new unified vision involves reconfiguring our account of the human mind in purely evolutionary terms: as a mechanism designed for one purpose: to successfully propagate one’s genes. “The human mind is a device for survival and reproduction,” writes Wilson.⁴⁷ Reproduction, declares

Matt Ridley, is “the sole goal for which human beings are designed; everything else is a means to that end.”⁴⁸ Jonathan Gottschall celebrates “Darwin’s powerfully simple rule: the bodies of animals, including human animals, have been shaped by their environments to maximize survival and reproduction, *and so have their psychologies and behaviors.*”⁴⁹ And Steven Pinker asks: “Was the human mind ultimately designed to create beauty? To discover truth? To love and work? To harmonize with other beings and with nature? The logic of natural selection gives the answer. The ultimate goal that the mind was designed to attain is maximizing the number of copies of the genes that created it.”⁵⁰

To be sure, the claim is not that everything humans do has the conscious or immediate goal of maximizing offspring. Rather, the impulse to maximize offspring is largely unconscious; nature has programmed us with a desire for sexual pleasure as an indirect means of getting us to reproduce. But neither does this sociobiological theory claim that we are obsessed with sex, as in the Freudian theory. Most of our activities are related to reproductive success only indirectly; even the survival instinct, for example, in itself does not directly promote reproduction; one could survive indefinitely without ever reproducing. But those who did not survive into their reproductive years would certainly not reproduce, so the survival instinct is instrumentally necessary to reproductive goals, and again without the need of any conscious awareness that the purpose of our survival is having offspring.

However, what sociobiology does claim is that everything that we do has as its *ultimate* goal reproductive success. All of human culture, according to the sociobiologists, has as its “aim” the promotion of reproduction. Or more precisely, all of human culture is either a direct adaptation that has tended to produce reproductive success in the past or a mere byproduct of the evolutionary process, a side effect of some human properties that *did* tend to maximize reproduction. Thus, for example, the evolutionary project of explaining why religion exists is one in which religion is seen as evolving because of some benefit it provided—perhaps creating a strong group bond, which promoted effective survival, which in turn promoted reproduction. Or, in the view of many evolutionary psychologists, religion is not adaptive in itself but is a byproduct of adaptation. Thus on one view, it is the product of an overactive agency-detector; our evolutionarily valuable ability to recognize potentially dangerous agents (be they humans or animal predators) may overshoot its mark and “see” entities that are not there, such as demons, spirits, or gods.

If this view is correct, it is easy to see why sociobiologists think that they can provide a revolutionary new understanding of the social sciences and the humanities. For it aspires to provide the “deep” explanation of all of culture, the comprehensive account of everything we do. The study of literature would be reformulated to explain age-old questions, such as why we enjoy fictional stories, or why tragedy appeals to us. History could be reconfigured by a deeper understanding of true human motives. Even ethics itself would finally get a genuine scientific foundation. The *summum bonum* of ethics, long disputed, could now finally become clear: it is reproductive success. Morality evolved not because God wants us to be good but because it was nature’s way of helping us reproduce better (just how this is supposed to work is of course the question addressed in this book). What is human nature: it is a set of abilities and tendencies designed by evolution to get us to reproduce successfully.

DARWINIZING THE HUMANITIES?

Can Darwinism provide the key to human nature, and thus revolutionize the disciplines of social sciences and humanities? An initial problem is that, as philosophers have repeatedly pointed out, the fact that human beings have a biological origin does not logically entail that everything about us can be explained by biology. A simple analogy can demonstrate this fact. Though sociobiologists are fond of describing evolution as the “ultimate” origin of human beings, in fact it is physics not biology that is our “ultimate” origin; without the Big Bang there is no biology. Yet it does not follow that physics can provide us with a revolutionary new understanding of human nature. All that follows is that human nature must be consistent with the laws of physics, not that it is reducible to or explainable in terms of physical particles and forces. Analogously, the fact of a biological origin of the human being does not entail that biology will have any significant explanatory value for the humanities. All that follows is that any human cultural practices that are inconsistent with biology—for example, that promote non-reproduction—are likely to disappear quickly. While this may be useful information, it is hardly sufficient to provide a complete biological explanation of human culture.

Hence most of the criticism of the sociobiological program comes not from Creationists or evolution-deniers, but from card-carrying naturalists. Stephen Jay Gould, for example, argued that what makes us biologically unique is the extraordinary flexibility of human behavior, which allows us

to be violent or peaceful, oppressive or egalitarian, cruel or kind. A biological explanation of why we are violent is therefore vacuous, as biology can explain our peaceful tendencies as well. What determines human behavior, according to Gould, is not biology but the “social structures” that encourage certain behaviors to flourish.⁵¹ Philosopher John Dupré similarly makes the case that evolution is of “limited use in illuminating human nature,” and that it is culture that is the main determinant of human behavior.⁵² While the human genome “constrains” our development, the evidence of vast cultural diversity demonstrates the key human trait is flexibility.⁵³ On this view, the proper study of human nature requires attention to culture and history, not biological evolution. Hence there will not need to be, nor can there be, a biologizing of the social sciences and the humanities, for they are autonomous realms.

The response of the sociobiologists has been to attack this notion of an autonomous cultural realm as exemplifying the reigning “Blank Slate” ideology in academia, also known as the “Standard Social Science Model” of the human being (once again, the humanities seem to be largely ignored). Sociobiologists claim, with some justification, that throughout the twentieth century and even up until today intellectual culture in the social sciences has been dominated by the idea that it is culture rather than biology that determines human behavior. It is equivalent, writes Steven Pinker, to the “dogma that human nature does not exist.”⁵⁴ Human nature is, on this view, entirely a “social construction”; society creates gender roles, preferences, values, and so forth. We are, unlike other animals, freed from the power of evolution, with the ability to create ourselves as we like.

The sociobiologists claim that the Blank Slate dogma is factually false and inherently implausible. Even given the vast cultural diversity of human societies, there are innumerable human universals as well, and human nature is malleable but only within limits. But even more important, the objection is that the idea of radical cultural determinism is incoherent: culture is a product of evolution as well, and hence can be analyzed in terms of evolutionary principles every bit as much as our genetic inheritance.⁵⁵ The issue is not just that all human behaviors are produced by a mix of culture and genetics, nature and nurture. It is that both nature and nurture are the product of biology—for if culture is not a product of evolution, then what is it the product of, at least for those who espouse naturalism? The Blank Slate view thus endorses a dubious dualism, as if the culture element in us is the Ghost in the Machine (to use Pinker’s comparison), the element floating free of nature. Advocates of cultural

determinism owe us an explanation of just where these cultural values come from, if not from biology. To say that the key human trait is flexibility misses the point: to be sure, evolution might have created cognitive flexibility, but only as a means to pursue biological ends. We are capable of immense adaptability to different environments, but this flexibility evolved because it allowed us to pursue biological goals more effectively. Flexibility is not an end in itself. Hence to say that culture is a major determinant in human behavior does not affect the sociobiological position, for the claim is that culture can be studied as an evolutionary adaptation itself. So this is not an objection to a Darwinian approach to human nature.

MUST HUMAN NATURE BE BIOLOGIZED?

The sociobiological objection to the Blank Slate and social constructionist ideology is plausible and important. To say that culture is “autonomous” is merely to push the question back: what is the determinant of cultural values? Culture becomes a black box, or merely a random determinant of human behavior. In denying that biology can provide any useful explanatory power regarding human nature, it leaves unanswered the question as to whether cultural explanations would provide any significant insight, or whether the reference to culture simply is no explanation at all. The emphasis on flexibility, adaptability, and human autonomy in fact seems to suggest that we cannot have a useful explanatory framework for understanding human behavior. At least, we are not told just what that framework would look like. Nor, crucially, does the Blank Slate ideology resolve the normative problem: what *should* we aim at? How can we determine what are the appropriate cultural values?

However, the inadequacy of the Blank Slate view does not entail that we must turn to a Darwinism or a biological approach. This argument is a false dichotomy, for it assumes that the only two alternatives are the Blank Slate or an evolutionary approach. In fact, the sociobiologists themselves note that the Blank Slate view is a relatively modern outlook, which came to predominate only in the last 150 years. They do not mention what preceded it as a theory of human nature, apparently assuming that any such views are pre-scientific, religious accounts of human nature and hence not worth discussing (the sentiment expressed by G.G. Simpson in his notorious claim that nothing written about human nature before 1859 is worth even considering). However, the central argument of this book is that there is a genuine and plausible alternative theory of human nature,

and it is the one that has been the traditional dominant view for much of Western history. There is no official name for this position, nor has it always been explicitly recognized; I will simply label it the traditional theory of human nature. The traditional theory, which will be discussed at length in the next chapter, holds that the human being is a “rational animal” in the strict sense of having two distinct aspects to his nature: a biological and a rational one, each pulling him in different directions. While it holds that the human being is partially autonomous from his biological side, it gives substantive content to the ends that transcend biology. This content can be summed up briefly by saying that the rational aims of man are, in this traditional view, the famous triad of Truth, Beauty, and Goodness. Detailed discussion of this position will be left to the next chapter and the remainder of the book, but for the moment what is important to note is that it provides an alternative to both the sociobiological theory of human nature and the Blank Slate theory. It rejects the former on the grounds that there is a human capacity to transcend (in part) our biological nature. It differs from the Blank Slate theory in that it rejects the idea that human freedom, whether individual or cultural, is a matter of arbitrary choice, unconstrained free will. The normative ideal of the human being, on this traditional view, is to balance the two sides of our nature: to attend to our biological needs while also pursuing these aforementioned transcendental values.

THE FACT/VALUE DISTINCTION

Any attempt to provide a biological explanation of human nature, or any other sort of explanation from the natural sciences, will have to face the fact/value or is/ought problem. There is at least *prima facie* a clear and obvious distinction between descriptive, factual claims about what is the case in the world and normative, value claims (what ought to be the case). Many attempts to reduce values to facts (about desires, or preferences, or feelings) have never been very convincing, and in any case run up against the problem that, at the end of the day, we still have to decide what values to pursue, both as an individual and a societal matter (how much should we cut carbon emissions? Should drugs be legalized? Etc.), and there seems no coherent way of addressing normative recommendations for the future in terms of factual, predictive statements. As we will see later on in this book, the utilitarian method comes the closest, but even it has to rely on some clearly normative (and dubious) assumptions.

Still, to say that there is a real distinction between fact and value is not to say that there is an unpassable gulf between them, or that facts have nothing to do with values. The sharp is/ought dichotomy has been widely criticized (e.g. by Hilary Putnam) and rightly so as an untenable dualism, an unfortunate legacy of the positivist tradition. Values do not float freely above facts, nor are facts entirely value free. The facts about human nature are essentially connected to our values: who we are implies what we ought to do. And it is a matter of fact that we are valuing agents, who need to deliberate and choose our ends. So when the sociobiological account of human nature tells us that our nature is, to put it crudely, merely a reproductive machine, then that implies a certain value system. The implication that all our treasured values have as their “ultimate” basis the pursuit of reproductive success is not normatively neutral. Its normative implications are in fact wholly implausible: that our sole goal ought to be maximizing our own offspring—or perhaps that there are no real values at all, everything is arbitrary. When we rebel against this unlikely conclusion (either one of them), we are relying on value-intuitions that are themselves genuine facts about us, to be taken into consideration in understanding our nature. It is thus not incoherent or “unscientific” to challenge the Darwinian account of human nature based on the normative implications it entails.

It has been an unfortunate feature of debates on sociobiology that the is/ought distinction has often become a cudgel with which critics of sociobiology beat down any attempt to provide a Darwinian account of human nature. On this view, whatever the sociobiologists conclude about us is irrelevant, since science does not “do” values. But this is implausible, for reasons noted above. Ironically, a similar strategy is regularly used by sociobiologists to distance themselves from whatever the disturbing conclusions they arrive at with respect to human nature. The idea is that, no matter how unflattering a picture of human beings they provide us, given the is/ought distinction, these conclusions are irrelevant to what values we choose to pursue. To take just one example, David Buss’s salaciously titled book *The Murderer Next Door: Why The Mind Is Designed To Kill* claims that we “have minds designed for murder.”⁵⁶ Buss writes that critics will inevitably react with “moral indignation” to such an argument because they “confuse what *is* what what *ought to be*,” and that we can design our social environments so as to make sure that most people do not become killers.⁵⁷

However, if it is easy to ensure that people do not become killers by adjusting social environments, then it makes little sense to say that we are

“designed” to kill. One could just as accurately say that we are designed not to kill (it would not however make for a very interesting book subtitle: why the mind is designed with the capacity to kill or not kill, depending on the circumstances). Nor does Buss tell us just how we are to choose between promoting killing versus promoting not killing, for that is a value choice too. Buss simply assumes that we will choose the not killing option—but that, if anything, suggests that our nature is not one of murder, but of a strong preference for peace over violence. It is, I am arguing, simply confused to make a claim about human nature, but then to insist that it is irrelevant to our value choices. If we are murderers by nature, then that at the very least implies that it would be extremely hard to prevent people from killing, and that to do so would be very painful and difficult and even morally problematic—like enforcing mandatory celibacy.⁵⁸ Who we are has essential value implications.

The goal then is to provide an account of human nature that makes sense *both* with respect to the facts about human nature and the values that we take to be legitimate, and to recognize that factual claims themselves entail what values we should pursue. If the Darwinist is correct about human nature, then that conclusion has enormous implications, not the least of which is that all of our most cherished values—beauty, truth, justice—turn out to be illusions, mere desires implanted in us by evolution in order to get us to reproduce faster. So one cannot have it both ways, as Buss seems to try to do. If moral (and other) values are legitimate and worthy goals, then our theory of human nature will have to make sense of how those goals are possible for us. Social Darwinism, whatever its other flaws, is not based on a logical fallacy. If Darwinism provides a complete account of human nature, then it does follow that we should be true to our nature and pursue Darwinian goals. Conversely, if the goals entailed by the Darwinian account of human nature are implausible, that is a genuine reason to call into question the Darwinian account.

THE PLAN OF THE BOOK

A longstanding, and often quite fair, criticism of the discipline of philosophy is that it is devoted to armchair reasoning, with little interest in empirical reality. This tendency has led to an overreaction in the form of the new “experimental philosophy,” a program that seems to want to turn philosophy into another empirical social science, eliminating what is unique and important to the discipline. The goal of this book is to strike

a middle way. There are two competing hypotheses about human nature at stake: the sociobiological theory and the traditional theory (three, if one counts the Blank Slate, but I will not address the Blank Slate theory in detail, assuming that most readers will be in agreement on the failure of this view). Advocates of the sociobiological view have, quite appropriately, accepted that their conception of human nature must be put to the test, by showing that it can advance our understanding of human cultural practices, in particular the more “elevated” elements of culture such as art, literature, morality, religion, and philosophy. As E.O. Wilson explains, the project of “consilience,” that is, a unification of the sciences and the humanities, is “not yet science.” Currently, its

“best support is no more than an extrapolation of the consistent past success of the natural sciences. Its surest test will be its effectiveness in the social sciences and the humanities. The strongest appeal of consilience is in the prospect of intellectual adventure and, given even modest success, the value of understanding the human condition with a higher degree of certainty.”⁵⁹

Steven Pinker similarly accepts the challenge: “I believe that a psychology of many computational faculties engineered by natural selection is our best hope for a grasp on how the mind works that does justice to its complexity,” but “the proof must come from insight into problems ranging from how Magic Eye stereograms work to what makes a landscape beautiful to why men kill their estranged wives.”⁶⁰

The strategy of this book is to test the sociobiological theory against the traditional theory, by examining the test cases for the sociobiological reduction: those areas of human excellence that are the most prized. It is one thing to explain why pornography is attractive or sugar tastes good within a biological framework; it is quite another to explain why Picasso’s *Guernica* or Homer’s *Iliad* commands such prestige, or why we value moral self-sacrifice, or why scientists or philosophers pursue knowledge of reality. Accordingly, this book will look at the three central traditional values: Truth, Goodness, and Beauty, comparing the sociobiological explanation of human culture with the traditional one. We will argue that in all three areas, as an empirical matter, the traditional theory succeeds precisely where the sociobiological theory fails.

It should be recognized however that this is not an empirical test in the narrow, restrictive sense as used in the sciences. On matters so complex, the outcome will not be a pointer reading, but a complex interpretive judgment

about the best way to account for the plot of the *Iliad*, or the centrality of ethics in human life. Matters are complicated even more by the fact that our discussion is about values and ideals. There is no objective scientific test for the legitimacy of an ideal or value, nor is it clear how there ever could be one. To be sure, one could try to define values in terms of human flourishing: those values are legitimate that lead to human flourishing; those that lead to stunting the human faculties are not. However, the judgment as to what constitutes “flourishing” is itself not a merely factual matter but a value-laden one (as we will see, the flaw of utilitarian ethics is the attempt to reduce flourishing to a matter of fact, the existence of pleasure or happiness).

As we have said, in the end this is the greatest dilemma for the sociobiologist or the naturalist⁶¹: what to do with the problem of values. How can the study of values, that essential element of human nature, be made part of sociobiology? One possibility is to claim that there are no values: we are simply deluded to think our actions aim at goals or purposes, as we are really governed by Darwinian causal mechanisms. A second is to claim that values are real but derive from the evolutionary process. The third is that values are entirely created by us. As we will see, none of these possibilities is plausible. The only remaining alternative, we argue here, is to accept the traditional theory: values are objective, real, and irreducible to biology. But then the sociobiological project, understood in the sense of providing a total theory of human nature, must be judged a failure, for indeed values are central to our self-conception as humans. We leave it to the reader to decide, by the end of this book, whether the sociobiological view or the traditional view makes the most sense of human nature.

NOTES

1. Miller, *The Mating Mind*, 5.
2. Pinker, *Blank Slate*, 31.
3. *Ibid.*, 21.
4. Coyne, *Faith Versus Fact*, 192–3.
5. Rosenberg, *Atheist's Guide*, 213.
6. *Ibid.*, 213.
7. *Ibid.*, 214.
8. Pinker, *Blank Slate*, 21.
9. See, e.g., Rosenberg, *Atheist's Dilemma*, 212.
10. For a discussion of some of the issues regarding the concept of function, see, e.g., Sober, *Philosophy of Biology*, 80–86; Sterelny, *Sex and Death*, 220–24.

11. Darwin, *Origin of Species*, 488.
12. The term “sociobiology” apparently originated in the 1940s. Strictly speaking, sociobiology addresses the evolutionary origin of social behaviors in all animals. For purposes of this project, I will use it to refer principally to the evolutionary analysis of human behaviors and mental faculties (hence including the field now known as “evolutionary psychology”).
13. Wilson, *Sociobiology*, 4. Cf. also his claim that, in the larger view of “natural history,” the “humanities and social sciences shrink to specialized branches of biology.” *Ibid.*, 547.
14. *Ibid.*, 575.
15. Wilson, *On Human Nature*, x.
16. *Ibid.*
17. *Ibid.*, 2.
18. Wilson seems to think that, even if religion is not a major influence on academics, still the “dogmatic secular ideologies”—presumably such as Marxism or Freudianism—serve essentially the same purpose. *Ibid.*, 201.
19. *Ibid.*, x.
20. *Ibid.*, 13.
21. Darwin, *Descent of Man*, Chap. 3, 70.
22. Wilson, *Sociobiology*, 117.
23. Wilson, *On Human Nature*, 201.
24. Wilson, *Sociobiology*, 3.
25. *Ibid.*, 4.
26. *Ibid.*, 562.
27. *Ibid.*, 563.
28. *Ibid.*, 564.
29. Wilson, *On Human Nature*, 2.
30. *Ibid.*, 3.
31. *Ibid.*, 5.
32. *Ibid.*
33. *Ibid.*, 199.
34. *Ibid.*, 4.
35. *Ibid.*, 208.
36. *Ibid.*, 196.
37. *Ibid.*, 198.
38. *Ibid.*, 198.
39. *Ibid.*, 199.
40. I examine Wilson’s later attempts to derive a biologically based moral theory in Kaufman, “Wilson’s Evolutionary Ethics.”
41. *Ibid.*, 197, 209, 207.
42. Miller, *Mating Mind*, 427.

43. Wilson, *Evolution For Everyone*, 193. It is distressing to see the natural sciences regularly referred to as “hard”, as if all other fields are soft and squishy.
44. Flanagan, *The Really Hard Problem*, 3.
45. Dennett, *Darwin’s Dangerous Idea*, 82.
46. Reading Human Nature, 53.
47. Wilson, *On Human Nature*, 2.
48. Ridley, *The Red Queen*, 4.
49. Gottschall, *The Rape of Troy*, 8.
50. Pinker, *How the Mind Works*, 53.
51. Gould, *Ever Since Darwin*, 257.
52. Dupre, *Darwin’s Legacy*, 2.
53. *Ibid.*, 86–87.
54. Pinker, *Blank Slate*, ix.
55. See, e.g., Alcock, *The Triumph of Sociobiology*, Chap. 7.
56. Buss, *The Murderer Next Door*, 236.
57. *Ibid.*, 236–37.
58. For the utilitarian, it might even imply that killing is morally permissible on the grounds that it produces tremendous pleasure (this is the famous Sadist Objection to the utilitarian theory).
59. Wilson, *Consilience*, 9.
60. Pinker, *How the Mind Works*, 58.
61. I will use the terms “sociobiologist” and “Darwinist” equivalently, to refer to those who think that evolution can provide a complete account of human nature. I will use the term “naturalist” more broadly to mean anyone who believes the world of nature, the visible physical world, is all that is real, and that there are no higher transcendent values (hence not all naturalists are Darwinists, but they do share the rejection of the traditional view).

The Traditional Theory of Human Nature

There is a distinctive theory of human nature that comes down to us through the Western tradition that I will call the traditional theory of human nature. To call it “traditional” is to be deliberately vague as to just when or where it originated, though it appears to be as old as recorded history. It is not a view that appeared all at once, for it developed over time and only seems to have reached its full development by the time of Plato and Aristotle. For purposes of this discussion, I limit my consideration to the Western tradition, though without implying that it is a uniquely Western idea. However, it seems to have been most fully and explicitly developed in Western thought, and in any case for reasons of scope and expertise I focus on the Western sources.

The idea of attributing a single theory of human nature to the entire Western tradition may seem unlikely, given the innumerable different conflicting accounts of the nature of the human, from the ancient world to the modern. We need not deny the vast diversity and variety in the Western tradition regarding the account of what it is to be human. But one can abstract away from the many differences to recognize a single, dominant conception that has been the majority tradition in the West. The very abstractness of this idea has long permitted of many different variations of emphasis and of detail in filling in the picture. But though this idea is very abstract, it is not infinitely malleable. And it offers a view very different from the Blank Slate idea that became so prevalent in the modern era, as well as very different from the Darwinian account.

Even more controversially, I want to claim that not merely that there is a single dominant theory of human nature, but that it remains the most plausible of all theories of human nature. It provides a valid alternative to the two competing theories, the Blank Slate or cultural determinist view on the one hand and the Darwinist or biological determinist view on the other. The traditional theory, I claim, is not a dogmatic or superstitious view, but one grounded in reason and evidence, based on thousands of years of observation and reflection on human nature. In any case, regardless of its origins, the crucial issue is the test of our own experience and reason: Does it better account for human behavior than do the two alternatives? That is the project of this book, to assess it on its own merits and against its competitors, particularly against the Darwinian theory of human nature. It alone, I claim, is able to explain the special role of human culture and values; the Darwinian view cannot explain the normative priority of culture over the more “animal” side of human nature, while the Blank Slate view is unable to explain the remarkable common patterns in human culture. The argument of this book is that the traditional theory of human nature remains the best account of the human being both descriptively and normatively and should be accepted in preference to the two main competitors, the Darwinist and the Blank Slate theories.

THE HYBRID THEORY OF HUMAN NATURE

The traditional conception of human nature is what we might call a “bipartite” theory or a “hybrid” theory: Man is, uniquely, a mixture of two distinct and contradictory tendencies: as a “rational animal,” the human is a compound of the material, biological and the rational or spiritual. He is spirit and matter, heaven and earth, angel and beast, mind and body, reason and desire. The human is a paradoxical being, a union of contrary forces, neither here nor there, pulled downward by his animal side and upward by his spiritual nature. Note that, though the “upper” realm is often described in terms associated with religious belief (soul, spirit, angel, divine, etc.), as we will discuss in more detail below there is nothing essentially supernatural or religious about this conception. It is perfectly translatable into quite secular terms. Thus Descartes, though a religious believer, constructed his duality largely around the idea of reason and mind rather than spirit or soul as the higher element. But the essential idea remains the same: the conception of the human as a composite creature, containing in himself the two essential principles of the world, and

as such is a “microcosm” of the world itself. Man is therefore essentially different from the idea of a god, a being of pure spirit or mind, and also different from the animal, a being of pure matter. Man is the god/beast, containing elements of each of these two.

Critics will no doubt immediately dismiss the traditional view with the charge of “dualism”: the purportedly outmoded, pre-scientific idea that the world contains two distinct substances. However, such a charge would be based on a philosophical mistake, as it assumes that all dualisms must be “substance dualisms”: the idea that there are two distinct kinds of being in the world, somehow connected together. In fact, the traditional theory can be interpreted in a variety of ways apart from substance dualism, for instance the idea that mind and matter are two aspects of the same underlying reality. Or mind can be seen as an emergent property of matter, a “phase shift” to a higher level of organization once matter achieves a certain level of complexity. We do not take a position in this book as to how best to interpret the traditional theory in metaphysical terms. However, the idea that rationality or intelligence can be real properties is in itself no more puzzling than the fact that fundamental particles can give rise to living beings and all of the properties associated with life.

It is well beyond the scope of this project to attempt a comprehensive survey of this idea in the Western tradition.¹ Instead, we provide a sampling of key representative texts from the tradition as evidence of the persistent influence of the bipartite conception. We begin with the ancient Greek philosophers, though the idea may go back much further.² Plato’s famous soul–body dualism is the central guiding idea of his dialogues; the soul belongs to the world of non-material forms or ideas, while the body belongs to the earthly, material realm. In practice, this means we are pulled in two directions at once. As Plato writes in the *Phaedrus*, “in every one of us there are two guiding and ruling principles which lead us whither they will; one is natural desire of pleasure; the other is an acquired opinion which is in search of the best.”³ In that same dialogue, Plato presents the chariot metaphor: in this figure, the human being is a “pair of winged horses and a charioteer.” In the gods, all of these are noble beings, but in humans ours are “mixed”: one of the horses is of noble origin and the other of ignoble origin. It is the role of the charioteer to guide these horses, but the ignoble horse will try to pull the chariot down toward earthly things, unless the charioteer trains him well.⁴ In some dialogues, such as the *Phaedo*, Plato seems to take the position that the goal of the human life is to separate the soul from the body, escaping its

baneful influence, and the traditional interpretation of Plato has therefore been that he is a radical dualist. However, in other dialogues such as the *Phaedrus*, Plato suggests a view in which the ideal is not to escape the body, but to harmonize soul and body (we return to this point below). However, the central point for present purposes is this idea of the human being as a uniquely composite entity, with heavenly and earthly elements combined, in contrast to the gods who are fully heavenly and the animals who are entirely earthly.

Aristotle, notwithstanding his radical disagreement with Platonic philosophy, adopted a similar conception of human nature. In his famous characterization of the human being as “*politikon zoon*,” that is, creature of the polis or civilization, Aristotle makes a contrast between the two other kinds of beings, animals and gods, both of whom live outside the city. “One who is incapable of participating or who is in need of nothing through being self-sufficient is no part of a city, and so is either a beast or a god.”⁵ The animals do not need a city because they are incapable of being guided by reason and law; the gods do not need a city because they are not in need of laws to restrain them, given their lack of an earthly nature. What makes the human a “city creature” is his being a composite of human and animal; his animal impulses need the restraint of law, and they are responsive to law and reason precisely because of man’s having a divine or rational nature as well. Aristotle’s ethics too is guided by the idea of the Golden Mean between beast and god: “to brutishness (*theriotes*) it would be most fitting to oppose superhuman virtue (*arête*), a heroic and divine kind of virtue...for as a brute has no vice or virtue, so neither has a god; his state is higher than virtue, and that of a brute is a different kind of state from vice.”⁶ That is, the very concept of ethics applies uniquely to humans, given their intermediate state between beast and god.

The Neoplatonist school, beginning around the third century, carried on the tradition of Platonic philosophy while developing it in new directions. In particular, the Neoplatonist philosopher Plotinus, drawing on Platonic ideas, provides us with an explicit statement of the bivalent nature of human beings: humanity “is poised midway between gods and beasts, and inclines now to the one order, now to the other; some men grow like to the divine, others to the brute, the greater number stand neutral.”⁷ Every human soul “has something of the lower on the body side and something of the higher on the Intellectual side”; the soul has a “mid-rank” position, “being of divine station but at the lowest extreme of the intellectual and skirting the sense-known nature.”⁸ This idea of the human

as poised at the very division between the intellectual and the sensible realm would lead to the famous idea of the Great Chain of Being.

THE GREAT CHAIN OF BEING

By the time of Plotinus, this idea of the special nature of man as situated between the two orders of being had become embedded in a much larger conception of nature as a whole known as the Great Chain of Being. On this conception, which has roots in Plato and Aristotle, the world can be seen as a vast graded hierarchy of all different possible types of being. Plato's idea, presented in the *Timaeus*, was intended as an answer to the question of why the world exists at all. Plato suggested that God, a perfect being, could not help but create the world out of love, bringing into being all possible other types of existence. In Plato's words: "Let me tell you why the creator made this world of generation. He was good, and the good can never have any jealousy of anything. And, being free from jealousy, he desired that all things should be as like himself as could be."⁹

Moreover, this account of the creation entailed that all possible kinds of beings should exist, based on what Arthur Lovejoy named the "principle of plenitude."¹⁰ As Lovejoy explains in his classic work on the Great Chain of Being, the creator "could begrudge existence to nothing that could conceivably possess it, and 'desired that all things should be as like himself as they could be.'"¹¹ The Great Chain is thus characterized by a gradation in degrees of being, that is of degrees of similarity to the perfection of God. At the lowest level is matter, pure passive existence but with no intrinsic capacities. Higher on the chain are living beings, including plants with their capacity for growth and reproduction; animals with increasing capacity for sensation, understanding, and self-direction; and then the human being with its capacity for rationality, placed as we said at the very border between the material order and the rational, intelligible order. Man is the middle link in existence, a fact that is grounds both for pride but also profound humility, as he sits at the top of the material world, but as an embodied material being is infinitely far from the perfection of God.¹²

This idea is fully developed in Plotinus, who uses it to explain and justify the order of existence, including the many apparent evils and imperfections in the world. Why must man be so frail and subject to the pains and travails of existence? It is, said Plotinus, because of man's central role in the Chain of Being. To be embodied is to be subject to the frailties and instability of matter. Why must so many lesser beings exist in

the world: so that there is a maximum of possible types of being. Thus Plotinus writes that Reason could not make the whole world “divine”: “it makes Gods but also celestial spirits, the intermediate order, then men, then the animals; all is graded succession, and this is in no spirit of grudging but in the expression of Reason teeming with intellectual variety.” Plotinus rebukes those who complain about the imperfections of the world: “we are censuring a drama because the persons are not all heroes but include a servant and a rustic and some scurrilous clown; yet take away the low characters and the power of the drama is gone; these are part and parcel of it.”¹³ Above all, Plotinus uses the doctrine to explain the peculiarly “troubled unit” of the human being, an uneasy combination between two such disparate elements, soul and body, leading to that unique human tendency to “restless movement” and unhappiness.¹⁴ But it also provides a solution to that problem; the proper goal of every being is to seek the good that lies above it so far as possible, by resisting the distractions of the body with its constant demands for pleasure and seeking the virtues of the soul.¹⁵

HUMAN NATURE AND FREE WILL

This notion of the dual nature of human beings is a central source of the idea of free will in the Western tradition. It is man’s peculiar fate to be pulled in two directions at once and to need to make a choice between them. Hence the essential drama of human life is the fundamental choice between the worldly or bodily goods versus the goods of the spirit or mind: between pleasure and virtue. For Plotinus, freedom comes from following the Good rather than the world of sense: “Soul becomes free when it moves without hindrance, through Intellectual-Principle, towards the Good.”¹⁶ For Immanuel Kant, interpreting free will in terms of secular reason, freedom is a uniquely human experience. Animals are governed purely by instinct; a purely rational or intellectual being would be governed entirely by reason and hence not need free will. But human uniqueness, poised between the world of sense and the world of reason, means that we continually experience the need for choice. For Kant, as for Plotinus, freedom results only when we choose the realm of reason over that of the body: “The will is a kind of causality belonging to living beings insofar as they are rational; freedom would be the property of this causality that makes it effective independent of any determination by alien [i.e., natural] causes.”¹⁷

Sometimes in this same tradition one sees a tripartite view of human nature, a variation on the bipartite one that includes the notion of the “will” as the third entity poised between reason and desire. The will is the faculty by which one mediates the conflict between the mental and the bodily goals. Thus the idea of human nature is composed of three faculties: reason, will, and desire; the notion of freedom becomes attached to the faculty of will, giving us the idea of the “free will.” Whether the will is a separate faculty of some sort is a difficult question; for our purposes it is enough to say that to describe the human being as having a will is to say that the human being is capable of a fundamental sort of choice, distinctive from the experience of animal decision making. Humans unlike animals are capable of consciously choosing to pursue higher values, notably moral ideals over worldly goods (we discuss below the nature of these ideals). Human freedom, on this view, is a property that arises from the unique human nature, poised between two worlds. In any case, I take the bipartite and the tripartite view to be two versions of essentially the same idea.

THE GREAT CHAIN OF BEING IN THE WESTERN TRADITION

The great Christian theologian Augustine introduced this doctrine into the Christian tradition, though it should be said that were it an entirely alien idea, the graft would not have taken. The key idea of the dual nature of man was already present in the Judeo-Christian tradition, for instance in the Biblical idea that man is both made in the image of God, and made from the dust of the ground. Augustine’s Platonist background is evident in his anthropology; in *The City of God* he states that God “created man’s nature as a kind of mean between angels and beasts.”¹⁸ This is contrary to the common misconception that Christianity denies any relation between man and the animals, or that the body is taken as something sinful to be escaped. For Augustine, the body is “something we have in common with the brute creation,” and it too provides evidence of divine providence, for it was created to be a “servant to the rational soul.”¹⁹

This idea of the human as a hybrid of beast and god, halfway up the chain of being, was to become a dominant influence throughout the middle ages and well into the early modern period. Francis Bacon held that “They that deny a God destroy man’s nobility, for certainly man is kin to the beasts by his body, and if he be not kin to God by his spirit, he is a base and ignoble creature.”²⁰ Blaise Pascal declared “It is dangerous to explain too clearly to man how like he is to the animals without pointing

out his greatness. It is also dangerous to make too much of his greatness without his vileness. It is still more dangerous to leave him in ignorance of both...Man must not be allowed to believe that he is equal either to animals or to angels, nor to be unaware of either, but he must know both.”²¹ Renaissance philosopher Pico della Mirandola’s famous work “*Oration on the Dignity of Man*” (1486), often called the Manifesto of the Renaissance, celebrates the “dual nature that is set in our souls: one of them lifts us upwards to the heavens and the other drags us down into the depths.”²² Pico’s account of the creation of man in Section 4 is worth quoting at length:

The supreme Father, God the Architect, had already built this cosmic home we behold, the most sacred temple of divinity, according to the laws of the mysterious wisdom.

He had already adorned the supercelestial region with intelligences, quickened the heavenly globes with eternal souls and filled the excrementary and filthy parts of the lower world with a multitude of animals of every kind.

But when the work was finished, the Craftsman still longed that there were someone to ponder the meaning of so great a work, to love its beauty, and to wonder at its vastness.

...

He therefore took man, this creature of indeterminate image, set him in the middle of the world and thus spoke to him: “We have given you, Adam, no fixed seat nor features proper to yourself nor endowment peculiar to you alone, in order that whatever seat, whatever features, whatever endowment you may responsibly desire, these same you may have and possess according to your desire and judgement.

Once defined, the nature of all other beings, is constrained within the laws prescribed by us.

Constrained by no limits, you may determine it for yourself, according to your own free will, in whose hand we have placed you.

I have placed you at the world’s center so that you may thence more easily look around at whatever is in the world.

We have made you neither of heaven nor of earth, neither mortal nor immortal, so that you may, as the free and extraordinary shaper of yourself, fashion yourself in the form you will prefer.

It will be in your power to degenerate into the lower forms of life, which are brutish; you shall have the power, according to your soul's judgement, to be reborn into the higher orders, which are divine."

Pico thus inherits the idea of the human as being at the center of the world, as mediating the two realms of spirit and matter, and as endowed with a unique free capacity to determine himself. Pico also celebrates the role of man as performing a unique function in the world, of being able to contemplate the world and wonder at it; indeed Pico suggests that man's place at the center of the world gives him a special perspective on the world in both its aspects, spiritual and material. Pico's humanism does not call for escape from the world but appreciation of the world as a whole, even its "excrementary and filthy parts." This Renaissance ideal plays an important role in inspiring the close study of the world in all its aspects, a study that would give rise to the Scientific Revolution in Europe.

The eighteenth-century poet alexander Pope is often seen as giving the definitive expression of the idea of the Great Chain and man's middle state, in his great poem "*An Essay on Man*" (1733). Here are the famous lines from the beginning of Epistle II:

Know then thyself, presume not God to scan;
 The proper study of Mankind is Man.
 Plac'd on this isthmus of a middle state,
 A being darkly wise and rudely great:
 With too much knowledge for the Sceptic side,
 With too much weakness for the Stoic's pride,
 He hangs between; in doubt to act or rest,
 In doubt to deem himself a God, or Beast;
 In doubt his Mind or Body to prefer,
 Born but to die, and reas'ning but to err;
 Alike in ignorance, his reason such,
 Whether he thinks too little, or too much:
 Chaos of Thought and Passion, all confus'd;
 Still by himself abus'd, or disabus'd;
 Created half to rise, and half to fall;
 Great lord of all things, yet a prey to all;
 Sole judge of Truth, in endless Error hurl'd:
 The glory, jest, and riddle of the world!

Pope here captures the paradox of the human state, the perplexing in-between-ness of human nature. We know too much to be skeptics, yet we are too aware of our fallibility to entirely trust our faculties. We are too affected by our bodily needs to think of ourselves as angels, yet the powers of our mind distinguish ourselves from mere animals. We don't know whether we should use our reason more, or use it less; we don't quite know how to be happy, but giving into to our bodily needs or by denying them completely. We are continually dissatisfied and unsure of what we should do, being pulled in two directions at once. We are both glory and jest at the same time, tragic and comic, a perpetual riddle, both comic and tragic.

One of the more noteworthy features of both Pope's and Pico's interpretation of this doctrine is humanism: the proper study of man is mankind. It is one of the persistent fallacies about the Great Chain that it is an essentially otherworldly doctrine. Pope uses the idea in fact to discourage theological inquiry and to focus study on this world, what is in front of us. Pico celebrates the intellectual powers of man as well as man's free will, and his unique situation at the center of the world that allows him to study all things in the world. Nonetheless the idea of the Great Chain (and of man at the center) is today virtually universally dismissed as a pre-scientific relic, a static, hierarchical, and creationist conception of the world that was replaced finally and fully by Darwin's theory of organic evolution. So is the Great Chain an outmoded idea?

THE GREAT CHAIN RECONSIDERED

It is highly misleading to dismiss the idea of the Great Chain, as does Steven Pinker, as a "religious doctrine."²³ To be sure, it originated in a time when religion was all but universal and it is explicitly a doctrine of divine creation. However, it is not explicitly associated with any particular religion, being found in Greek polytheism, Christian monotheism, as well as in Platonism and Neoplatonism, the latter of which are strictly speaking not religions at all but philosophies. Neither is it a dogma based on divine revelation; it is a theory of human nature worked out by philosophical inquiry, not a revealed truth. Nor does it presuppose belief in an immortal soul; in some versions it does, but the idea as found in pre-Platonic Greek thought did not (e.g. in Homer's version [to be discussed in Chap. 8])

where it is associated with a denial of immortality). Neither does it presume a theistic, personal deity; the Platonic and Neoplatonic versions of the doctrine did not do so.

The most widespread but problematic objection to the Great Chain doctrine is that it is a “creationist” theory in which the world is directly created by a deity, a belief dismantled only in the nineteenth century with Darwin’s alternative account of the origin of living things.²⁴ Unfortunately the charge of creationism all too often assumes a caricatured version of religion as dogmatic and literalist. Pico’s account of creation quoted above is obviously not meant as a literal historical account but as a fanciful metaphorical expression of a basic truth about human nature, and the same can be said of Plato’s *Timaeus*. It is a philosophical doctrine about the nature of man and the gradations of being, not a historical or biological account of the origin of things. The Great Chain is perfectly consistent with a dynamic, evolutionary account of creation. It is an ontological theory, not a historical/literal one.

The idea that there is a gradation of beings, a single scale of being on which can be measured the idea of higher and lower beings, and especially of human beings as being the highest of animals, has also been widely attacked as pure anthropocentrism.²⁵ Indeed, the idea of any sort of hierarchy of beings has been criticized as un-Darwinian, though it should be noted that some biologists, such as Richard Dawkins, have defended the idea of a progressive trend in the evolutionary process: “there has been a broad overall trend towards increased information content during the course of human evolution from our remote bacterial ancestors.”²⁶ This debate is enormously difficult and it is uncertain how one would settle it. It will suffice for purposes of this project to point out that, as demonstrated by modern moral theory, virtually all of us presuppose belief in the idea of scale of being with human beings at the top. Let me explain.

The very basis of modern ethics, whatever ethical theory one accepts, is that there are different sorts of duties to different sorts of creatures.²⁷ There are, for example, no moral duties to inanimate objects—rocks, televisions, and electrons. There are minimal if any moral duties to vegetation; it is not a sin to cut down a tree or pull up a dandelion. There are (presumably) no duties to simple organisms such as bacteria or the smallpox virus. But as animals become more complex with a more sophis-

ticated nervous systems, moral duties to them correspondingly increase. It is a wrong to torture kittens or to beat a donkey. When we get to rational beings such as humans, we have reached the point at which moral duties become maximal; humans have rights that we do not grant to any other sorts of beings.

Now it should be obvious how closely this system corresponds to, indeed depends upon, the idea of a Great Chain of Being. Morality is grounded in the idea of a scale of being that determines the moral duties we owe: greater moral duties to higher beings, lesser to lower beings. If so, the idea of a Chain of Being remains, contrary to widespread consensus, a fundamental guiding assumption of our culture. Scientists themselves follow this principle in the strict restrictions on the use of human subjects in experiments, and the correspondingly looser restrictions on experiments on creatures lower on the scale of being; there are no ethical restrictions at all for experimentation on viruses or plants (not to mention inanimate objects, as when one smashes a proton). Even staunch proponents of animal rights such as Peter Singer and James Rachels concede that there are gradations of being that allow for different moral duties: Rachels, for example, allows that there is a “relevant difference” between shrimp and chimpanzees that makes it permissible to “treat shrimp in ways that are objectionable where chimps are concerned.”²⁸

Hence for those who claim that Darwin has wholly undermined the idea of gradations of being, it is for them to tell us whether we should scrap entirely our system of ethics, or find another way to distinguish between inanimate objects, simple life forms, and complex ones. It seems fair to say that the burden of proof must be on those who deny the idea of a hierarchy of being. As ethics is taken as the guiding fundamental principle of human life, governing all activities, it follows that the idea of a Great Chain plays a central role in our culture. One need not be committed to the explicitly religious aspects of the Great Chain doctrine (God, immaterial beings, the soul, creation, etc.). But the basic element in the Great Chain idea, I have tried to argue, is that there are gradations of being, and that the human being has a unique place at the top of the natural world in virtue of his rationality. In any case, neither the idea of a Great Chain of Being or the principle of plenitude is essential to the traditional account of human nature that I am defending here. What is essential is the hybrid account of human nature: that human beings straddle the world of mind and matter, and that while humans are

most certainly animals, the capacity of rationality uniquely allows them to transcend the material world and bodily desires. We now turn to a discussion of that principle.

REASON AND THE TRANSCENDENTALS

As we have noted, the traditional conception of the human being as poised at the edge of two worlds, the sensible and the intellectual, implies a certain moral ideal. This ideal is that the best human life is to be dictated by pursuing the ideal ends of the soul rather than merely the material goals of the body. There have been many different interpretations of how this is supposed to work, with two predominant views. The minority view (famously expressed in the *Phaedo*) is that the human goal is to identify entirely with the soul or mind and escape the influence of the body entirely. But the majority view is more in line with the idea that the special role of the human being is to harmonize body and soul, to lead the body in the direction of ideal goals without any implication that bodily desires are intrinsically sinful or to be despised. Plotinus in fact criticizes Plato for inconsistency on this point, noting that in some dialogues Plato “expresses contempt” for the body and the world of sense and describes the soul as imprisoned in the body, whereas in the *Timaeus* Plato more convincingly “exalts the Cosmos” and holds that the soul was sent into the world so that “the universe may be complete.”²⁹ Thus even in Plato we can find the idea that the ideal human life is one in which the mind and body are harmonized and unified, not separated and at war (the dualism of the *Phaedo* may be understood contextually, as being a way of comforting Socrates’ friends at his moment of death). But essential to this process is for the person to learn to listen not merely to the desires of the body but to the needs of the mind and its affinity for the transcendental ideals. The goal is a harmony of mind and body, satisfying both the ideal and material needs, rather than subordinating the ideal to the material (or vice versa).

What is the nature of these transcendental ideals? A transcendental ideal is a goal that is of the highest value, a matter of ultimate concern. It is more than a mere desire, but a normative ideal, though it is also held to provide the only possibility of full satisfaction of one’s desires. The transcendental ideals provide an ultimate goal, as all goal-seeking activity must have a final end. Transcendental ideals are eternal, unchanging, and objective, though their interpretation is always relative to the particular

material circumstances in which they are applied. They “transcend” the empirical realm in that they are not goods evident to the senses or found in the natural world, though this is not to deny that imperfect reflections of them occur in nature. They are also transcendental in that they go beyond the capacities of reason to fully define; in modern parlance, as Roger Penrose explains, they are non-computable.³⁰ They are also transcendental in the sense that they are, arguably, presupposed by human rational activity.³¹ That is, human moral striving presupposes an ideal of justice, human rational activity presupposes truth, and human creative and artistic activity presupposes the ideal of beauty. The very project of science itself, on this view, presupposes the ideal of truth.

A key doctrine of the transcendentals (though there is no standard doctrine in this area) is known as the Unity of the Transcendentals. On this view, there are three transcendental values: Truth, Beauty, and the Good, where the last is understood as a moral concept and is the highest of the three; the other two are aspects of the Good. The doctrine of the Unity of the Transcendentals holds that these three are not separate, distinct values, but interconnected and inseparable. The traditional doctrine of human nature holds that there is room for freedom of choice for the individual person as to which of these ideals to pursue; those of artistic temperament seek beauty, those of intellectual bent may devote their lives to truth, while those of practical or moral tendency will seek the moral good as their ultimate goal. But all are really seeking the same goal, though under different guises. Moreover, it is not just reason that seeks these goals, but love itself. Love, the harmony of reason and desire, is the central and most important emotion guiding each individual to transcend himself and his self-centered desires in pursuit of a goal worthy of a rational being. Thus Plato claims in the *Symposium* that all love is really love of the Good.³² While in the Christian tradition the supreme goal came to be the love of God, for our purposes this goal can be seen as paralleling the Platonic, non-theistic conception, in which all love is when properly understood a love of absolute truth, beauty, and goodness, and their reflections in this world.

It is here where we see the great divide between the traditional doctrine of the purpose and end of human life, versus the modern naturalistic, Darwinist conception of the goal of human life. As Steven Pinker explains, the “very idea of intelligence is meaningless” without a “specification of a creature’s goals.”³³ Intelligence he defines as “the ability to attain goals in the face of obstacles by means of decisions based on

rational (truth-obeying) rules.”³⁴ This definition, Pinker explains, rules out mechanistic reductions of the mind as found in behaviorism, which held that mental entities such as beliefs and desires were unscientific and that intelligent behavior could be explained in terms of stimulus–response patterns. In fact, it has turned out (Pinker claims) on wholly scientific grounds that folk psychology, the explanation of behavior in terms of beliefs and desire, is “still the most useful and complete science of behavior there is,” and it has “so much power and precision in predicting, controlling, and explaining everyday behavior, compared to any alternative ever entertained, that the odds are high that it will be incorporated in some form into our best scientific theories.”³⁵

If intelligence is a goal-directed activity and if humans are intelligent beings, then the project of understanding the human being is in large part the project of identifying the goals to which human intelligence is directed. It is fair to say that the project of modernity has been an attempt to dethrone the transcendental goals and find an alternative, more earthly set of purposes by which human behavior can be understood. For the utilitarians, this goal is pleasure or happiness. For the Marxists, it is material needs. For the Freudians, it is sexuality, albeit of an Oedipal variety. And most importantly for the present debate, for the Darwinists it is the goal of reproductive success. This last idea has come to be held by the sociobiologists as the only legitimate scientific account of purposive, intelligent behavior. We can thus state very simply the central issue at stake in the understanding of human nature: does rational nature ultimately seek the transcendental goals of beauty, truth, and the good, or does it ultimately seek reproductive success? For the traditionalist, the ultimate goal of human life is the good. For the Darwinian, as Pinker asserts, “the ultimate goal the mind was designed to attain is maximizing the number of copies of the genes that created it.”³⁶

Of course, the issue is not quite so simple as that. As Pinker explains, when Darwinists say that the “ultimate” goal is reproductive success, they do not mean that this is the *conscious* goal of humans. Virtually no people, Pinker says, actually consciously strive to spread their genes. It is the genes that “selfishly spread themselves.” They do this “by the way they build our brains,” by “making us enjoy life, health, sex, friends, and children.”³⁷ Human goals are “subgoals of the ultimate goal of the genes, replicating themselves.” But the genes make us think that these “subgoals” are our ultimate goals; it is a strategy by which the genes make us serve their interests, getting copies into future generations. Thus the best and only way to

understand human behavior, the same as animal behavior, is to explain all human motivations and values as ways in which our genes have manipulated us into serving their interests.

For the Darwinist, this analysis applies to the transcendental ideals as well, indeed above all, for the central aspiration of the Darwinist project is to explain these ideals in evolutionary terms. When we pursue truth, beauty, or the good, we are “ultimately” pursuing reproductive interests. Altruism is but a strategy for individual genetic success, not intrinsically different—not any better or worse in a transcendental sense—than the strategy of selfishness. The pursuit of truth is not an ultimate but an instrumental goal, the practical aim of ensuring our successful survival and reproduction by understanding the world around us better. And even the pursuit of beauty is merely a means by which our genes can replicate themselves, perhaps by impressing others with our unique skills so as to further our successful sexual activity.

This then is the heart of the debate between the Darwinist and the traditionalist. The traditionalist claims that the transcendental goals are genuine, ultimate goals, not reducible to any further values, and normatively binding on rational nature. The Darwinist claims that all of these goals can be reduced to a naturalistic and mechanistic end, that of successful replication; reason is but a tool to promote biological functioning. The traditional view takes entirely the reverse position: the goals of sex and reproduction must be understood as ultimately unsatisfying for human beings, as they are merely pale copies of the true ultimate ends of human nature. The pursuit of such goals reflects human ignorance; the average person is attracted to the lower or bodily goal in ignorance of the higher one. Thus Plato claims in the *Symposium* that the goal of reproduction is to be understood not as an ultimate goal but merely as one form of the love of the Good, through seeking the closest thing to immortality that can be found on earth, the immortality of one’s progeny. But the inborn desire for immortality is itself, Plato claims, a desire for the only true immortal entities, the transcendentals themselves. All love, even sexual love, is really unconscious love of the Good, though the individual typically does not realize it.

It is clear this will no easy debate to resolve, if indeed it can ever be resolved. For both sides claim that the conscious, proximate goals that motivate human behavior are not the true goals. For the Darwinists, the true unconscious goal is reproduction; for the traditionalist, the true goal is the Good. These claims of course raise significant problems of verifiability.

A similar problem was raised with regard to the Freudian view; Freud's insistence that the true unconscious goals of human life were Oedipal in nature was long and rightly criticized as unfalsifiable. Indeed, there is a serious problem even making sense of the idea of an "unconscious goal": what could it mean to be a goal if it is unconscious? In the Darwinian view, we will interpret this as meaning that the best explanation of human behavior is that it evolved to serve reproductive ends; that is, it essentially reduces human goals to mechanistic, non-goal-directed processes (it is thus misleading to call reproductive success a "goal" at all, but we will allow it as a useful shorthand).

The traditionalist theory has a different approach. Whereas for the Darwinian, the real or ultimate goal of our activities is inaccessible to consciousness, for the traditionalist the transcendental goals are accessible to us with a little effort, for they are already implicit in all of our activities. We all already have an intuitive sense of the ultimate importance of truth, beauty, and the good, even if our typical behaviors do not usually live up to those goals. But, on the traditional view, we can come to teach ourselves the value of these goods and learn to aim at the higher goals, thus achieving a higher level of happiness and meaning in our lives. The transcendental values are ends in themselves, the only goals truly worthwhile being treated as ultimate ends.

The issue of normativity complicates the debate even further. The traditionalist view holds that the transcendental ideals are not merely explanatory but even more important they are normatively binding. Indeed, for the traditionalist the natural tendency of most people is to pursue lower goals in ignorance of the existence or value of the higher goals. Hence the traditionalist view is as much or more a normative theory than an explanatory or predictive one, and in this respect it is perhaps working at cross-purposes to the Darwinian project, the latter of which aims at explanation without any normative component. Thus it is possible that both views could be true simultaneously: the Darwinian project could provide a naturalistic account of the origins of human intelligence, while the traditionalist account could very well accept the account of origins while providing a normative account of the goal of human life. In practice, however, few people seem to think that both could be true. The Darwinist project is more ambitious than that: it aims to "deconstruct" the normative force of the transcendental aims by showing that they are illusions, or at least that they are merely instrumental aims (where the illusion is that they are ultimate aims). Indeed, the Darwinist project would seem to undercut the

very idea of normativity at all, as being a pre-scientific teleological notion. As we will say, this is just the position taken by many Darwinists, especially in the area of ethics: our genes have fooled us into thinking that morality is binding on us, in order to make us serve their interests.

The traditionalist, in contrast, does not deny the power of the bodily pleasure-seeking urge as defining much of human life. It did not of course take Darwin to point out how powerful the sexual urge is, or the survival instinct. Its claim is that the “natural” human condition, the one we find ourselves thrown into, is the condition of the “natural” man overcome by the immediate bodily urges. The project of realizing one’s full human capacities is to learn how to overcome these urges and “remind” oneself (in Platonic terms) of the existence of higher values that alone can give meaning to one’s life.

RELIGION AND THE TRADITIONAL THEORY

We will no doubt hear the charge that the traditional theory is a religious, pre-scientific theory and is therefore no longer plausible. It would, however, be dogmatic and close-minded to reject a theory simply because of its association with religion. In any case, my emphasis in this book is on an entirely empirical approach to assessing the theory—can it successfully explain human behavior, at least better than the Darwinian alternative? However, it is worth saying a brief word about the role of religion in this project. In fact, I want to argue that the traditional theory *is* in essence a religious theory of human nature—but that is no objection to it. For I take the position here—though this is not the place to defend such a view in great detail, that religion is in essence a commitment to the traditional conception of human nature. That is, the religious worldview is, and this is what is shared among all religions—an insistence on rejecting the ultimacy of material substance and asserting the reality of transcendental values. At the heart of all religion is the belief that there is a moral order in the world that has an ultimate claim on us, and that the great human “sin” is excessive attachment to the material realm, taking it as if it is all that is real. This is of course a minimalist definition of religion, and a full treatment of the topic would require investigation of the many other aspects of world religions. However, for purposes of this project, we can treat the traditional view of human nature as more or less coextensive with the religious view, just in the sense that they share a belief in the reality of a transcendental realm (however, the notion of a “realm” is interpreted—as Hillary Putnam

has shown, we need not accept the idea that real truths about values entails correspondence to value-entities³⁸) that is the source of binding, normative ultimate values. This, not the supernaturalism, is where it diverges most fundamentally from the scientific, materialistic worldview. So at the heart of this project is a debate between materialism and transcendentalism, science and religion. However, given my minimalist definition of religion as belief in real, objective, transcendental values, I will not in this project discuss religion in much detail (or evolutionary theories of the origin of religion), though in a sense the entirety of the project is a defense of the basic worldview of religion.

ADJUDICATING BETWEEN THE TWO COMPETING THEORIES

It is no easy task even to determine what are the proper criteria by which to judge the two competing theories of human nature, for the one theory has essentially explanatory goals while the other is essentially (though not entirely) normative. Further, the methods associated with the two theories are essentially different; the Darwinian theory assumes an empirical method, disallowing evidence other than sensory verification. The traditional approach however rejects from the start the limitation to empirical methods, given that it is committed to the existence of transcendental entities not knowable through sense evidence. The traditional method is committed to the idea of normative values, whereas the Darwinian naturalistic approach is skeptical of the existence of norms, and given the lack of any empirical methods for discovering or validating norms tends to be skeptical of the very existence of objective normative standards. All of this is to say that the two worldviews are so divergent in their starting points that it is not easy to see how one could ever reasonably judge between them based on some single agreed-upon criteria.

However, it is not as hopeless as that. One can begin by “bracketing” the question of the existence of objective transcendentals and conduct a purely empirical naturalistic analysis of which theory provides the best explanation and prediction of human behavior. Hence one of the goals of this book will be to demonstrate that the transcendental theory in fact is a far better account of human behavior; that is, humans behave at least as if there are transcendental values that are not reducible to Darwinian ends. The traditional theory is thus far more plausible on pure grounds of explanatory and predictive capacity. Of course, this does not address the question of whether these transcendental goals might be “illusions”

implanted in us by evolution in order to get us to maximize our genetic success. In order to address this point, we must ask the question of whether the purported evolutionary reduction of our transcendental aspirations is plausible. Can evolution explain the moral imperative, the drive to truth, and the desire for beauty? Can the transcendental ideals be reduced to evolutionary origins, the very project of evolutionary psychology? We will try to show that the evolutionary explanations are not plausible and that it is unlikely there could ever be a successful reductive explanation of the rational pursuit of transcendental ends.

Finally, we address the normative question, in two distinct ways. One is by examining a new phenomenon, a sort of normative evolutionary psychology in which Darwinists use an evolutionary approach in order to recommend the best way for people to achieve satisfaction and meaning in their lives. The basic idea is that, if we are programmed by evolution to pursue certain ends, then we can best achieve happiness by allowing ourselves to seek these ends, rather than pursue the “religious” alternative (which is supposed to be rejection of all worldly and bodily goods). Finally, we will raise the question of the role of transcendental norms in the Age of Science. Can the Darwinian eliminate transcendental ends? What substitutes can he provide? We will argue that all but the staunchest Darwinians are unable in the end to shed themselves of the very transcendental goals their theory was aimed to replace.

This then constitutes the case against a Darwinist account of human life. We should however note several caveats. First, to reject Darwinism is not to reject the evolutionary theory of the origin of human nature; it is rather to insist that a theory of origins is not the same as a theory of the full meaning and purpose of human life. Just as the Big Bang does not provide us with a full account of the nature and meaning of living beings, so too the theory of evolution does not by its nature provide us with a full account of the nature and meaning of human existence. We reject the unfortunate dichotomy, that one must either accept a complete Darwinian reduction of human life, or reject the theory of evolution altogether. Second, it must be emphasized that this debate is one that will in all likelihood never be fully resolved. There will always be new Darwinian theories of the origins of the moral drive or the artistic impulse. And evolutionary psychology will always be beset with two major problems. First, the practical difficulty of proving a theory of the origins of complex entities like morality for which there can be no direct evidence, given that we have no way of revisiting the past and observing the process by which humans evolved such complex

behaviors. Second, the problem is one of principle. Even if we had a fully verified theory of the origin of human goal-seeking activity, we face the earlier-mentioned problem of the Genetic Fallacy. To identify the origin of an entity is not the same as explaining its current nature or meaning. Nor is it even clear just how a scientific approach would disprove the existence of transcendental values, without begging the question. This is not to say that the traditional theory is unfalsifiable, but rather that this sort of debate is one of fundamental philosophical issues and there is not any simple sort of evidence that could ever resolve it; indeed the insistence on an empirical methodology of the natural sciences risks begging the question against the existence of transcendental ideals. It is thus a philosophical rather than a strictly scientific question. Nonetheless, it is my aim in this book to make the case that the evidence available to us provides support for the traditional theory of human nature over the Darwinian reduction: that is, specifically the failure of the Darwinian methods to explain human behavior as the product of evolutionary forces. None of this is to defend any of the particular detailed elaborations of the traditional view, notably as developed in the major Western religions. It is simply to raise the question as to whether the human being can be explained entirely within the framework of evolutionary theory, or whether the mind and its normative, transcendental ideals of truth, beauty, and the good are essential to explaining human nature. Are we merely another species of animal, or are we, uniquely, rational animals?

NOTES

1. The best single treatment of this issue is Lovejoy's seminal work, *The Great Chain of Being*, though Lovejoy intended his work as a critique of that view whereas here I defend it.
2. For example, in the Babylonian epic *Gilgamesh*, the hero Gilgamesh is half-god, half-man, while his companion Enkidu is half-animal, half-man. The poem is about the "story of their becoming human together." This poem can be read as an expression of the hybrid view of human nature; together the two men combine the divine and the animal to form the human being. We will also see in Chap. 8 that Homer's *Iliad* also assumes such an account of human nature.
3. Plato, *Phaedrus*, 54.
4. *Ibid.*, 61–2.
5. Aristotle, *The Politics*, 1253a25.
6. *Nicomachean Ethics* 1145a15 ff. (transl. Ross).

7. Enneads III.2.8 (McKenna trans.).
8. *Ibid.*, IV.i.7.
9. Plato, *Timaeus*, 30a.
10. Lovejoy, *The Great Chain*, 52.
11. Lovejoy, *The Great Chain*, 50, quoting Plato, *The Timaeus*.
12. Lovejoy, *The Great Chain*, 190, 195.
13. Plotinus, *Enneads*, III.2.11.
14. *Ibid.*, IV.4.18-20.
15. *Ibid.*, VI.7.25.
16. *Ibid.*, VI.8.7.
17. Kant, *Grounding*, Ak. 446.
18. Augustine, *City of God*, XII.22.
19. *Ibid.*, XXII.24.
20. Bacon, "Of Atheism."
21. Pascal, *Pensees*, 60.
22. Pico, *Oration*, 16.90.
23. Pinker, *How the Mind Works*, 151.
24. Stephen Jay Gould dismissed the Great Chain of Being idea by noting its association with the idea of a racial hierarchy that placed the white race at the top (Gould, *The Flamingo's Smile*, Chap. 18). However, this objection illustrates the fallacy of guilt by association. It may be noted that the theory of evolution was also frequently associated with the idea of distinct races as higher or lower, including in Darwin.
25. E.g. Pinker, *How the Mind Works*, 179. The Principle of Plenitude in particular is often attacked in that it appears obvious that not every possible type of being exists. However, it is important to recognize that the Great Chain of Being and the Principle of Plenitude are separable ideas. Moreover, the Plenitude Principle cannot be literally true, as there are infinitely many possible beings but an (apparently) finite world. Leibniz' resolution of the issue in his *Theodicy* seems quite sensible: The world reflects a balance between plenitude and simplicity, maximizing the diversity of being only so far as consistent with keeping the world simple and law-governed.
26. Dawkins, *A Devil's Chaplain*, 119.
27. The one arguable exception is utilitarianism, which has tried to construct a theory entirely based on the capacity to feel pain or pleasure, a concrete measure that does not appear to presuppose a judgment about the scale of being. However, it has often been noted that utilitarians have not consistently been able to carry out this project, as exemplified by J.S. Mill's rejection of pleasure as the ultimate good and his adoption of a qualitative notion of happiness, which explicitly gives to human beings a higher moral value in virtue of their higher intellectual capacities, in effect adopt-

ing the idea of gradations of being. Utilitarians have also long been troubled by the Sheep Objection: sheep appear to have the same capacity to feel pleasure and pain as do humans, yet no one has seriously argued for treating sheep (and all other mammals) as having the very same moral status as humans. Finally, it may reasonably be asked whether the distinction between sentient and non-sentient beings is not in itself a form of the scale of being assumption, albeit a highly (and implausibly) simplified one. For one would need to explain why certain beings have a special status merely in virtue of their capacity to feel pain or pleasure, whereas beings such as plants are not accorded the same status.

28. Rachels, *Created From Animals*, 179.
29. Plotinus, *Ennead*, VIII.1.
30. Penrose, *The Large, The Small, and the Human Mind*, 125.
31. Cf. Dennett, *Breaking the Spell*, 376.
32. Plato, *Symposium*, 206a.
33. Pinker, *How the Mind Works*, 61.
34. *Ibid.*, 62.
35. *Ibid.*, 63.
36. *Ibid.*, 43.
37. *Ibid.*, 44.
38. Putnam, *Ethics Without Ontology*.

Does Science Refute Free Will?

The average person could hardly be blamed for believing that science has finally proven once and for all that free will is an illusion, given the number of times this claim has recently been made by scientists both in the popular and scholarly literature. Biologist Jerry Coyne published an Op-Ed in *USA Today* in 2012 entitled “Why You Don’t Really Have Free Will.” Psychology professor Adrian Raine writes that “Free will is sadly an illusion—a mirage. I wish it were not, because I too find this perspective unsettling. But there we have it.”¹ Popular science writer Sam Harris has devoted a whole (if brief) book to spreading the gospel that “Free will *is* an illusion...Thoughts and intentions emerge from background causes of which we are unaware and over which we exert no conscious control”; indeed, says Harris, free will is not even “conceptually coherent.”² Psychology professor Nicholas Humphrey in his book *Soul Dust* tells us that while “in many respects it seems you are a *free* agent,...as scientists, we know that this is not the physical reality.”³ Biologist E.O. Wilson remarks that “the more the physical processes of consciousness have been defined by scientific research, the less has been left to any phenomenon that can be intuitively labeled as free will...Free will therefore appears to be ultimately biological.”⁴

If true, this finding would be one of the most revolutionary discoveries in all of human history, for it would destroy one of the central elements of the traditional view of the human being and human uniqueness. If there is no free will, then we have no capacity to transcend their biological nature and pursue objective values. The conclusion would undermine enormous

elements of our culture and tradition: the belief in moral responsibility, criminal justice, and religion, among others. In fact, as we will argue, the argument is a mistake, a confused philosophical position. Science does not undermine belief in free will. The topic of free will itself is an important reminder of the gap between the natural sciences and the fields of philosophy, metaphysics, and theology. As we will argue in this chapter, the methods of science appropriate for a particular domain of inquiry (atoms, planets, inert physical objects) do not necessarily apply to qualitatively different kinds of entities such as rational, teleological beings. While free will does not “show up” on the screen of science, it does not follow that free will does not exist.

THE ARGUMENT AGAINST FREE WILL

The standard argument against free will is grounded in the idea of the purported incompatibility of causal determination with free will. The idea is that, as science has shown that all events have physical causes, therefore there is no room for some mysterious notion of the will exerting its influence over physical events. Sam Harris states the argument: “We know that determinism, in every sense relevant to human behavior, is true. Unconscious neural events determine our thoughts and actions—and are themselves determined by prior causes of which we are subjectively unaware.”⁵ Jerry Coyne explains: “We are biological creatures, collections of molecules that must obey the laws of physics. All the success of science rests on the regularity of those laws, which determine the behavior of every molecule in the universe.... True ‘free will’, then, would require us to somehow step outside of our brain’s structure and modify how it works. Science hasn’t shown any way we can do this because ‘we’ are simply constructs of our brain.” Richard Dawkins makes a similar argument: “As scientists, we believe that human brains, though they may not work in the same way as man-made computers, are as surely governed by the laws of physics.” Hence “any crime, however heinous is in principle to be blamed on antecedent conditions acting through the accused’s physiology, heredity, and environment.”⁶ Adrian Raine, in what might strike one as a *reductio ad absurdum* of the argument, rejects even the idea that readers have freely chosen to read Raine’s book: “You did not choose to read this book. Your brain made you do it,” as all of the various factors in your past “produce a causal chain of events that predisposed you to read this book.”⁷

In fact, the determinist argument against free will is misguided. Determinism cannot be an objection to the existence of free will, for in fact determinism is no longer held to be a true theory about the world. Most physicists now consider determinism to be falsified: there is an irreducible indeterminacy to events at the quantum level—at this level, events are uncaused. So if determinism is false, does that undermine the argument against free will? Not the least, according to its proponents. The standard move here is to brush off indeterminism as providing no basis for free will either, given that free will cannot be a matter of mere chance, uncaused events. While this claim is true enough, it evades the point. If the truth or falsity of determinism is irrelevant to the argument against free will, then determinism never was the issue to begin with. The determinist argument against free will is empty; the real source of the argument that science has disproven free will must lie elsewhere.

In fact, it is not hard to see where the real argument lies: it was never an issue of determinism versus indeterminism, but one of *reductionism*. The issue is not one of causal determination versus free will, but *where* that causal determination takes place: at the level of physical particles versus at the level of selves and agents. It is for this reason that the determinism debate is irrelevant to free will; if all events in the universe are caused at the particle level, then it does not matter whether those events are deterministic or not. Thus note the arguments given above: Coyne insists that we are collections of molecules that must obey the laws of physics; Dawkins too says the brain must be governed by the laws of physics. Hence the argument against free will is fundamentally about where the source of our behavior lies: in the will or mind or self, or at the level of physical particles. Free will, on the view in question, is a violation of the laws of physics. Now it is by no means obvious why my decision to jump up in the air should be considered a violation of any laws of physics: to the contrary, it is quite consistent with all known laws (the law of gravity is what limits my jump and brings me back down again). So we need to examine this Reductionist Argument in more detail.

THE REDUCTIONIST ARGUMENT AGAINST FREE WILL

The Reductionist Argument is very simple and convincing on its surface, and it is easy to see why many scientists accept it. The idea is this: We know that the fundamental particles of matter, whatever they turn out to be (quarks, strings, etc.), are purely physical entities and can be understood

mechanistically. This idea is fairly uncontroversial: There is no evidence of souls or minds in protons or neutrons, and their behavior can be understood and predicted extremely precisely by assuming that they are entirely physical entities subject to physical laws. So the principle of physical determinism applies to fundamental particles, it would seem.

The second premise in this argument is that everything in the world is made up entirely of fundamental physical particles. The world of everyday objects—rocks, trees, cars—is a set of collections of particles. Rocks are very large collections of atoms, made of protons, neutrons, and electrons, themselves made of quarks, and so on. And since the human being is also made of matter, a collection of ordinary, recognizable chemicals (water, carbohydrates, proteins, etc.), it follows that humans are also just collections of physical particles, on this argument.

Now we have enough, apparently, to draw the conclusion that free will is an illusion. If fundamental particles are governed entirely by the physical laws of nature, and human beings are constituted entirely by fundamental particles, then everything that happens to us must be due to the laws of physical determination. If we move, or speak, or play tennis, it is because of the forces acting on the basic particles that make up our body. Anything else would require miracles, defiance of the laws of physics. Therefore, we are just physical beings, and there can be no room for such ideas as free will, or for any form of causation other than at the physical level (including of course divine causation).

Now the first thing to notice about the Reductionist Argument is that it is not a scientific, empirical, evidence-based argument, but an *a priori* metaphysical argument. That is, there is no claim that we can actually explain all human behavior in terms of the laws of physics, or any evidence that we can successfully account for human actions at the level of brain events rather than of mind. Though posing as an empirical, scientific argument, it is not really empirical in any meaningful sense. That is, no one believes we could ever in practice trace the actual chain of antecedent events leading up to the decision to read Raine's book, nor that we could identify the neuronal patterns that constitute such a decision. Still less is it claimed that a neuroscientist, biologist, or physicist could ever hope to accurately predict the decision to purchase a book (the book publishing industry would be very interested in such predictive power). It is presumably the *a priori* nature of the argument that leads Sam Harris to assert that free will is "conceptually incoherent," rather than experimentally falsified.

Indeed, the actual evidence supports just the opposite conclusion. When publishers try to ascertain whether a book like Raine's will sell, they must rely on their understanding and experience of mental events: what topics interest people, how relevant it is to their lives, how readable the book is, and so on. They do not turn to scientists to provide a physical explanation in terms of particles, genes, or neurons. When we invoke beliefs and desires, we are discussing minds, not brains. Brains are composed of neurons; neurons are physical things, beliefs and desires are mental things. To be sure, these beliefs and desires are presumably somehow instantiated in physical elements. But that is no more mysterious than the fact that ideas and beliefs are physically instantiated in the ink on paper in a book (or the pixels on your computer screen). Physical instantiation does not imply causal determinism at the physical level—or at least, it is by no means obvious why it should, and one would need a careful and detailed argument for such a strong reductionist position. So what is the philosophical basis for the Reductionist Argument?

ASSESSING THE REDUCTIONIST ARGUMENT

Let us consider this Reductionist Argument against free will more carefully. The argument is that, since the will or the self is really nothing but a collection of physical particles, then it cannot have any causal power of its own. If taken to its logical conclusion, the reductionist view entails that there is only one real or fundamental level of reality: that of the “fundamental” or smallest entities as discovered by physics, those that cannot be analyzed into further parts. All causal power resides at this fundamental level, and all higher level complexity can be wholly explained in terms of the behavior of the simple component parts. Thus, in principle at least, all there is, is physics. Chemistry, biology, and any other of the “special sciences” are wholly reducible to physics. And of course this goes for the humanities as well—all explanations at the level of human beings is merely provisional at best, for we are merely collections of physical particles. Human beings, trees, cars, planets, tigers—none of these have any fundamental reality. All that there truly is, is quarks, or strings, or whatever entity a future physics decides is fundamental.

Now what is the argument or evidence for this extraordinarily strong position? As we have said, it is a metaphysical view not a scientific one, and by no means a position that is obviously true. Why should we assume that any entity has no reality over and above its constituent parts (except

of course the fundamental particles, which are apparently exempted from the reductionist principle)? This claim arguably confuses a methodological principle with a metaphysical one. Methodological reductionism has been the guiding principle of the natural sciences from the beginning, and it has had extraordinary success. But what would convert it from a methodological into a metaphysical principle? Only the demonstration that reductionism was able to provide a complete, comprehensive account of reality, leading us to realize that such entities as tigers and cars and trees are merely illusions, that play no role in our understanding of the world. Of course, there is no plausible prospect of any such account. For the foreseeable future, we will continue to believe in trees, people, and tigers.

In fact, many philosophers and scientists have argued that the reductionist project is effectively dead, replaced by an ontology of pluralism: The world consists of many kinds of things, with many different sorts of causal effects residing at different levels.⁸ Even within the sciences, the dominant view is not reductionism but the autonomy of the distinct sciences. Biology, for example, is the study of organisms, genes, evolutionary trends, and so forth, and these are taken as real entities with their own patterns of behavior and their own causal power. There is not the remotest prospect of reducing biology to physics, of analyzing the theory of evolution into the behavior of fundamental physical particles. Nor do biologists see their discipline as merely provisional, a study of illusory entities waiting to be reduced to physics. For example, the central guiding principle of Darwinism is that natural selection provides the causal explanation for the origin of all of life. Natural selection acts on random variation in order to bring about the extraordinary complexity of the biosphere on earth. In short, the basic presupposition of biology is the causal power of genes and of natural selection. Thus Richard Dawkins: "If a genetic change has no causal influence on bodies,...natural selection cannot favour or disfavour it."⁹ But the Reductionist Argument, if taken seriously, entails that genes and natural selection are illusions, no less than free will is an illusion. Natural selection can have no causal power, as all causal power exists at the level of particles; it cannot be the source of the origin of living beings. Only physics can explain any events in the world, and since physics has no explanation for the origins of living beings, we are left without any explanation of life itself. Darwin was wrong: natural selection has no causal power, and Darwinism must be rejected.

But if the Reductionist Argument fails for biology, then it must equally fail in its rejection of free will. If natural selection can have causal power

over and above the causal powers of fundamental particles, then there is no objection in principle to the existence of an entity called the will or the self, with its own causal powers. Indeed, given that humans are the product of evolution, it would be mysterious indeed if we evolved the power of rational deliberation, and yet that power had no causal force in the world. Thus reductionists inconsistently apply their argument to single out the will as problematic, while regularly exempting the causal power of other higher-level entities such as genes or neurons. As Nahmias points out, the position is incoherent, since if the Reductionist Argument is true then neurons can have no causal role any more than the will can—neurons are merely the puppets of the actions of the fundamental particles and are entirely determined in themselves.¹⁰ Indeed, there is ample evidence from human experience that the human will does have causal power; as Alfred Mele has pointed out, there is clear experimental evidence to this effect.¹¹ Moreover, it does not seem unreasonable to claim that the reality of human rational deliberation and choice is as well established a fact as any fact has ever been in the history of the world, for we experience it first and second hand every day.

Thus the argument against free will is quite surprising. To begin with, it purports to be about determinism, when as we have seen, it is really about reductionism. But even the reductionist principle is highly dubious. Virtually no one among scientists or philosophers accepts the Reductionist Argument in its full implications. What this suggests is that neither reductionism nor causal determinism is what is really driving the rejection of free will; the real argument is something unstated and barely acknowledged.

FREE WILL AND CARTESIAN DUALISM

The hostility of so many scientists against the idea of free will can be explained only, I think, by their prior assumption that free will is ultimately a religious concept, requiring an immaterial soul (or “self”) that acts independently of matter. That is, the worry is that free will entails Cartesian dualism: Mind is a separate substance that is not answerable to the methods of science. Either way, free will seems like a supernatural throwback to an earlier, superstitious worldview, the one in which humans are somehow distinct from everything else in the world due to their having a divine creator. Matters are not helped by the unfortunate terminology, “free will.” The word “free” suggests that human are exempt from the causal order of nature, floating above the world yet able to act on it, like

God intervening in earthly affairs miraculously from up in heaven. What is the essential matter of debate, I would argue, is not the “free” part but the “will” part: whether there is a rational, purposeful faculty in human nature—in other words, a teleological element. In fact, just what is meant by the “free” part of free will is a matter of great controversy, even among advocates of free will. But, however, one characterizes the causal power of the will; it is the very idea of the will, of the capacity for rational deliberation, that is the issue at stake.

The conception of free will as exempt from the causal order of nature is, understandably, anathema to naturalists. And it leads them to the unfortunate assumption that any evidence whatever of causal influence on our decisions from the brain must immediately refute the belief in free will. But free will does not require Cartesian dualism, let alone the idea of an immortal soul. This assumption is yet another example of the tendency to see philosophical debates in the polarized terms of science versus religion. Virtually all philosophers who believe in free will reject any such strong dualism, and substance dualism (the idea that mind and body are two distinct substances) is almost universally rejected by philosophers. In fact, there is strong evidence that the large majority of people do not believe free will requires the existence of a separate soul, and that most people are not dualists.¹² Nahmias even speculates that when scientists use the term “determinism” in the argument against free will, what they really mean is anti-dualism.¹³ This would explain the puzzling persistence of the term “determinism” in the debate, when in fact the leading physical theory today holds that the world is ultimately indeterministic, not deterministic.

Thus what is doing all the work in the argument against free will is not causal determinism, but a strong (and implausible) form of reductionism, as discussed above. Free will, or mental causation generally, does not require miraculous powers or total independence from the physical realm. Mental causation is no more scientifically problematic than any sort of higher-level causation, as in causation by genes, organisms, or natural selection. Nor is there any reason to believe that mental causation violates the laws of physics. To the contrary, as free agents, we are still bound by the laws of physics; we cannot levitate ourselves in defiance of the laws of gravity. Even the staunchest advocates of free will do not believe that the will has the power to violate laws of nature. Free actions are entirely consistent with the laws of physics, chemistry, and biology: whether I choose to remain in my chair or get up and take a walk, in either case I do not require the power to act against physical laws. Nor does free will insist on

total independence from the body. To the contrary, in order to act use my body: my arms and legs, my brain, my heart and lungs, in order to be able to accomplish my action. I am constrained by the basic requirements of physics and biology; without a source of energy, I will be unable to exercise my free will.

To believe in free will is not to believe in miraculous or supernatural powers, but in the irreducibility of mind to the physical. That is, it is to believe that mental events cannot be explained and predicted in terms of lower-level entities, whether they be neurons, genes, chemicals, or fundamental particles. This indeed is what the evidence tells us from our actual experience with human beings: It would be futile to try to understand and predict their behavior any other way than through folk psychology, in terms of beliefs and desires. Thus it bears emphasizing that belief in free will and mental causation is empirically based, not something “revealed” in sacred texts. In practice, we treat others as capable of making free choices based on reason; this is not a supernatural conviction, but a pragmatic necessity. Note also that belief in the irreducibility of the mental to the physical is not making a unique exception for mental events. It is now the consensus among philosophers of science that reductionism is a failure even within the sciences: Biology cannot be reduced to chemistry, nor chemistry to physics.¹⁴

It should also be recognized that the question of moral responsibility, and especially the assumption that to be responsible is to be uncaused, is a separate and a controversial issue. It is often assumed that free will entails belief in ultimate moral responsibility for one’s choices, and indeed many people do believe this. However, there is an important tradition in Western thought that accepts free will but denies that people have this sort of ultimate responsibility for their actions. Plato, for instance, famously argued that no one does wrong willingly—when they do choose wrongly, it is either because of ignorance or an uncontrollable impulse. In the Christian tradition, a line of thought from the Apostle Paul through Augustine and Calvin is that a person cannot be justified by his own will power or effort, but must rely on divine grace. And Stephen Morse has argued that our legal system does not require strong libertarian free will, in the sense of being uncaused by anything other than oneself, in order to find a person responsible for his actions.¹⁵ To believe in mental causation does not settle the question of ultimate responsibility. To be sure, giving up on the idea of ultimate moral responsibility might require substantial revisions in our institutions and practices, notably in criminal punishment—though again

it might not, if Stephen Morse is correct.¹⁶ In any case, the important point is that the existence of the real causal powers of the will is a separate matter from that of ultimate moral responsibility.

Nor does free will require being “uncaused.” What it requires is that one’s choice is not reducible to a *particular kind* of causation, mechanistic causation by physical entities (neuron firings, chemicals, genes, fundamental particles, etc.). What it asserts is the irreducibility of the mental explanation of one’s behavior: one acted because of a reason and/or a desire. If a complete causal explanation at the physical level is available for one’s action, then that is grounds for denying the role of the will in the action. Such a causal explanation may be internal or external: it may be a brain tumor or an intoxicating substance, or it may be that someone pushed you from behind, physically causing you to bump into someone else. What is held in common between these two is that they provide physical, non-mental explanations of one’s behavior (this is not of course to deny the existence of difficult borderline cases). What free will requires, in the view of most philosophers and of most of our tradition, is that the explanation for human behavior rests at the mental level—that is the behavior is rational and teleological. None of this is to suggest that the problem of free will has been solved, or that we have a clear sense of how mental causation works, or why we ascribe responsibility in the case of mental causation but not physical causation. But it is to say that free will cannot merely be dismissed as an outmoded, pre-scientific belief. It is firmly grounded in the idea of mental causation and explanation in terms of mental events, without which we could not function among other human beings. Until that day in which science gives us a means of explaining and predicting human behavior solely in terms of physical causes (neurons, genes, particles, etc.), we are justified in rejecting any claim that free will is an illusion. Whatever one’s views about the ultimate success of the reductionist approach to reality, the point is that the argument against free will is based not in science but in *a priori* metaphysical assumptions—it is a philosophical argument, misleadingly presented as if it is a scientific argument.

WHAT IS FREE WILL?

One of the unfortunate features of the debate over free will is that everyone seems to mean something different. There is no standard, accepted definition of free will, making it extremely difficult to have a serious debate about whether it exists or not. Unfortunately virtually none of the recent

critics of free will offer a clear definition, much less show that it is the most plausible definition of the concept. Indeed, as we have seen, critics of free will, especially among scientists, tend to assume an extremely strong and implausible position, that free will implies a radical Cartesian substance dualism, an immaterial entity like the soul that influences the physical body through some mysterious process. There is therefore a certain futility to this whole debate as it is presently conducted. This provides yet another reason to conclude that the claim that free will is an illusion is premature at best, and at worst, incoherent.

In order to prove that free will is an illusion, one would have to show that it is impossible on *every* plausible definition of free will—a tall order indeed. In contrast, the defender of free will need to only show that there is just *one* definition of free will that is plausible and does not conflict with basic scientific beliefs. Thus we can briefly defend an account of free will that is plausible and that does not conflict with basic principles of science. In the Western tradition, there have been two central competing conceptions of free will: first, the *voluntarist* or libertarian idea, in which free will is seen as a pure act of will, uncaused and unconstrained choice. Second, there is what we may call the *rationalist* conception in which free will is understood as the exercise of one's rational capacities, the ability to choose for a reason—where reason is understood not in the narrow sense of logical consistency, but in the broad sense of the capacity to pursue ultimate, transcendent goals. On the voluntarist view, the will is “free” in the radical sense: unconstrained by any limits. On the rationalist view, the will is “free” in the sense of being liberated from one's basic bodily or biological impulses; one has used one's reason to transcend one's animal nature, most importantly to pursue moral ends. The voluntarist account of free will has been widely attacked, and with some plausibility, as being incoherent: what sense can we make of a wholly unconstrained will? And it seems to be this voluntarist sense that is the target of the recent attacks claiming science has refuted free will. But the rationalist sense of free will is not subject to such an objection.

Let us define free will this way:

Free will is the capacity for rational deliberation about one's future actions.

By this we mean the apparently unique human ability to consider reasons for believing something or for acting in some way. When a young person decides what college to go to, she does not make the decision based

on physical instinct or impulse (at least, we hope not); she is capable of responding to reasons for choosing one college over another, taking into account such factors as overall cost, class size, graduation rates, facilities, faculty quality, and so on. Note that there is nothing mysterious, supernatural, or “spooky” about such a capacity, nor does it assume a dualist conception of mind and body. Indeed, it seems obvious that humans do have this capacity to make choices based on the best reasons—which is not of course to say that we do always or even usually act rationally, only that we have the capacity to do so. This is what distinguishes human beings from inanimate objects, plants, and presumably other animals: the capacity to deliberate based on reasons.

However, this is still too vague, for it is one thing to understand how reason can deliberate on the best means to a given end, but the famous problem is to say how reason can choose the proper ultimate ends or goals. So here we need to return to our idea of the transcendentals: truth, beauty, and morality. Reason, we will say, is the capacity to consciously choose those ends for their own sake, and to follow the best means to achieve them. This is not to say that these must be the only goals one favors; as we have emphasized, human nature is constituted by the need to make tradeoffs between these higher goals and the more mundane ones of survival, health, and material well-being. To say we have free will is to say we have the capacity to recognize and self-consciously pursue the higher values in addition to the lower ones, even to the point of sacrificing one’s material goals to the higher ones (as for example the monk pursues the spiritual life to the neglect of the material one, or a person chooses a career in scientific research rather than taking a well-paying job in the corporate world).

A couple of points should be made here. First, to say we have this capacity is not to say that we exercise it all the time. Often we do not live up to the ideal of rational deliberation (consider all the climate change deniers, refusing to accept the overwhelming evidence because it conflicts with their political beliefs). The point is that we have this capacity, not that we always use it. Second, we should understand “rationality” in the broadest sense, one that includes *moral* deliberation as well and even aesthetic deliberation. Some would say that the culmination of the ability to deliberate rationally is the capacity to make decisions based on moral reasons, for instance to eliminate the institution of slavery not out of self-interest but out of the moral conviction that it violates a basic moral principle, that all people should be treated equally. For most people, the essence of free

will is just this moral capacity; what makes humans unique (and, for many people, special) is precisely this capacity to respond to moral reasons—again, even if we so often fail to live up to that unique capacity.

Another important point brought out by this definition is that free will should not be understood as suggesting that peoples' behavior is fundamentally unpredictable, incomprehensible, or arbitrary. To the contrary, as David Hume long ago pointed out, we could not engage in friendship, romance, commerce, or any other social activity if it were unpredictable. The goal of free will is not to be unpredictable, but to be rational in the broad sense, which includes being moral. And indeed, highly moral people are usually highly predictable: If I know my friend is painstakingly honest, I can be confident that he is not lying. So the issue is not predictability per se, but rather the means by which one tries to predict behavior. If I predict my friend's behavior through my knowledge of his character, that is a non-reductionist approach that presupposes free will even as it reliably predicts his actions. What the reductionist account must do is to show that his actions can be predicted entirely from knowledge of the fundamental physical elements that compose his brain or body—his neurons, his genes, or even his atoms.

Do we have reason to believe that people have free will? The clear evidence of our senses, as well as our introspection, tells us that people do have this capacity. People are capable of moral and rational deliberation, and even acting against their self-interests when they recognize good reasons, moral and otherwise. Indeed, the very claim that free will is an "illusion" concedes the point that there is powerful sensory evidence that it exists, both introspectively and in observation of others. Some oil executives do acknowledge the reality of climate change, even if it means cutting into their own bottom line. The world did decide to eliminate slavery on moral grounds, even if it meant eliminating a major source of free labor. Free will, defined as the capacity for rational deliberation, is real. Indeed, as we will see below, even the deniers of free will end up recognizing the very sort of free will we have defined here. Of course, we could all be badly mistaken in both our understanding of our own behavior as well as that of others. Yet to deny the capacity for rational deliberation would require very strong evidence indeed, and something much better than an *a priori* and problematic metaphysical commitment to an extreme reductionism.

This definition of free will helps us, I think, to see what the real conflict between science and free will is, and why scientists are so keen to declare free will an illusion. It is yet another instance of the distinction between

mechanism and teleology. Free will is a fundamentally teleological capacity; it involves recognition of the agency of human beings, their capacity to be motivated by a genuine and non-material end. It thus violates the basic mechanistic assumption of the sciences, the idea that all events in the universe can be understood in terms of prior mechanistic causal forces, not teleological agency. And once again our response to this objection is that it confuses a methodological principle with a metaphysical one. The fact that science has limited itself to studying only mechanistic events does not entail that there is no genuine teleology in the world. What it means is rather the limits of science, its self-chosen limitation to study the non-teleological aspects of the world. Free will is a form of teleology; therefore, it is not in the province of science but the humanities. It is not “visible” to scientists in that their methods involve a commitment to mechanistic principles, but it does not follow that free will is an illusion.

THE REJECTION OF FREE WILL IS SELF-DEFEATING

So far we have argued that the claim that free will is an illusion is entirely unsupported, and indeed directly contradicted, by the evidence. But in fact we can make a much stronger argument: that science could *never* prove that free will is an illusion, because science itself *assumes* the reality of free will. Even those who make the argument that free will is an illusion are assuming the very thing they are attacking. That is, the argument is self-defeating.

Recall our definition of free will: the capacity for rational deliberation. Now suppose we define science as the organized application of rational methods to explaining and predicting physical reality. That is, at the very heart of science is the assumption of the human capacity to make decisions based on reasons and evidence, *rather than on physical causal determination*. The scientist is the person who transcends physical causation by making hypotheses and drawing conclusions that are supported by evidence and logic; his decisions, when he is acting as a scientist, are rational rather than causal. If he is caused to believe a principle by his genes or his neurons, even if it is a true principle, then it is not a rational belief, and cannot count as science. Science is the study of physical causation, but it presupposes that the scientist herself is free to follow rational principles not mechanical determination. A good scientific theory is one that is adopted on rational grounds, not the one that is the result of physical instincts. Science could not make do without belief in mind and all of the elements

that go along with it: beliefs, theories, rationality, and evidence. The scientific method is an insistence that one govern one's beliefs by rationality. This is hardly a controversial point. Physicist Steven Weinberg characterizes the "scientific method" as above all a "commitment to reason"¹⁷; according to biologist Robert Sapolsky, science is an "emotional contract, an agreement to only derive comfort from rationality."¹⁸ Indeed, this is just the presupposition of the argument against free will: that people are rational and willing to change their mind when presented with evidence and arguments.

We can then see that, rather than undermining free will, the very institution of science *presupposes* it, on the rationalist definition of free will. Indeed, the claim that science demonstrates free will is an illusion is simply incoherent; if free will as rational capacity did not exist, then one could not "prove" anything. The very concept of rational proof presupposes free deliberation, choice on rational grounds not causal, mechanistic determination. If we were all be subject to physical causal determination, there could be no meaningful sense in which the scientist composed her beliefs about the world according to rational methods. There could be no scientific method, since we would all just be like billiard balls, being moved by mechanistic physical forces, without any power of will to make decisions or formulate hypotheses, experiments, or theories.

To be sure, science does not apparently involve a commitment to the possibility of *moral* choices. In fact, as we will discuss later on, scientists tend to view their devotion to the truth as a moral commitment. In any case, the point is irrelevant to the argument about free will, since the capacity to make rational decisions of any sort requires the same sort of freedom from physical determination as does the ability to make moral choices. Indeed, many great moral philosophers (such as Immanuel Kant) have insisted that moral choices are simply exercises of human reason. If so, moral choices do not require any further degree of rational capacity than do scientific choices. Of course, whether there are objective rational principles of morality is itself a controversial question (to be discussed later in this book). But that is an entirely separate issue from the question of whether free will is real. The argument, as we have seen, demonstrates the reality of free will, of a sort sufficient to ground what is deemed most fundamental, the ability to knowingly choose rational principles (again, assuming that they exist).

In fact, it is no small irony (and another example of the self-defeating nature of the argument), that the very scientists who argue that free will

is an illusion, also argue that we should use this conclusion to be more compassionate with people who are wrongdoers. That is, they draw normative moral conclusions from the argument. For example, biologist Jerry Coyne in his Op-Ed in *USA Today* argues that “by losing free will we gain empathy, for we realize that in the end all of us, whether Bernie Madoffs or Nelson Mandelas, are victims of circumstance, of the genes we’ve bequeathed and the environments we encounter.” But that is a moral argument! It is to argue, paradoxically, that we should give up the illusion of free will, and therefore make better moral choices. One could hardly make a clearer case for the reality of free will, understood as the capacity to make good moral and rational decisions, to (as Coyne says) “go about building a better world.” If physical determinism were true, then the notion of “building a better world” would be incoherent; the state of the world would be entirely determined by the prior state, and there would be no room for “building” anything, nor any meaningful sense in which the world is “better.” And there could be no rational entity choosing to change the state of the world. Indeed, one might say that what we *mean* by free will is our capacity to build a better world. It would be hard to find a better example of a self-defeating, self-contradictory argument.

To claim that free will is real and that human behavior is irreducible to biology, chemistry, or physics, is not however to rule out the possibility of science having substantial power to predict human behavior. After all, it is all too evident that we regularly fail to live up to our capacity for rational deliberation, and we regularly allow ourselves to be determined by impulses, instincts, or habits. We are physical beings as well as mental ones, and there is room for substantial influence of the physical on the mental. Just to take one example, the fact that the vast majority of violent crimes are committed by men rather than women is plausibly taken as evidence of a degree of genetic determinism; having XY chromosomes apparently predisposes one to violent or aggressive activity. Contrary to the Blank Slate view, it is highly unlikely that men simply “choose” to be violent while morally superior women choose not to be, or that this universal tendency is merely a product of culture. Further, this very example demonstrates the compatibility of free will with physical determinism. For even if men are genetically predisposed to violence, the overwhelming majority of men in our society will never commit a violent crime (while some women will). That is, genes influence us, but do not determine us. The existence of inbuilt genetic tendencies, however, does not undermine free

will. Indeed, some think that free will necessarily presupposes biological tendencies against which it is the role of our rational nature to fight.

Humans are physical entities, and subject to a substantial degree of physical determination. Just how far that determination extends is an issue to be explored. The existence of free will does not entail that we are *never* physically determined, only that we are not *entirely* physically determined—and indeed that there is a real “we” over and above the atoms that compose our bodies. So there remains plenty of work for scientists to do on human nature by following the methodological assumption of physical determinism—so long as they do not make the mistake of assuming that *all* behavior is physically determined. Indeed, no one could successfully negotiate social space without the assumption that humans are governed by rational capacities, that their behavior is not equivalent to that of inanimate objects.

We have argued, in summary, that free will is an essential element in the traditional picture of human nature, in that it reflects the human being’s special position at the border between the physical and mental. Human uniqueness consists in the capacity to unify the two realms, using the mind to control the body in order that it is capable of rational action. To be determined by one’s bodily forces is to fail to exercise the uniquely human capacities. This does not mean the body is “sinful” or to be denied; the highest goal is precisely that of unifying the person as a whole, body and soul, in the service of rational activity, be it in the service of science, morality, or art. That is what we mean by free will: the human experience of needing to choose between two distinct sorts of values: worldly, material, bodily versus rational, intellectual, or spiritual. The belief in free will is not grounded in revelation or wishful thinking, but in the concrete practical fact that people are capable of acting as rational agents pursuing higher ends than merely biological ones.

NOTES

1. Raine, *The Anatomy of Violence*, 316.
2. Harris, *Free Will*, 5.
3. Humphrey, *Soul Dust*, 131.
4. Wilson, *The Social Conquest of Earth*, 288.
5. Harris, *Free Will*, 16.
6. Dawkins, “Let’s All Stop Beating Basil’s Car,” Edge.org.
7. Raine, *Anatomy of Violence*, 315–16.

8. See, e.g., Dupré, *The Disorder of Things*; Hurst, *Beyond Reduction*; Laughlin, *A Different Universe*.
9. Dawkins, *A Devil's Chaplain*, 260.
10. Nahmias, "Is Free Will an Illusion," 11.
11. Mele, *Effective Intentions*, 136.
12. Mele, "Free Will and Substance Dualism", 198, 228.
13. Nahmias, "Is Free Will an Illusion," 8.
14. See Horst, *Beyond Reductionism*.
15. Morse, "The Non-Problem of Free Will in Forensic Psychiatry and Psychology."
16. Ibid.; cf. also Kaufman, *Honor and Revenge*, defending the retributive theory of punishment on grounds that do not assume ultimate causal responsibility for one's actions.
17. Weinberg, *Facing Up*, 43.
18. Sapolsky, "Does Science Make Belief in God Obsolete?"

Reason, Truth, and Evolution

There is no subject on which naturalism is so deeply conflicted as the notion of reason and truth. On the one hand, the naturalist can hardly resist celebrating the powers of human reason to uncover the most fundamental truths about the world, that is, science in general and in particular the evolutionary theory. On the other hand, the naturalist is vaguely uncomfortable with such concepts as truth and reason, for they suggest a human ability to transcend nature and causal determination, and furthermore they suggest that there are certain philosophical concepts—truth and reason—that are in principle outside of the capacity of science and evolution to explain, as they are presuppositions of science itself. Thus we see the naturalist’s dilemma: It consists of the urge to explain literally everything within the Darwinian framework—reason and truth included—while at the same time realizing the potential self-defeating nature of such an explanation, since the very edifice of Darwinism and science itself threatens to crumble if there is no stable notion of reason or truth. What exactly is science doing if it is not seeking the transcendent goal of truth?

DARWINISM AS UNIVERSAL ACID

One of the more intriguing metaphors adopted by Daniel Dennett to describe evolutionary theory is that of the “universal acid”: a “liquid so corrosive it will eat through anything.”¹ Darwin’s idea, Dennett says, is like this: “it eats through just about every traditional concept and leaves

in its wake a revolutionized world-view.”² Dennett expresses uncertainty where he got this idea from, or whether he made it up, but in fact it derives from an old traditional tale about a traveling salesman carrying a bottle of what he says is an acid that will eat through anything. He tries to sell it to a king for a very hefty price, but the wise king sees through the fraud and points out that, if that were true, then it would eat through the bottle or any container as well. He has the fraudulent salesman whipped and banished from the kingdom.

Dennett’s choice of metaphor is unfortunate, in the implication that Darwinists are selling fraudulent goods. However, it may be quite accurate in another respect that Darwinism threatens to destroy its own “container,” the very ideas of truth, reason, and science, thus destroying even itself—an idea Dennett himself surprisingly seems to embrace, paradoxically suggesting that evolutionary theory applies “even to itself.”³ That is, it may be a truly a universal acid that threatens to dissolve itself. But of course one may draw a different lesson from the parable of the universal acid: that evolution is a mere ordinary acid that can dissolve some of our traditional beliefs and values, but only some, and it should not be oversold. This issue comes to the fore in the present chapter, in which it is considered whether it is possible to have a Darwinian theory of reason and truth.

DARWIN’S DOUBT

One aspect of this problem has been widely debated under Plantinga’s label “Darwin’s Doubt.” In one of his letters, Charles Darwin writes: “With me the horrid doubt always arises whether the convictions of man’s mind, which has been developed from the mind of the lower animals, are of any value at all or at all trustworthy. Would any trust in the convictions of a monkey’s mind, if there are any convictions in such a mind?”⁴ The idea is that, if the mind is a product of evolution, then what grounds do we have to trust our beliefs? Perhaps nature is merely fooling us to get us to pursue its ends. Numerous other Darwinists have raised the same doubts about the notion of truth. Patricia Churchland explains that the purpose of the nervous system is merely survival and reproduction; a “fancier style of representing is advantageous *so long as it is geared to the organism’s way of life and enhances the organism’s chances of survival*. Truth, whatever that is, definitely takes the hindmost.”⁵ Steven Pinker points out that “our brains were shaped for fitness, not for truth. Sometimes the truth

is adaptive, but sometimes it is not.” He explains: “Given that the mind is a product of natural selection, it should not have a miraculous ability to commune with all truths; it should have a mere ability to solve problems that are sufficiently similar to the mundane survival challenges of our ancestors.”⁶ Biologist Geoffrey Miller, addressing his theory that the mind evolved primarily through sexual selection, writes that this theory “raises some worries about the reliability of human knowledge”, as “mate choice may not have cared about the accuracy of our more complex belief systems...It could have shaped our minds to be amusing and attractive, but deeply fallible.”⁷ Michael Ruse declares that “Natural selection simply does not care about giving us a meticulously true and comprehensive insight into the nature of things...Biological fitness is a function of reproductive advantage rather than of philosophical insight.”⁸ For Richard Dawkins, evolution does not shape our sense organs “to give us a ‘true’ picture of the world as it ‘really’ is”; rather they “have been shaped to give us a *useful* picture of the world, to help us survive.”⁹

Here Darwinism seems to converge with postmodern theories of truth (and even with the fashion of putting “truth” in quotation marks). Yet most Darwinists, including the above-quoted ones, do not take such an extreme position, for they want to be able to say, with Jerry Coyne, that “evolution is true.”¹⁰ The dominant mainstream view, even among Darwinists, is that our rational faculties are adaptations to help us succeed in the world, and that if anything evolution provides us good reason to trust in our cognitive capacities.¹¹ But what is surprising is how often one hears Darwin’s Doubt taken seriously, even in the most radical form as in Churchland, which appears to call into doubt the very idea of truth itself (as does Dawkins, by putting “truth” and “reality” in scare quotes). The fascination with Darwin’s Doubt reflects the basic dilemma for naturalism. For those Darwinists with imperialist ambitions, the idea of presupposing rather than explaining such a central philosophical idea of truth is troubling, and it is tempting to suggest that the very idea of truth can be assimilated into an evolutionist picture, or perhaps dropped altogether. Perhaps, suggests Gary Cziko, “knowledge itself may be broadly conceived as the fit of some aspect of an organism to its environment, whether it be the fit of the butterfly’s long siphon of a mouth to the flowers from which it feeds or the fit of the astrophysicist’s theories to the structures of the universe.”¹² That way, Darwinism could explain truth as a natural not a transcendent relation, can explain the human being as merely an organism fitted to the environment, and no longer rely on a philosophical notion

of truth. Whether the notion of “fit” makes sense for abstractions such as propositions or theories is a matter we consider below. But note the problem of circularity: how could one accept the theory of evolution in the first place without already having in place a conception of truth and rationality?

One way of trying to evade this dilemma, and probably the least satisfying way, is to hold that we cannot trust our cognitive faculties or the idea of truth *except* within the institution of science. Miller asks: “what hope do we have of discovering truths about the world?” His answer is that we had “very little hope until the social institutions of science arose... After science, everything changed.”¹³ The scientist channels our “sexually selected instincts for ideological display in certain directions according to strict rules”, which “award social status” for good theories supported by data, thus “harnessing human courtship to produce cumulative progress towards world-models that are abstract, communicable, and true.”¹⁴ Pinker takes a similar approach, arguing that Darwin’s Doubt does not affect science, but it does undermine “religion and philosophy,” which are “in part the application of mental tools to problems they were not designed to solve.”¹⁵

Perhaps all this means is the innocuous claim that, as evolution rewarded self-promotion over truth, then we had to be very careful to adopt careful standards to make sure we are not departing from the truth for reasons of self-interest. If so, it is a fairly obvious claim, and not one we need Darwin to teach us; the human tendency to distort the truth for self-interest was known long before evolution. It is moreover an extremely weak form of Darwin’s Doubt. Either cognitive faculties are reliable ways of seeking truth or they are not. If science is able to achieve truth, then there is such a thing as truth and reason, and hence Darwin’s Doubt largely dissolves. Moreover, it certainly cannot be assumed that science has a monopoly on truth; there is no obvious reason any other disciplines should not be able to provide reliable means of reaching truth as well (indeed, the familiar demarcation problem is that we cannot make any clear distinction between science and other disciplines). Since modern science did not appear until a few hundred years ago, it is hardly likely that an evolutionary capacity for truth lay dormant until then. For scientists to use Darwin’s Doubt to cast doubt on all other disciplines except “science” is troublingly self-serving, especially given that there is no actual evidence of when reason evolved or for what purpose. We do not know if the mind was a product of sexual selection, or a biological adaptation, or even a byproduct of evolution. And even if it were one or the other, on what grounds would one endorse the entirety of the discipline

of science, and dismiss all of religion, philosophy, and presumably all of the humanities and much of the social sciences as well? The evolutionary speculation adds nothing; it is essentially just the familiar and dubious argument that science has standards of verification that make it the only reliable source of knowledge, the position known as scientism.

Moreover, this account of truth is deficient from a normative perspective as well. For all it shows is that the scientist *can* pursue truth, but not that he ought to. The evolutionary incentives remain the same: If deception is a better path to success, then only a fool would choose truth. It is true that the virtue of science is that the need to provide objective evidence provides some insurance against deception and manipulation, more so than in other fields. Nonetheless, without a normative notion of truth, the essential purpose of communication remains the same: pursuit of selfish advantage, by any means necessary. (What this argument demonstrates is the essential connection between truth and morality, a point we will return to later.)

In any case, this argument concedes the key point at issue: that there is a genuine notion of truth, what we have termed a transcendent notion, that is not a product of the scientific method but a presupposition of it. Few if any naturalists take the radical view, hinted at in Churchland, that follows the path of a postmodern questioning of truth itself. But then evolution rather than undermining the traditional view of the world and of the human being confirms it, at least to the extent of affirming one sort of transcendental value that the human being can and does pursue. Even if beauty and morality are rejected as mere subjective desires or products of evolution, there is still truth as a transcendental goal. However, there is a complication in this story, for some Darwinists want to question, if not the concept of truth, then the normative force of truth as a transcendental value. Perhaps truth as a goal is merely instrumental to the evolutionary goals of survival and reproduction, and even worse, perhaps truth has no intrinsic normative value as such. For if the ultimate goal is evolutionary success, then falsehood or deception will do just as well as truth, as they are just alternative strategies of success. We address this idea in the next section.

DARWIN'S DOUBT: PART TWO

A line of thought that aims to undermine the ordinary notions of reason and truth has to do with the evolutionary purpose of reason and truth-seeking. The question here is not the existence of truth, but its normative

status. Is it an intrinsic value, something sought for its own sake, or is it merely an instrumental value? An influential contemporary argument holds that, on evolutionary grounds, we may conclude that truth is not an intrinsic or absolute value. Miller implies such a view in his claim that science is merely a “complex and conscious form of mating,” one that uniquely involves “sexual signals” with “referential content.”¹⁶ He does not however squarely address the issue: is scientific truth merely a mating strategy or an intrinsic value in itself? Others have however advocated just such a radical view, which we will call the Machiavellian theory of intelligence.

The Machiavellian theory does not directly question the possibility of truth or accurate representation of reality, but challenges the idea that truth has any intrinsic moral or higher value or that humans have any special motivation to pursue the truth. Truth-telling is merely a strategic choice, and may or may not be more effective than deceit or manipulation to achieve one’s goals. Robert Wright tells us: “when accurate reporting and genetic interest ...intersect, that’s just a happy coincidence. Truth and honesty are never favored by natural selection in and of themselves. Natural selection neither ‘prefers’ honesty nor ‘prefers’ dishonesty. It just doesn’t care.”¹⁷

A surprisingly influential version of this argument has recently been promoted by social psychologist Jonathan Haidt, who has argued that human reason in the moral sphere is not inherently a truth-seeking faculty. Rather, reason evolved merely to serve our strategic interests, that is, our reproductive interests. Arguments, Haidt tells us, are “mostly post hoc constructions made up on the fly, crafted to advance one or more strategic objectives.”¹⁸ Here he draws on earlier work by Drew Westen, who claimed that “what passes for reasoning in politics is more often rationalization, motivated by efforts to reason to emotionally satisfying conclusions.”¹⁹ For these psychologists, the lesson of evolution is that David Hume was right: reason is merely the slave to the passions. Its role is merely to provide support for already-existing goals. Westen describes a study in which the “activation in circuits usually associated with reasoning” appeared only “*after* partisans had come to emotionally biased judgments.”²⁰ The Western tradition has been mistaken in elevating reason to an independent faculty that seeks dispassionate truth; in fact all reasoning is driven by our desires and interests. Its function is essentially deceptive and manipulative; it pretends to be dispassionate, but is actually biased from the start. Crucially, though Haidt and Westen focus their

attention on the role of reason in politics and morality, the argument is fully generalized as a claim about reason itself, as we will see.

Haidt and Westen present an evolution-based argument for this dethroning of reason, which can be stated very simply: the emotions evolved long before reason, therefore reason is merely a servant of the emotions. In Haidt's version of the argument:

Automatic processes run the human mind, just as they have been running animal minds for 500 million years, so they're very good at what they do, like software that has been improved through thousands of product cycles. When human beings evolved the capacity for language and reasoning at some point in the last million years, the brain did not rewire itself to hand over the reins to a new and inexperienced charioteer. Rather, the rider (language-based reasoning) evolved because it did something useful for the elephant.²¹

Drew Westen some years earlier made a similar argument: "it is clear that 'feelings' are millions of years older than the kind of conscious thought processes we call 'reason', and they have been guiding behavior for far longer."²² Earlier than both is psychologist Joseph LeDoux, who in his 1996 book *The Emotional Brain* argued that "consciousness and its sidekick, natural language, are new kids on the evolutionary block—unconscious processing is the rule rather than the exception throughout evolution."²³ It should be noted that this argument, as we suggested above, applies to all reasoning processes, not merely moral or political reasoning, as it is a generalized argument about the later evolutionary arrival of reason as a faculty.

The argument is more than a little fuzzy, but seems to be that since reason is a latecomer on the evolutionary scene, therefore evolution would not have trusted it to such an important task as guiding the organism. Alternatively, the claim may be that, since reason evolved later than the emotions or automatic processes, therefore it must be subservient to those processes. Either way however, the evolutionary argument is fallacious. There is no evolutionary principle holding that the later-evolved traits must be subordinate to older traits. To the contrary, the very essence of evolution is that new traits replace earlier ones because they are better. The ability to walk long predated the bird's ability to fly, but it does not follow that the instinct to walk is more powerful than the instinct to fly in birds. Nor would it make sense to say that the purpose of reason is to serve the

older emotions or intuitions; new faculties do not evolve to serve earlier faculties, but to serve the organism as a whole. The astonishing evolutionary success of human beings is undoubtedly grounded in the evolution of that uniquely human trait, rational self-consciousness.²⁴ The fact that automatic processes are older is irrelevant; evolution does not follow the principle of primogeniture. Further, the idea that reason (or any late-developed trait) is “inexperienced” and hence not trustworthy is an oddly anthropomorphic conception of a mental faculty; Haidt may be misled by his own metaphor here, thinking of reason as the rider on an elephant. Evolution has no capacity to “plan ahead”: a trait must offer immediate payoff in order to be adopted. It does not, and cannot, adopt a trait then wait until it is “experienced” to utilize it.

Nor is the story even coherent. The purpose of reason cannot be merely to manipulate and deceive others, for no one would anyone ever allow themselves to be manipulated by a rational argument if they knew that the only function of rational arguments was to manipulate others. Deception and manipulation are parasitic on truth; rationalization presupposes rationality. If reason did not have a capacity to persuade based on purely rational grounds, it would have no force as rationalization. Indeed, since we *know* that reason does have objective truth-seeking and persuasive power—otherwise science itself could not exist²⁵—it would hardly make sense to say that when it evolved, this power was never recognized or used. A far more plausible account—though again we simply have no evidence as to when reason evolved or what its original functions were—is that reason provided a powerful tool by which humans were able to understand and control their environment, and that it also provided a powerful tool to be used to manipulate and deceive others. There is no coherent basis for saying that reason was not “designed” to seek truth.²⁶

The theory is moreover self-undermining. What is it social psychologists like Haidt and Westen are doing when they publish their books? By their own theory, we should assume that they are not seeking objective truth, but merely trying to manipulate us for their own narrow selfish ends, such as selling books and gaining a scholarly reputation. Haidt falls back on the idea that science is somehow exempt from this evolutionary necessity, that given the “accountability system of science,” for scientists reason is *not* ruled by preexisting interests but is an objective truth seeker.²⁷ But as we explained above, this is not a coherent response to the objection. For, even apart from the dubious suggestion that no other field but science has any accountability systems, the reply concedes the point that reason and

truth can and do have an objective, disinterested truth-seeking function—that is, it provides a fully normative notion of truth. How scientists have somehow managed to transcend the evolutionary function of reason is not explained—how could a faculty that evolved merely for manipulation and deception be miraculously co-opted into a faculty for discovering objective truth, and one that carries its own normative weight? In any case, we are left in the end with the quite trivial and banal observation that reason can be used, and often is used, to manipulate and deceive others—again, a fact that has been recognized since the beginnings of human history. It adds nothing to give an evolutionary “explanation” of this fact via a just-so story about how reason was “designed” for that purpose.

EVOLUTIONARY THEORIES OF IDEAS

The desire for a “universal Darwinism,” an evolutionary theory that does not presuppose reason and truth but explains them, has resulted in more than one attempt to develop an evolutionary theory of the origin and growth of ideas. Here we consider psychologist Gary Cziko’s “universal selection theory,” which he calls a “second Darwinian revolution.”²⁸ The idea is to apply Darwinian theory, understood as involving two key principles, blind variation and selective retention, to fields other than organic evolution, in particular to the evolution and growth of knowledge. Universal selection theory is aimed to provide a “truly naturalistic and nonmiraculous account” of the emergence of organized complexity in all its forms in the universe.²⁹ Cziko describes the theory as a “bold conjecture that all knowledge and knowledge growth are due to a process of cumulative blind variation and selection.”³⁰

The attractions of this view are obvious. Rejecting the idea of truth as a transcendental relation, it provides a wholly naturalized account of truth: Truth is the fit of an idea to the environment. This would unify the realm of mind and thought with the realm of body and organic evolution, under the single concept of fitness. It would also offer an alternative to the teleological conception of rationality, according to which the pursuit of knowledge is a purposeful behavior. And it would not require a reduction of truth-seeking to narrow biological ends: that is, it would not have to show that the pursuit of truth in philosophy, science, mathematics, and elsewhere is a means to promote biological survival and reproduction. Instead, the idea would be to show that knowledge propagates because the ideas themselves “fit” their environment, and not because the ideas

lead to biological fitness. So, does Cziko succeed in demonstrating that the growth of cultural knowledge from science to art is a process of blind variation and selection for fitness?

As to the first criterion, Cziko explains that evolution requires that variations “are blindly and ignorantly produced,” not “guided by purpose or planning.”³¹ However, it seems *prima facie* unlikely that the scientist or artist produces variations randomly and then selects among them. Cziko makes an effort to show how creativity and imagination is a fundamentally unconscious and unguided process in both scientists and artists, involving a “large number of varied and blind guesses.”³² However, even he seems to recognize the limits of this analysis; while there is no doubt some randomness in the creative process, it seems highly unlikely that the musician, poet, mathematician, or biologist simply produces random guesses until he finds the right one (it seems, e.g., unlikely that Darwin randomly generated theories as to how organisms were created, until he happened upon evolution). Cziko allows that “we certainly don’t just look anywhere and everywhere” to solve problems³³ and that we do typically rely on knowledge obtained from the prior solutions to problems.³⁴ In the end, Cziko redefines blind variation simply to mean that “the scientist does not know, and cannot know” if the new answer will be successful.³⁵ But then “blind variation” has been redefined to mean that human beings are not omniscient, a truism that renders the criterion of blind variation all but vacuous and quite trivial.

Cziko equally abandons the central insight of the evolutionary theory, which is that what appears to be the product of intelligent design is in fact not the product of purposeful planning at all. Conceding that human cultural activity is in fact intelligent and purposeful, he argues that “selection does not have to be restricted to the natural and purposeless selection of Mother Nature, but may involve purposeful humans selecting for plants growing bigger tomatoes, cows giving more milk, scientific theories providing better predictions, etc.”³⁶ But this is to admit that cultural evolution is not a blind, mechanistic process, but a rational teleological one. It is then hard to see what it could mean to classify the purposeless and the purposeful as simply aspects of the same “universal” process. At most one could say that purposeful behavior is a product of non-purposeful evolution, a point that concedes the existence of human teleology and is hardly a revolutionary claim.

Finally, there is the most difficult question of all: What one means by the “fitness” of an idea or theory? Cziko insists that the success of science

is because its theories “fit” the world. Science “provides what many consider to be the most striking and undeniable instances of fit of one system—human knowledge—to another—the universe in which we live.”³⁷ The idea of fitness is meant to explain the progress of science: “insofar as science becomes progressively better at describing and explaining the objects, forces, and processes in the universe, it must be because the universe somehow interacts with the experiments and thoughts of scientists and thereby plays a role in determining which theories and hunches will be retained.”³⁸ That is, scientific theories that are “fitter” survive, while those that do not “fit” the world are eliminated, thus explaining why science works so well. Or does it?

The problem comes in explaining just what one means by “fitness.” Cziko refuses to provide a formal definition, insisting that (like pornography) we know it when we see it.³⁹ However, if “universal selection theory” is to have any content, fitness must mean something other than truth—for it tells us nothing new to say that scientific theories are retained when they prove true and abandoned otherwise. The very heart of Darwinism is the attempt to provide a naturalistic, mechanistic explanation of the differential survival of entities, whether they be organisms or scientific theories. Cziko faces this problem when he tries to explain just what the difference is between religious superstition and science, as the entire purpose of his project is to develop a theory of culture that is “without miracles.” Now if one adopts a definition of fitness that does not involve truth, then it might well seem that religion is fitter than the theory of evolution, given it has achieved a much longer longevity and wider public acceptance. However, Cziko explains the difference between “superstition” and science by adopting the Popperian criteria, that scientific idea must be “in principle falsifiable in such a way that the phenomena to which they refer participate in the selection.”⁴⁰ But to say that the phenomena participate in the selection, if it means anything at all (in what sense do long past events such as the extinction of the dinosaurs participate in the selection of theories about those events?), simply ends up meaning that the theories can be tested against reality, and it is hard to see how calling this a Darwinian process adds anything.

In the end, Cziko gives us no more than a conventional description of the process of cultural development, and calls it “Darwinian” only by emptying the idea of selection theory of any real content. He makes no real effort to demonstrate that fitness is a physical or natural relation or that it is in any way analogous to biological fitness. Fitness just ends up as

a synonym for truth, blind variation and selection just means intelligent, purposeful rational inquiry. The theory ends up as vacuous; it adds nothing to redescribe it as a Darwinian process, other than to provide us with the illusion of a single unified theory of culture and nature, a “universal” theory of selection. It does nothing to show why such a unification is useful, desirable, or necessary. Simplicity is not always a virtue.

EVOLUTIONARY THEORIES OF IDEAS: MEMETICS

Though Gary Cziko does seem to think that his theory is consistent with the theory of memes,⁴¹ in fact the theory of memes is a far more radical attempt to provide a Darwinian account of the development of ideas. The word “meme” was coined by Richard Dawkins in 1976 in his book *The Selfish Gene* in order to apply Darwinian theory to cultural evolution as well as nature. A meme is the analogue to a gene in the realm of idea, and the theory suggested a way of understanding cultural development in terms of the natural selection of memes. The idea of a unit of cultural selection was, however, first suggested long before Darwin. As Stephen Clark observes, the idea was first proposed in 1891 by D.G. Ritchie, who called them “mental microbes” which followed Darwinian principles in spreading through minds.⁴² Other Darwinists have suggested alternative names, such as E.O. Wilson’s “culturgens.” However, the name “meme” has caught on among commentators, so we will use that name henceforward.

It is important to recognize how radical this idea is. It is an attempt to provide a fully Darwinian account of the development of knowledge and culture. It aims to cover all cultural entities, from ideas, tunes, rituals, fashions, inventions, theories, and so on. It allows for the possibility of a fully mechanistic, causal account of the changes in these mental entities, one that dispenses with the idea of truth, rationality, teleology, or intelligence. Memes are not chosen by us for our purposes, or because they are true. Memes are parasites; they colonize us in their own “interest”, which is to say simply because they can. They are the equivalent of selfish genes; what determines their success is their ability to out-reproduce other memes by their fitness to their environment, our brains and the space of culture. Memes are like the annoying tunes that one cannot get out of one’s head; they exploit some vulnerability in our minds and persist even against our wishes. As Dawkins says, a cultural trait may evolve “simply because it is *advantageous to itself*.”⁴³

Naturally, Darwinians seek to apply this theory first and foremost to explain the origin and persistence of religious ideas, given the puzzle about how such ideas could be so persistent and powerful. Dawkins thus takes the example of the idea of God, which he suggests must have originated many times by “mutation” (note the assumption of random variation, though it is quite unclear how such a mutation process in ideas would work).⁴⁴ This idea persists, Dawkins speculates, because of its “great psychological appeal”; it comforts us by suggesting there will be justice in the next life, and provides a “superficially plausible answer to deep and troubling questions about our existence.”⁴⁵ This theory even provides an explanation of why such practices as celibacy can persist in the population, despite its counter-adaptive nature. Dawkins insists that memetic evolution is wholly distinct from genetic evolution, and the two can even come into conflict, as in the case of celibacy. The power of memetic evolution is demonstrated in that it can override biological evolution and allow a maladaptive trait such as celibacy to succeed.⁴⁶

It is not surprising that Dawkins developed this theory in part to explain the attractions of his bitter enemy, religious faith. What is surprising however is that Dawkins applies the memetic theory even to science: “If the meme is a scientific idea, its spread will depend on how acceptable it is to the population of individual scientists.”⁴⁷ Now the reader will immediately recognize a problem here. The memetic theory can be interpreted in two very different ways (and its advocates have usually been less than clear about which way they favor). First, it could be a very modest theory about how *some* ideas and cultural practices persist for no rational reason (songs, junk food, urban legends, fashions), but leave the traditional theory in place for understanding how science and other legitimate ideas persist: that is, because humans when acting rationally pursue the truth. Second, it could be the far more radical theory that *all* of culture can be explained in terms of memetic evolution: science as much as religion as much as women’s shoes. In the latter case, we can dispense with the notions of truth or rationality altogether.

In his later work *The God Delusion*, Dawkins claims that he was never aiming for memetics to be a comprehensive theory of culture, but merely to point out that there are some non-genetic evolutionary processes that can explain some aspects of cultural change.⁴⁸ It is puzzling then why he described science as a process of memetic evolution in his earlier work, for if science, the paragon of truth-seeking, is a matter of memes pursuing their selfish advantage, then presumably the meme theory would cover

all of human culture. Dawkins seems to have come to realize the implications of his earlier error: If science and religion can both be explained as the product of memetic evolution, then there is no grounds by which to distinguish between them in terms of truth or falsity—an uncomfortable conclusion for a militant atheist such as Dawkins. Thus in *The God Delusion* he carefully limits his memetic analysis to religion alone, declaring it a “strong possibility that the detailed form of each religion has been largely shaped by unconscious evolution,” that of “memetic natural selection.”⁴⁹

This then is the crux of the issue: is memetics a comprehensive theory of all cultural change, a mechanistic, causal substitute for the teleological rational pursuit of truth? Or is memetics merely a partial theory, meant to explain only the non-rational aspects of culture? If it is the latter, its implications for cultural evolution are fairly minimal, for it leaves in place the basic idea that there is such a thing as progress in knowledge and that humans are rational, truth-seeking beings. That is, it must reject “universal Darwinism”; there are mechanistic, naturalistic Darwinian processes, but they are only one aspect of the world. There is also a teleological, rational aspect to reality and transcendent goals such as truth, which Darwin’s theory cannot explain but must presuppose. If the former radical view is the project of memetics, then Darwinism truly is a universal acid—but at a great cost. It means giving up the distinctions between rationality and irrationality, reason and superstition, causal versus rational explanations. If both evolution and creationism are the product of the same causal forces, then there is no rational basis for choosing between them (indeed, there is no such thing as rationality at all). All we can say is that the two theories are memes which are using us for their own selfish advantage, and all we can do is wait to see which one wins for it is the fitter idea (at least in America, creationism seems to be winning that race currently). This is precisely why very few naturalists have embraced radical memetics. As Jerry Coyne explains in his view of a book espousing the radical view, the idea of memes gets the chain of causation backwards: memes do not mold our biology and culture; rather, “our biology and culture determine which memes are created and spread.” We choose ideas and theories by exercising our powers as rational agents. Ideas do not choose us.⁵⁰

In fact, even the modest form of memetics has been widely rejected on multiple grounds, for there are serious problems with the meme/gene analogy. Culture, it has been widely recognized, does not divide up into discrete units the way genes do. How does one individuate memes? Take the play *Hamlet*: just what are the memes involved: the play as a whole? the

character Hamlet? the plot? certain memorable lines? There are in general no atomic units of culture; culture has important holistic properties, and there is no clear method for drawing boundaries between memes. Nor is there a clear sense in which memes replicate themselves, for ideas or rituals or fashions frequently change in the transmission from one person or one culture to another, and again there is no clear method of individuation of memes. Unlike genes, they lack fidelity in copying. Even worse, we are given no clear definition of what constitutes “fitness” for a meme, making it a purely tautological concept. To say an idea is fit is merely to say that it is prevalent in the population.

Nor is it clear that memetics adds anything to our explanations of the persistence of ideas or practices. Consider again Dawkins’ memetic explanation of the persistence of religion. Closer inspection will reveal it is not really a memetic explanation at all. To say that religion is psychologically attractive because it helps us answer difficult questions about existence or gives us the assurance of justice in the next life, is to say that religion is adopted by intelligent goal-seeking agents seeking truth and moral understanding. To be sure, on Dawkins’ view it is a mistaken and misguided quest for truth. But his explanation, right or wrong, can perfectly well be encompassed by a traditional conception of rational agency and its proneness to errors. A truly memetic theory would do away entirely with rationality, intelligence, and the quest for transcendent ideals as truth and justice. Memes choose us; we don’t choose them.

Most troubling of all about the memetic theory, given its lack of a clear methodology for identifying memes or for distinguishing between memes and genuine ideas, or of any clear principles by which memes succeed or fail, is the danger of the misuse of the theory. For it is all too tempting to take ideas or practices one dislikes and label them memes, while assuming that one’s own beliefs and practices are rationally chosen. This is particularly evident in Dawkins’ outright dismissal of religion as a product of meme evolution. Dawkins hedges his claim by saying there is a “strong possibility” that religion evolved this way—but how exactly does he know that the possibility is “strong”? What drives Dawkins seems to be his prior assumption that religion is a “delusion” and that therefore some non-rational explanation is needed for its popularity. But dismissing religion as merely the product of a causal, arational process is hardly conducive to a reasoned debate on these issues—as evidenced by the intemperate tone of his book *The God Delusion*. As such, the idea of memes actually obstructs a fruitful debate by discouraging inquiry into

the cultural or historical or reason-based explanations of religion or other cultural institutions.

In any case, for present purposes the important point is that the meme hypothesis, an attempt to provide a universal Darwinism applicable to both the physical and mental realm, has been almost universally rejected, and for good reasons. Only the most ardent Darwinists are willing to throw out reason, truth, and knowledge as obsolete, pre-scientific concepts, for to do so would be to destroy Darwinism, science, and reason itself—a truly universal acid.

THE PARADOX OF RATIONALISM

One of the predictably regular features of naturalist and Darwinist approaches to understanding human nature is the strangely conflicted and even contradictory approach to reason. On the one hand, naturalists are overwhelmingly card-carrying rationalists. For Dawkins, the human being is “liberated by calculation and reason,” and there may well be “no limits” to human understanding.⁵¹ Peter Atkins asserts a “militant rationalism,” holding that “everything (and I do mean everything) can be considered rationally.”⁵² E.O. Wilson calls for an “unrelenting application of reason.”⁵³ Stephen Hawking speculates on the possibility of the “ultimate triumph of human reason,” understanding why we and the universe exist—then he says “we would know the mind of God.”⁵⁴ For Jerry Coyne, science is the only form of rationality “capable of describing and understanding reality.”⁵⁵ For D.S. Wilson, what makes humans unique and special in the world is the “flexibility of our intelligence.”⁵⁶

One might then have thought that attempts at a scientific, evolutionary theory of human nature would emphasize above all this unique human faculty, our capacity for reason. In fact, just the opposite is true. The overwhelming pattern in Darwinian accounts of human beings is to ignore, downplay, or debunk human reason. Wilson’s *On Human Nature*, for example, contains chapters on aggression, sex, altruism, religion, and other topics—but no chapter on reason, which he offhandedly characterizes as “just one of [the mind’s] various techniques” for “survival and reproduction.”⁵⁷ Gazzaniga’s book *Human: The Science Behind What Makes Us Unique* also contains no chapter on reason, limiting its discussion of rationality to its role in moral thinking, and there largely to debunk its role. In his earlier book, *Nature’s Mind*, Gazzaniga tells us that the “quintessentially human property of mind—rational processes—can occasionally

override our more primitive beliefs,” and when that happens, “it represents our finest achievement.”⁵⁸ He does not, however, attempt to explain or define these rational processes, nor say how or when they can express themselves—let alone by what criteria they are our “finest achievement.”

When reason and rationality are explicitly discussed in naturalist books on human nature, it is almost always to discredit or deconstruct the supposed power of reason. Humans are portrayed as puppets, robots, in the grip of unconscious evolutionary instincts, governed by automatic processes. Dawkins famously declared in *The Selfish Gene* that humans are “survival machines—robot vehicles blindly programmed to preserve the selfish molecules known as genes.”⁵⁹ Psychologist Drew Westen claims to have “demonstrated with brain imaging” that reasoning is really a form of post hoc rationalization of preexisting “emotionally biased judgments.”⁶⁰ For Gazzaniga, “the brain is basically lazy. It will do the least amount of work it can. Because using intuitive modules is easy and fast and requires the least amount of work, that is the default mode of the brain.”⁶¹ Haidt attacks the “rationalist delusion,” the “idea that reasoning is our most noble attribute.”⁶² Wrangham and Peterson declare that, in both chimps and humans, emotion not reason is “the ultimate arbiter of action.”⁶³

Yet in each of these cases of debunking human rationality, the author apparently exempts himself, usually on the grounds that he is acting as a scientist and therefore is guided by reason, not emotion. It is almost as if there are two different species of humans, ordinary humans who are little better than animals, and scientists, capable of godlike flights of reason. Sometimes it is even suggested that scientists are a genetic elite; biologist Jonathan Singer claims that “rationalists,” those who have a “much higher proportion” of rationality, constitute less than 10% of the population, and this trait is “quite likely to be genetically determined.”⁶⁴ For Pascal Boyer, “scientific activity is both cognitively and socially very *unlikely*, which is why it has only been developed by a very small number of people.”⁶⁵ Alexander Rosenberg claims we are all “hard-wired humanists,” which is to say we are naturally irrational; “perhaps only a few of us” can learn to think scientifically.⁶⁶ Mark Ridley explains that “Rational science is a minority interest.”⁶⁷ For Lewis Wolpert, science and rational thinking is inherently “unnatural”; science is “different from any other kind of thinking,” for it is not “programmed in our brain” like other modes of thought.⁶⁸ Somehow science manages to transcend the evolutionary influences and allows a unique few to achieve genuine rational insight into the world.

But surely this dichotomy is false. Rationality did not suddenly appear in Western Europe in the seventeenth century, nor is it a faculty that is found only in those humans who call themselves scientists—even those in the humanities are capable of rationality! Humans no doubt succeeded far beyond all other primates because they had the ability to deliberate, plan ahead, and reflect critically on the world. There was no sudden moment in the early modern period when humans became suddenly liberated from the evolutionary forces that had heretofore determined our behavior. Indeed, many if not most of the great cultural achievements were already in place long before the Scientific Revolution: the control of fire, agriculture and domestication of animals, metallurgy, navigation of the seas, ceramics, and so on. Reason is not contrary to nature, but essential to human nature.

So why the Paradox of Rationalism: the widespread tendency to simultaneously celebrate the power of reason to understand the world, while denigrating the powers of the human mind? Some commentators have blamed this phenomenon, especially in social psychology, in part on the “man bites dog” phenomenon: It is noteworthy and attention-grabbing when humans are discovered to be irrational, contrary to our self-image.⁶⁹ But undoubtedly, the larger reason is the paradox inherent in the scientific project: For humans to be the objects of scientific understanding is to bring them under the paradigm of the objects of scientific inquiry: passive, deterministic, mechanistic objects, subject to prediction and control. Hence the frequent metaphors of humans as puppets or robots, and as driven by emotions rather than reasons. But of course this approach leaves out the scientist himself, the dispassionate observer using his awesome powers of rationality to understand the world as well as control it. Reason is a presupposition of the scientific method, not an object of study under science. So we end up with scientific studies of human beings that contrast the rational quasi-godlike inquirers doing the studying, with the irrational, mechanistic primate-like ordinary humans as the object of the study.

The reader will note that we have ended up at nothing less than a version of the traditional hybrid conception of the human being as a compound of both god and beast. The difference is that here the dichotomy is represented as two separate classes of human beings, the godlike scientists versus the animal-like ordinary humans. This is, in effect, a vindication of the traditional theory of human nature, albeit in a distorted form. For it assumes an unfortunate and unlikely dualism: the ordinary human is purely driven by passions and instincts, with reason in an entirely subservient role, while the scientist is a creature of pure reason with no apparent need for motivation other than the quest for truth. It is also an implausible

dichotomy in evolutionary terms. How could the former have ever survived and flourished without reason? And how could they ever have produced the scientist, who is apparently entirely governed by reason? The splitting of the human being into these two extremes is not a satisfactory solution to the problem of human nature. It requires, however, only a minor modification of this view to return us to the traditional account: Rather than say that humans are divided into two classes, animal and rational, we can say that each one of us is a combination of the rational and the animal nature. The scientist is merely one who has developed his rational side more fully, following the normative ideal of reason.

THE ROLE OF REASON IN HUMAN LIFE

The Darwinist and the traditionalist have two radically different conceptions of the role of reason. For the Darwinist or naturalist, reason is merely a tool for satisfying our basic physical needs; in Hume's (pre-Darwinist) version, reason is merely a slave to the passions. This idea is repeated in E.O. Wilson's idea that reason is merely a tool for achieving evolutionary ends, or Haidt's idea that reason evolved merely to achieve our own selfish goals. The traditionalist theory holds quite the reverse: being rational is a normative ideal, not merely a useful technique for getting ahead. The proper role of reason in human life is to guide and constrain the passions (though this does not mean bottling them up completely), and to direct the human toward ideal ends such as truth and morality. On this latter view, reason is what makes humans special and unique and allows the human to transcend the natural world.

The difference between the two positions comes down to whether reason has a normative import, whether it serves as an ideal capable of guiding us away from our natural impulses toward higher ends, or whether it is wholly subordinate to our given natural desires. It is thus far from clear how one could empirically evaluate the two competing views, since there is no experiment that could ascertain whether reason has normative value. The next best approach, however, is to ask which position better accounts for human nature. Note that this is not to ask whether, in general, humans are more guided by reason or by the passions. Even the traditionalist will readily admit that most people most of the time fail to make proper use of their reason. Rather, it is to ask whether sometimes, in some cases, people are capable of using reason to pursue truth or justice for their own sake, independent of any self-interested or evolutionary motivation. And, it would seem, the answer to this is obviously yes. Indeed, as we have seen, it is a surprising feature of

naturalism that its advocates, inconsistent with their own theories, wholly embrace reason as a normative ideal, independent of any selfish ends. Indeed, it is not even clear that naturalism could be a coherent position without the traditional account of reason, for it presupposes the very idea of truth as a goal that may rationally be sought after for its own sake.

NOTES

1. Dennett, *Darwin's Dangerous Idea*, 63.
2. Ibid.
3. Dennett, *Darwin's Dangerous Idea*, 82.
4. Darwin, Letter of July 3, 1881, cited in Plantinga, *Where the Conflict Really Lies*, 316.
5. Churchland, cited in Plantinga, *Where the Conflict Really Lies*, 315.
6. Pinker, *How the Mind Works*, 305, 525.
7. Miller, *The Mating Mind*, 420–21.
8. Ruse, *Taking Darwin Seriously*, 172.
9. Dawkins, *A Devil's Chaplain*, 53.
10. Coyne, *Why Evolution Is True*.
11. See, e.g. Dennett, *Science and Religion*, 35.
12. Cziko, *Without Miracles*, ix.
13. Miller, *The Mating Mind*, 424.
14. Ibid.
15. Pinker, *How the Mind Works*, 525.
16. Miller, *The Mating Mind*, 425.
17. Wright, *The Moral Animal*, 272–3.
18. Haidt, *The Righteous Mind*, xiv. Note however the use of “mostly” as a weasel word, which essentially undermines the claim, for if arguments are even sometimes legitimate uses of reason, then the thesis becomes simply banal, as shown below.
19. Westen, *The Political Brain*, xi.
20. Ibid., 351.
21. Haidt, *The Righteous Mind*, 45–6.
22. Ibid., 57; cf. 88.
23. Ledoux, *The Emotional Brain*, 71.
24. This conclusion is further supported by the vastly larger brain space devoted to cognitive processes; the cerebral cortex in humans constitutes 80% of the brain.
25. As Haidt himself recognizes; see, e.g. Haidt, *The Righteous Mind*, 89.
26. Ibid., 74.
27. Ibid., 85.
28. Cziko, *Without Miracles*, 324.

29. Ibid.
30. Ibid., x.
31. Ibid., 22–23.
32. Ibid., 139.
33. Ibid., 142.
34. Ibid., 313.
35. Ibid., 290.
36. Ibid., 304.
37. Ibid., 167.
38. Ibid., 291.
39. Ibid., 8.
40. Ibid., 176.
41. Ibid., e.g. 173.
42. Clark, *Understanding Faith*, 6.
43. Dawkins, *The Selfish Gene*, 200.
44. Ibid., 192.
45. Ibid., 193.
46. Ibid., 198.
47. Ibid., 194.
48. Dawkins, *The God Delusion*, 228.
49. Ibid., 233.
50. Dawkins, Review of Blackmore, 768.
51. Dawkins, *The God Delusion*, 419–20.
52. Atkins, *The Creation*, vii.
53. Wilson, *The Social Conquest of Earth*, 297.
54. Hawking, *A Brief History of Time*, 175.
55. Coyne, *Faith Versus Fact*, xii.
56. Wilson, *Evolution For Everyone*, 27.
57. Wilson, *On Human Nature*, 2.
58. Ibid., 137.
59. Dawkins, *The Selfish Gene*, v.
60. Westen, *The Political Brain*, 351.
61. Gazzaniga, *Human*, 128.
62. Haidt, *The Righteous Mind*, 88.
63. Peterson, *The Demonic Male*, 190.
64. Singer, *The Splendid Feast of Reason*, 4–6.
65. Boyer, *Religion Explained*, 322.
66. Rosenberg, *Atheist's Guide to Reality*, 306.
67. Quoted in Humphrey, *Leaps of Faith*, 52.
68. Wolpert, *Six Impossible Things*, 201–202.
69. Krueger and Funder, in Gottschall, *The Literary Animal*, 313.

Does Science Undermine Morality?

A widely influential argument in philosophical circles at present is that there is an evolutionary proof that refutes moral objectivism or moral realism. (I will use these terms interchangeably to refer to the doctrine that there are moral truths independent of us and that moral theory is the study of these truths.) The argument, often called the Redundancy Argument, goes like this: Since we have an evolutionary explanation of the origins of morality as a human practice and belief system, and since there is no reason to believe that an evolved morality would have any connection with objective moral truths, therefore there is no good reason to believe in moral objectivism. On the evolutionary theory, morality evolved because it had an adaptive purpose, not because evolution “tracks” moral truth. Contrast is the case of science, understood in the broad sense as our seeking truths about the world. Since the adaptive value of science consists precisely in its reliably mirroring objective features of reality, then we can reasonably assume that science evolved as a means of helping us get in touch with objective reality. There is no such reason to believe in objective moral truth; even if such a thing existed, it would play no role in the evolution of morality. Evolution cares only about adaptive success, not conformity to moral truth. There is therefore no good reason to believe in moral objectivism, and the far simpler hypothesis is that there are no moral truths, there are only the moral principles implanted in us by evolution.¹

Much of the response to this argument has been to question the inference that the evolutionary origin of morality would entail moral subjectivism or

anti-realism. However, I think the more plausible response to the argument is to question the fundamental premise, that evolution has provided or can provide an explanation of the origin of morality. For if we can show that this premise is false, we can turn the argument on its head: the failure of an evolutionary account of morality provides strong reasons in support of moral objectivism. And indeed I think the evidence is overwhelming that there is not and probably cannot ever be a convincing evolutionary argument for the origins of ethics.² It would of course be rash to make any confident predictions about future developments in evolutionary ethics. However, based on a survey of the wide spectrum of past and current evolutionary ethics, I will argue that at least at present there is good reason to believe that evolution cannot even in principle explain ethics.

Before we begin, let us note the problematic ambiguity in the term morality. Morality is a vast and amorphous field; there is no single entity that can clearly be referred to as morality. The moral beliefs of a Pentecostalist are very different from those of an academic moral philosopher; the beliefs of a libertarian are different than those of a socialist; and those of a member of the Taliban from those of a Massachusetts liberal. Even among professional moral philosophers, there are tremendous differences, for example, between deontologists, utilitarians, and virtue theorists. Further, morality includes a very wide variety of different elements: there are moral beliefs, moral principles, moral practices, customary morality, morality as it is instituted in the legal system, moral theories, moral codes, and so on. And perhaps most problematic is the vast changes that have occurred over time in moral beliefs and practices. The “Axial Age,” for example, of the sixth century BCE appears to have witnessed a revolution in ethics, with the rise of moral universalism as represented by the Golden Rule across much of the world. The Enlightenment saw the development of secular moral theories replacing the religious foundation of ethics. The nineteenth century saw a revolutionary advance in ethics through the remarkably rapid shift in moral sentiments regarding slavery. Even in our own time, moral principles are seeing rapid change, notably in the area of animal rights and gay rights.

These changes are far too quick to be accounted for by genetic evolution; they are examples of the (Lamarckian) process of cultural evolution. What this means is that there are intrinsic limits on an evolutionary explanation of ethics. What does it mean then to say that evolution explains the origin of ethics? Defenders of the argument are not very clear on this

point. We are told often that evolution can explain the “precursors,” or “foundations,” or “elements” of ethics, or “proto-morality,” which then somehow developed into ethics as we have it today.³ But the evolutionary hypothesis then risks becoming too vague to be falsifiable, and moreover no longer very interesting. No moral objectivist could reasonably reject the idea that evolution provides some of the “precursors” of ethics; even for the objectivist, morality did not suddenly appear one day. Moreover, since evolution produced “precursors” of immorality and cruelty as well, it is unclear just what the point is supposed to be, since the very issue is why people chose the precursors of morality rather than of immorality as their normative standard. The moral objectivist does not (or at least need not) claim that ethics suddenly appeared to us one day from the heavens and transformed us from amoral animals into moral beings. The existence of substantial evolutionary precursors making us capable of recognizing and adopting objective ethics is no threat to the moral objectivist position. Moreover, the caricature of evolution as nasty, violent, and cruel is long outdated; there are plenty of evolutionary reasons for kindness and benevolence, for example, in a parent toward its offspring. So in order for the Redundancy Argument to work, it will have to be far stronger: it will have to show that modern, contemporary ethics as we have it—and not merely some vaguely defined precursors of ethics—can be given an evolutionary explanation. And this is just what I claim it cannot do. Let us turn to a basic summary of the elements of modern ethics that need to be explained.

THE BASIC PRINCIPLES OF MORAL OBJECTIVISM

Given the massive disagreement among moral philosophers, it is perilous to try to state the fundamental principles of all morality. Nonetheless, I think that we can identify a set of mainstream principles that are widely accepted by moral objectivists in academia as well as followed implicitly by the average person. Even if they are not universal, the fact that they are widely accepted will still need explanation by an evolutionary ethics. In each case, I leave out the innumerable complexities involved, though I think even in this simplified form we have a reasonably uncontroversial account of morality. So let us set out at a very abstract level six basic commitments of moral objectivism:

1. The Impartiality Principle

The most fundamental substantive principle of ethics, indeed arguably the very foundation of ethics, is the principle of impartiality. This principle instructs us to treat all people the same, to give equal consideration to all, and to treat all similarly situated people the same. It is directed most importantly against the natural tendency to self-preference, to favor oneself over others, though it is also directed against any sort of favoritism (one's family, one's race, one's compatriots, etc.). It is a matter of debate just how far the impartiality principle applies; many ethicists think that morality gives significant room for some form of self-preference, so long as it is balanced against some amount of impartiality.⁴ But virtually all ethical theories accept the essential role of impartiality in ethics, as what draws us out of narrow self-interest and makes us ethical. Indeed, in most ethical systems the very highest ideal of all is that of absolute self-negation, or sacrifice of one's self for the good of others. While this ideal is held to be supererogatory, nonetheless its very existence as an ideal gives a good idea of the crucial importance to morality of recognizing the claims of others as at least as valid as those of oneself, if not more so. Indeed, to accuse someone of being selfish is basically equivalent to calling them immoral.

2. Moral Objectivity

It may seem odd to include moral objectivity in the list of things that an evolutionary account must explain, since that is the very point at issue. But even if moral objectivity is not true, then the account must explain why we believe in moral objectivity and act as if it were true. Again, by moral objectivity I mean simply that there are moral truths.⁵ To say that morality is objective is to say that it exists independent of our preferences and desires. Contrast this with taste: I may love blueberries, but I do not claim that blueberries are objectively delicious. In contrast, not only do I not like the idea of torturing people, but I think it is objectively wrong. Morality is binding on others regardless of their preferences, unlike a taste for blueberries.

3. Normativity

Ethical truths have the property that, not only are they true, but also they are obligatory, binding on us. If torture is wrong, then to be moral we must not engage in it or even permit it to happen.

Again, this distinguishes morality from mere preferences or tastes, which do not have any normative force (apart from a moral theory that gives them normative force). Note that we do not ordinarily view even the principle of self-interest as having any normative force; we do not see self-interest as giving rise to an obligation, rather than merely a permission to favor oneself.

4. Overridingness

Not only are moral truths normative, but they also have a peculiar further property: they exist at the highest level of normativity, overriding all other normative principles. For example, there is a basic obligation of a parent to do what is necessary to protect their children from harm and make them happy. However, this obligation ceases when such actions become immoral. It is in general not permissible to steal, cheat, or kill in order to provide your children with the things they need. Again, there are disputes about just how overriding morality is, but nonetheless the basic presupposition is widely accepted that moral principles trump other obligations.

5. Categoriality or Non-instrumentality

Morality is not a means to some further good; it is a final end. One is meant to be moral not for some further benefit, but for its own sake. It is true that many people believe that being moral is a way to gain a reward in heaven, but in religion the idea of heavenly reward is not meant to be the motive for being moral, or else one would not be moral at all. Given the overridingness condition described above, this means that morality is not only an end in itself; it is the ultimate end, the final purpose and goal of existence (though this does not mean the exclusive purpose or goal, only the overriding one).

6. Rationality

Morality is the subject of reasoned debate; we can and do argue about what morality requires, and one is expected to abide by what reason determines is the right thing to do. This is to say that morality is not merely a set of arbitrary commands or fixed preferences or desires; there is a rational basis for morality which it is in our grasp to understand, and a coherence to morality overall. Much if not most of the moral progress over the centuries is the result of reasoning about the impartiality principle and what it requires.

WHY EVOLUTION CANNOT EXPLAIN ANY OF THESE PRINCIPLES

It seems plausible to hold that, at least *prima facie*, evolution cannot explain a single one of these six principles, and indeed would have predicted just the opposite of each of them. Let us consider them briefly, in reverse order. First, if objectivism is false (as the evolutionary theory claims), then it seems exceedingly odd that ethics should be subject to rational debate. If there is no ethical truth, then just what are we debating about? Why should reason be able to discover any principles of ethics, and why should we expect that morality makes coherent sense? To be sure, there is some small level of debate even over matters of pure taste (I have personally had arguments over whether blueberries or blackberries are more delicious). But such debates do not produce vast philosophical treatises, competing theories and schools, Supreme Court arguments and opinions, or the perception that there is progress made in ethics based on reason.

The idea of non-instrumentality makes even less sense from an evolutionary standpoint (again, we are talking about the *prima facie* case here; we will discuss below some attempts to explain our belief in non-instrumentality). If ethics is an evolutionary adaptation, then it is by its nature instrumental, a means to successful reproduction. Indeed, the very point of an evolutionary explanation is to make sense of what ethics is for, what aim it must serve. But we view ethics as an end in itself, not a means to other goals.

Overridingness is equally puzzling, especially when one considers the extremes to which it goes. We gave above the example of the parent taking care of the child—but from an evolutionary standpoint, ought one not to do whatever it takes to ensure the survival of one's offspring, even if it means killing other people to steal their property? In evolution, there is only one ultimate value: passing on as many of one's genes as possible, by any means necessary.

Normativity has gotten perhaps the most attention as an evolutionary puzzle, in the form of the famous is/ought problem. How does one go from an evolutionary fact to a moral ought? Philosophers such as John Mackie have argued against moral objectivity simply on the grounds of the “queerness” of the idea of normative principles, which are so vastly different from the world of facts in which science deals. Again we might

contrast tastes, desires, or impulses with moral norms. Evolution motivates us to reproduce through a powerful sexual urge, but not through a sense of normative obligation. So why is morality unique in this respect, in that not only is it not motivated by desire, but moral norms are explicitly of a different and higher order than mere desire? Moral obligations bind despite one's desires, not because of them.

Objectivity is, by hypothesis, false on the evolutionary theory, so the theory not only cannot account for objectivity, but outright denies it. Even so, it needs to explain why the belief in moral objectivity is all but universal (even despite the fashionable modern relativism). This belief is, to say the least, quite puzzling, if there are no moral truths.

Impartiality, or the principle of treating all persons equally, is perhaps the most puzzling feature of all from an evolutionary perspective. While evolution is not necessarily "red in tooth and claw," what is true is that the evolutionary process is by its nature essentially selfish, in a very precise sense. As Richard Dawkins explains, "The units that survive in the world will be the ones that succeeded in surviving at the expense of their rivals at their own level in the hierarchy. That precisely, is what selfish means in this context."⁶ That is, evolution proceeds by the principle of differential survival; for evolution to occur, some organisms must survive at the expense of others, so that they can leave more offspring than others. If there is no differential success, then there can be no evolution. Whatever the unit of selection (gene, organism, group, species), evolution depends on some succeeding while others fail. There must always be a self versus an other; the idea of equal consideration of all beings makes no evolutionary sense. If ethics is an adaptation, it must have its origin in the fact that those who practiced it were more successful than those who did not. In this sense, there is primal contradiction between evolution and ethics; the one built on a principle of selfishness, the other on a principle of altruism. It is just for this reason that altruism is often described as a "scandal" or a "riddle" or "enigma" for evolutionary biology: something that should not in principle exist as it would seem "maladaptive."⁷

So the prospects for an evolutionary ethics seem dim indeed, for it can explain none of the six basic principles of morality. Why then are the purveyors of the Redundancy Argument convinced that an evolutionary account of the origins of ethics is within our grasp, if not already established? Let us look at some of the ingenious efforts to explain how evolution could have produced ethics.

THEORIES OF EVOLUTIONARY ETHICS

Here we briefly consider the leading hypothetical accounts of how ethics might have evolved, focusing solely on the difficulty explaining the first principle, impartiality. It is worth keeping in mind that these are merely speculations; no one knows even approximately just when morality originated in human prehistory, or what it looked like at first, or how it developed. Moral intentions and behaviors do not leave fossil traces behind, and so such theories are largely armchair exercises. Nonetheless, we consider here whether any of these speculations, even if true, could have been responsible for producing the principle of impartiality, even apart from the other five principles of morality.

1. Kin Selection

It is, in general, in the organism's interest to provide aid and support to relatives, especially close relatives, for the reason that in doing so one is providing support to some of one's own genes. In the case of parents, the offspring shares half the genes; similarly, siblings on average share half their genes. It is not surprising, on an evolutionary view, that people strongly tend to favor close relatives over distant relatives or strangers, and mother's love has become emblematic of selfless devotion. However, it is hard to see how kin selection could get one anywhere close to the principles of ethics; most obviously, it is directly at odds with the impartiality principle, which holds that one may not in general treat strangers with less kindness than one's kin.⁸

2. Reciprocal Altruism

The idea of "reciprocal altruism" is that there is good reason to be kind even to those who share no genes with you, so long as you can expect that person to reciprocate later. It is thus a potentially broader concept than kin selection. At the same time, it is a narrower one in that, whereas kin selection is closer to morality in the sense that it involves giving without expectation of return, reciprocal altruism is a highly self-interested, calculated form of beneficence. Helping others is only called for when one can expect a return sometime in the future. As such it is woefully inadequate to ground true morality. Moreover, it entails that there is no duty of beneficence to the weak, vulnerable, disabled, helpless, or anyone who is unlikely to be able to reciprocate in the future—precisely the opposite of true morality.

3. Indirect Reciprocity

On this theory, moral behavior is not grounded in an expectation of direct reciprocity from the person being helped, but rather in the benefits of having a general good reputation in the community. Thus giving aid to the helpless without expectation of reward might be a good policy, so long as other people notice one's benevolence. Thus morality is likely to be a good investment for the future.

There is a great danger of circularity in this account: Why should being generous to those who can't return the favor raise rather than lower one's reputation? Why should one be seen as a worthy person rather than a fool and a sucker? Why should giving away one's time and resources to useless people be seen as a sign of status, rather than recklessness?

In any case, this account suffers from the same problems as previous ones: it is an account not of morality but of self-interested behavior. It cannot explain why morality is normative or overriding. And it cannot explain acts of charity done in private or anonymously, or those done while one is traveling in a foreign land, or when one is indifferent to one's reputation.

4. Group Selection

A small but dogged group has argued that only group selection can explain genuine moral behavior, for it is the only way to explain acts of generosity done without expectation of reward, and without regard to whether the beneficiary is a relation. E.O. Wilson has even argued that individual selection can only explain selfish behavior, and that group selection is needed to explain morality.⁹ The overwhelming majority of biologists reject the very idea of group selection, on the grounds that it is vulnerable to invasion by free riders who act selfishly. We need not enter into this controversy however, for group selection is also unable to make sense of genuine morality. While it is an improvement on previous theories in that it allows for uncalculated, un-self-interested contributions to non-kin members of your group, the problem is that one's duties end with one's group. Recall the principle of selfishness discussed above: For group selection to work, some groups must fail in order for others to succeed. Group selection is unable to ground a genuinely universal morality (not to mention moral duties to members of other species, such as animals); indeed it would seem to positively promote hostility or indifference to those of other groups.

5. Sexual Selection

Some argue that morality could be a product of sexual selection, perhaps a form of “runaway” selection in which a genuinely useful trait such as kindness comes to be wildly exaggerated based on a runaway process of female choice, so that morality is in effect like the peacock’s tail. While this theory is entirely speculative, it could arguably explain why morality could become universalized. However, the theory is highly problematic. For one thing, it is unclear whether this counts as an explanation at all, since it holds that the original source of morality is fundamentally irrational and arbitrary—a sheer female whim. Moreover, if (like most sexual selection theories) it is based on the idea of female choice of male traits, then it could explain why males are moral, but it leaves it as an open problem why females would be. For another thing, it would have females acting strongly against their own reproductive interests, for this theory posits that universal morality is not adaptive. Surely a female is better off choosing a mate who is highly partial toward her and her offspring, not impartial as between all beings.

6. The Handicap Principle

The Handicap Principle, developed by Zahavi, suggests that many human and animal traits may be maladaptive but useful in that they display the strength and vigor of the organism by its ability to willingly take on burdens. On this view, the peacock’s tail is not the result of an arbitrary or runaway female preference, but rather a clear and perspicuous way for the male peacock to demonstrate how strong he is, in his ability to carry around the enormous handicap of a large tail. Zahavi speculates that human morality could have evolved as just such a handicap, demonstrating how strong and self-confident a person is by his willingness to help everyone without discrimination. Notice that this theory can make better sense of the “reputation” theory of morality (#3 above), explaining why morality would give one a good reputation; it would also provide a more plausible version of the sexual selection account, one which makes female choice not arbitrary and capricious but quite rational.

However, to the extent this theory is combined with a sexual selection theory, it still leaves a puzzle why females would have any morality. Further, why wouldn’t it have been in the interest of females to demand first and foremost moral equality of women (why didn’t women begin to

achieve equal rights until within the last 100 years)? And why wouldn't men cease being moral once they have mated or have become too old to mate, when they can conserve substantial resources by doing so? There is also something troublingly arbitrary about the theory; it fails to explain why would morality be adopted, of the innumerable possible kinds of handicaps. Is that really the best way to demonstrate one's vigor (why not self-mutilation, or developing fighting prowess instead)? Morality seems a particularly problematic way to demonstrate one's strength, given that much of morality is in fact beneficial to oneself, by creating alliances or helping friends and relatives. Indeed, the evidence suggests that a truly universal morality is a very late development, and that early morality would have been very much in-group. One worries also about the unfalsifiability of the Handicap Theory: to the extent morality is adaptive, it can be explained as a direct evolutionary benefit; to the extent it is maladaptive, it can be explained as an indirect evolutionary benefit, so there is nothing that cannot be explained by the theory, no matter what form morality takes. Further,

The Handicap Principle cannot explain why morality is the overriding and central set of values. If morality is merely a way of showing off, why should we treat it as the pinnacle of human excellence? Why do we teach it to our children, and take great pride in making them moral beings, as what distinguishes us from animals?

Finally, it is worth noting the strange conclusion that Zahavi draws from this theory. We may believe that altruism is the highest form of goodness, but for Zahavi, just the opposite is the case. Altruism is a form of aggression, an expression of dominance over someone else, even an implicit threat. Helping others is a form of bullying—who would have thought that the Good Samaritan helping a wounded person was an exemplar of aggressive, hostile behavior!¹⁰

CAN EVOLUTION EXPLAIN IMPARTIAL MORALITY?

For the Handicap Theory, morality cannot be understood to be a direct adaptation. It takes morality to be counter-adaptive, as a way of showing off the ability of the person to act against his own interests. The theory ingeniously purports to show how, paradoxically, morality can be adaptive precisely in virtue of being maladaptive. But in doing so, it contradicts the assumption of most other evolutionary theories of ethics, that ethics must be directly adaptive in some way. This hardly inspires confidence in the claim

that we can have an evolutionary explanation of the origins of morality, for it is not even clear among Darwinists whether morality should be seen as an adaptation, a maladaptive byproduct, or an adaptation precisely in virtue of being maladaptive (i.e. the Handicap Principle). In fact, a significant number of biologists and psychologists have concluded that evolution *cannot* explain ethics, and that it is up to us to create a genuine impartial morality. Thus Dawkins in *The Selfish Gene* says, “We have the power to defy the selfish genes of our birth.... We can even discuss ways of deliberately cultivating and nurturing pure, disinterested altruism—something that has no place in nature, something that has never existed before in the whole history of the world.”¹¹ Stephen Jay Gould writes that the “empirical anthropology of morals led most societies to a set of precepts with evolutionary origins that may once have made sense in terms of Darwinian survival—whereas most people have subsequently decided that better morality would lead us too precisely opposite behaviors.”¹² Marc Hauser in *Moral Minds* suggests that evolution implants in us a natural “in-group bias that must be overcome if we are to advance an impartial moral theory.”¹³ Psychologist Joshua Greene admits that there is “no biological advantage—and I emphasize *biological*—to being universally empathetic,” and that to the extent we have this trait, it must have come from cultural evolution.¹⁴

If this position is correct, it undermines the fundamental premise of the Redundancy Argument that morality can be explained as a product of evolution, and thereby destroys the argument against moral objectivity. Even as to those who claim there is an evolutionary explanation of morality, the vastly different and conflicting explanations, as well as their speculative, armchair nature, hardly provides confidence in the premise. So far we have discussed only the great difficulty in explaining the impartiality principle, so let us briefly turn to the other five principles of morality to see how deep the problem goes.

THE PROBLEM OF MORAL NORMATIVITY AND RATIONALITY

It turns out to be equally difficult to explain the other elements of morality. Why is morality taken to be objective, normative, overriding, non-instrumental, and rational? A genuine evolutionary theory of morality, it seems fair to say, could not have predicted in advance that morality would have any of these properties. Why should we mistakenly take morality to be an objective feature of reality? Why should it be obligatory on us, as opposed to a merely emotional desire (compare with the sexual impulse,

which has no normative force)? Why should it have ultimate authority over our actions, even those involving survival and reproduction? Why should it be seen as an end in itself, not merely a means to success? And why should it be viewed as a matter of reason, to be debated and discussed? Even more oddly, why should evolution lead us to debate about morality while simultaneously hiding the true goal of morality (reproductive success) from us and making us think that morality is its own end? Surely this would seem to be a malicious trick of nature!

It is important to emphasize how all five of these properties are not disconnected but intrinsically related as part of a coherent system (and related to the impartiality principle as well). It is because it is non-instrumental that morality has overriding normative authority; if it were a means to a further end, it would have only contingent value. It is because it is objective that we may treat it as a rational system. It is because it is not reducible to subjective desire that has normative force. Indeed, morality has all the marks of being a transcendental value, and closely parallels truth in this respect. Truth is, for us, a normative goal, a value that exists for its own sake (though it is of instrumental value as well), an overriding value (that overrides all other values except morality), and one subject to reason. In addition, truth (like morality) is closely connected with impartiality, with the stance of the disinterested spectator. All of this is to say that morality has all of the properties that one would expect if it were an objective transcendental value, and none of the properties one would expect if it were merely an evolutionary adaptation.

Charles Darwin was the first to speculate on how evolution might have created the normative aspect of morality. In *The Descent of Man*, he suggested that the moral ought might be simply a “persistent instinct.”¹⁵ It is not clear what Darwin means by persistent—most people don’t have morality in their thoughts continually (note also that he did not say it was a particularly strong instinct, only a persistent one). Why should mere persistence give rise to belief in normative force or objectivity or overridingness? The sexual instinct (especially in young men) would seem to be far more persistent, yet it does not give rise to sexual objectivism or normativity. Even the instinct of self-preservation does not have normative force, *except* when morality makes self-preservation a duty. Moreover, it is clear that morality does not appear phenomenologically as a mere instinct: it is presented to consciousness as an obligation from outside. Morality is perceived as binding on us over and against our instincts and impulses; it is radically different in kind from instincts. And if it were an instinct, why would we treat it as a product of reason, and the source of rational debate?

How then do contemporary evolutionary theories of morality attempt to explain the five properties (objectivity, normativity, overridingness, categoriality, and rationality)? The answer is that these theories explain them as mistakes, cognitive illusions implanted in us by evolution: “morality is a collective illusion foisted upon us by our genes” otherwise it wouldn’t work.¹⁶ “Our core morality isn’t true, right, correct,” writes Rosenberg; “Nature just seduced us into thinking it’s right. It did that because that made core morality work better; our believing in its truth increases our individual genetic fitness.”¹⁷ Nature, on this theory, implanted in us not merely moral impulses, but an extra strong safeguard: an entire range of cognitive commitments to morality, including the belief that it has normative, overriding, non-instrumental force, and objective existence.

Why would it need such a complex system to make us be moral? Two reasons have been suggested. First, it serves as a commitment device: a way of (unconsciously) signaling our reliability as someone who can be trusted as an ally or business partner or romantic partner. The best way to convince others reliably, it is argued, is to convince oneself, that is, to experience such emotions as guilt and shame when one acts wrongly. Second, morality serves as a way to evade the paradox of self-interest, the fact that “in many situations the conscious pursuit of self-interest is incompatible with its attainment.”¹⁸ We need to commit ourselves reliably, else we will be tempted to pursuit short-term selfish gains at the cost of long-term greater success. Thus evolution has “fooled” us into believing either that there is a supreme deity who sees everything we do and punishes us for acting wrongly, or (for those who are secular) that morality is objectively binding on us as an ultimate, absolute value.

There are however significant reasons to be skeptical of this speculative account. First, proponents of the commitment theory typically claim that natural selection must work through emotion rather than reason in making us moral: “the commitment model suggests that the moving force behind moral behavior lies not in rational analysis but in the emotions,” writes Robert Frank.¹⁹ But recall that the very problem at issue is why morality seems to be a matter of reason and *not* mere emotion. To be sure, guilt has emotional elements, but it is a response to breaking of what people take as a normative rule, not merely failing to satisfy an emotional need. To say that morality is normative is to say that it binds us regardless of our mere feelings, impulses, or emotions. So the commitment theory gives us the wrong account of morality. A related problem is that the commitment theory must take morality to be unconscious and automatic, not

deliberative and reflective. Thus Kitcher explains that, due to the paradox of self-interest, a “blind disposition to empathize with others” would likely be preferable to a rational process of calculating benefits.²⁰ But again, this seems to misdescribe morality, which is by no means an automatic process, but is characterized by vacillation, debate, uncertainty, as well as frequent cheating.

A related issue is that the Commitment Theory seems to make a specific prediction: that morality as a whole will be an incoherent collection of unrelated values. Thus Geoffrey Miller argues that, if ethics evolved as a costly signaling adaptation, then there is no reason to expect that our ethics will be “consistent and coherent,” or that they will satisfy “procedural norms of rationality” such as consistency and completeness.²¹ Now of course some moral philosophers have argued that morality is fundamentally incoherent (notably Alasdair MacIntyre, though in his case, for cultural and historical, not biological reasons). But to the contrary, the guiding premise of morality throughout the centuries is that it is a coherent system, unified by the basic principle of impartiality, or the Golden Rule. Were it otherwise, it is hard to know how moral debate could go on; defenders of slavery could, for example, claim it is a “peculiar institution” not subject to ordinary moral rules. Had their view won the day, history and morality would have been very different.

A further problem is explaining the radical shifts in the foundations of ethics over time. The earliest moral beliefs seem to have assumed the Divine Command theory, grounding the normative authority of ethics on the will of the gods. However, by 2500 years ago Plato provided a devastating rational critique of the Divine Command theory. And yet in rejecting this theory, he by no means concluded that ethics was not binding on us. Rather, Plato substituted a rational and objectivist theory of ethics. This is a problem for any claim that morality is implanted in us in a way impervious to reason. It seems highly unlikely that evolution originally implanted in us a tendency to believe that the basis of ethics was the will of the gods, yet somehow when that theory was rejected, there was a seamless transition to a secular objectivism that served exactly the same function. If rational critique is able to reject the Divine Command theory, why wouldn't it be able to see through the secular moral objectivist theory just as easily? Did nature have a backup plan just in case the Divine Command theory failed?

Finally, there is a serious worry about the unverifiability of such notions as unconscious impulses to believe in objective ethics, and indeed the

uncharitable assumption that those who disagree with you are not behaving rationally but are in the grip of unconscious forces. Thus Lemos gives the example of Michael Ruse, who holds that the vigorous and widespread opposition to his arguments only demonstrates its truth, as it is just what one would predict.²² This strategy is of course reminiscent of Freud's use of idea of unconscious resistance to his theories to explain why he had so many critics; indeed, the stronger one's objection to Freud, the more it demonstrated one was in the grip of these unconscious impulses! A theory that it is impossible to argue against should be treated with extreme skepticism.²³

Perhaps the most telling problem for those who hold that moral objectivism is mere illusion is the fact that very few advocates of this account seem to be able to bring themselves to accept the logical implications of the discovery, that is, that we should liberate ourselves from this illusion and treat morality as merely an option with no binding normative force. On the Darwinian view, as D.S. Wilson explains, good and evil are merely "alternative strategies" for genetic success.²⁴ One might have thought that Darwinians would accept the implications of this conclusion, and call for us to abandon our illusions and recognize that morality is merely a self-interested strategy. Instead, what we see is a regular pattern of Darwinians arguing that morality is mere illusion while also claiming that such a discovery should not make any difference in our moral behavior. Thus Dawkins tells us that morality is a "Darwinian mistake," but that this should not be taken in any way as "demeaning or reductive of the noble emotions of compassion and generosity."²⁵ Michael Ruse declares that morality is merely an "illusion," but insists that we should retain morality nonetheless on the grounds that "breaking" with our moral sentiments "would cause great internal tensions."²⁶ Richard Joyce debunks moral objectivism, but claims this should have minimal practical implications, on the grounds that we have many reasons for prosocial behavior.²⁷ But this is unconvincing. Given that these reasons can no longer be moral reasons, they must then be strategic, self-interested reasons, and it is rather difficult to believe that eliminating moral reasons and relying on self-interest would make no practical difference. Indeed, if that were so, why would morality ever have evolved in the first place?

Rosenberg suggests a possible cynical explanation for this odd inconsistency. Moral nihilism, which Rosenberg claims is the logical consequence of Darwinism, is a "public relations nightmare" for naturalists.²⁸ Atheists, Darwinists, and naturalists have long been accused of promoting an amoral

worldview, and of endorsing a philosophy in which anything goes. Hence if naturalists were to trumpet the fact that morality is an illusion, the cause of naturalism might not thrive, and there is a strong incentive to insist that we can and should continue being just as moral as we always were. So perhaps the Darwinian endorsement of morality is consistent with their theory after all: it is a cynical, self-interested strategy to pursue their own ends. Rosenberg himself insists, implausibly, that his moral nihilism will make no difference: “adopting nihilism...is not going to have any impact on anyone’s conduct”²⁹ on the grounds that nature made us “nice” and we simply cannot help being that way.³⁰ What about the moral monsters out there like Hitler, who are also a product of evolution? No matter: “protecting ourselves against them is made inevitable by the very same evolutionary forces that make niceness unavoidable for most of us.”³¹ In other words, Rosenberg insists on an extreme and implausible moral determinism in order to assure us that his theory makes no practical difference; bad people cannot help being bad, and good people cannot help being good. For most of us, however, this is not a recognizable world; in reality, everyone has elements of good and bad in them and we all must struggle to become good. It is simply astonishing to claim, without any concrete evidence, that taking away the very reason to choose good over evil would make no moral difference, even on a single person.³²

ASSESSING THE REDUNDANCY ARGUMENT

The Redundancy Argument entails that all six of the defining principles of morality are simply mistaken, indeed the opposite of the truth. That is, morality itself is an illusion. The entire premise of the field of moral philosophy, that it is a discipline based on reason, must be abandoned, as well as any related use of moral arguments, for instance in judicial opinions. It seems fair to insist on a very high standard of proof for such an extraordinary claim, that we have been living under an illusion for thousands of years, and on something so central and fundamental to human existence, and that Darwin has finally revealed the truth. Michael Huemer has reasonably argued for the Principle of Phenomenal Conservatism, that we should preserve the appearances unless there is strong evidence otherwise.³³ This principle applies with special force when it involves a set of beliefs that form the very foundation of society (in contrast with the Copernican exposure that the sun’s movement is an illusion; apart from a brief initial adjustment, this is not a change that effects any vast difference

in peoples' lives).³⁴ Phillip Kitcher has argued that the burden of proof should be even higher when something so consequential as morality is at stake.³⁵ But what evidence has been presented in favor of such a revolution? Not much more than half a dozen speculative and mutually inconsistent theories of how morality might have evolved. One suspects that the assumption that morality is an adaptation is based more on *a priori* naturalist and Darwinian dogma than on concrete evidence.

In contrast, consider how well moral objectivism, that is, the traditional theory, explains the institution of morality. It is able to explain our belief in all six of the central principles of ethics. It explains the phenomena of moral debate and moral progress, the experience of moral crisis and weakness of the will, the fact that we teach classes in moral philosophy and teach our children moral principles. It explains why we take morality to be the most fundamental of our values, and yet why we are regularly tempted to cheat. Nor is it the least bit inconsistent with belief in evolution. For there is a perfectly good alternative explanation of the origin of morality that is consistent with evolution but does not derive morality directly from natural selection. Morality may be merely a side effect of our large brain and our capacity for rationality, which enables us to grasp moral truths not accessible to other animals and align our behavior with those truths. On this view, evolution produced the precursors to morality, but it required reason acting on these precursors to create a genuine morality. This theory explains neatly the specific path of moral progress, from a narrow definition of us versus them to the "expanding circle," as Peter Singer has called it, as we gradually develop morality in the direction of universality and true impartiality. It also explains how moral progress can occur so quickly, a sign of cultural rather than genetic evolution. And while belief in objective moral truths may be troubling to those of a materialist bent, this belief is not any more problematic than believing in objective mathematical truths, as even many naturalists do. In short, the evidence overwhelmingly supports the moral objectivist theory and refutes the Redundancy Argument.

We might conclude with something even stronger: given how well moral objectivism explains moral beliefs and practices, given also how weak are the objections to moral objectivism, and given finally the remarkable inability of evolutionary theories to provide a convincing explanation of even a single one of the basic principles of ethics, it seems not too rash to suggest that it is highly unlikely we will ever have a plausible evolutionary theory of ethics. Indeed, given the failure of evolutionary theory to explain any of the central principles of morality, it is

not even clear what it means to say that these are theories of morality, as opposed to theories of something else. None of this is of course to deny the legitimacy of providing evolutionary explanations of the *precursors* of ethics, whether in early humans or even in animals. There is no doubt that, in some sense, morality is a product of evolution—as is science, mathematics, and every other human discipline (including evolutionary psychology). Study of these precursors might even help us understand the source of some of our moral convictions, especially those at the border of morality such as incest prohibitions. But even if we had a good account of the precursors of morality, there is little reason to think that such an account would be any more relevant to the field of ethics than the existence of precursors to modern science would be relevant to the study of science. Despite all the sensationalistic claims and wildly premature conclusions, it appears that moral objectivism has little to fear from an evolutionary analysis.

NOTES

1. The argument seems to have been first made by Michael Ruse, *Taking Darwin Seriously*. Versions of the argument can be found in Sommers & Rosenberg, “Darwin’s Nihilistic Idea,” Joyce, *The Evolution of Morality*, and Street, “A Darwinist Dilemma.”
2. For a good historical overview of the repeated errors in evolutionary theories of ethics, see Farber, *Temptations of Evolutionary Ethics*.
3. Consider the variety of metaphors used by Churchland in her *Braintrust* to explain the relation between proto-morality and ethics: root, flower, platform, tether, underpinnings, scaffolding, ground floor, germ, anchor, and framework.
4. Virtue ethics often criticizes impartiality as an inhuman and unrealistic ideal, and insists on the legitimate place for self-concern. However, at least as I understand it, it does not deny the central place of impartiality in ethics.
5. For a thorough defense of moral objectivism, see Huemer, *Ethical Intuitionism*.
6. Dawkins, *The God Delusion*, 246.
7. Coyne, *Faith Versus Fact*, 175.
8. In addition, it is a controversial theory. See, e.g. Zahavi, *The Handicap Principle*, E.O. Wilson, *The Social Conquest of Earth*.
9. Wilson, *The Social Conquest of Earth*. Other defenders of group selection as the basis of morality include D.S. Wilson and Joshua Greene. Darwin also proposed group selection as a possible solution to the problem of altruism.
10. Zahavi, *The Handicap Principle*, 149.

11. Dawkins, *The Selfish Gene*, 200–01. Dawkins seems to have modified his position later on, for instance in *The God Delusion* where he presents the case for the evolutionary “roots” of morality (246 ff.). However, in this book he seems to have been motivated by the need to demonstrate an evolutionary basis for ethics in order to prove that religion or belief in God is not the source of ethics. Indeed, he concludes that truly impartial morality is merely a “mistake” or “misfiring” of our evolutionary impulses.
12. Gould, *The Hedgehog, The Fox*, 245.
13. Hauser, *Moral Minds*, 133.
14. Greene, *Moral Tribes*, 262.
15. Darwin, *Descent of Man*, 92.
16. Ruse, *Taking Darwin Seriously*, 253.
17. Rosenberg, *Atheist’s Guide*, 109.
18. Frank, *Passions Within Reason*, ix.
19. *Ibid.*, 12.
20. Kitcher, “Biology and Ethics,” 170.
21. *Moral Psychology* Vol 1, 240–41. Cf. also Haidt, *The Righteous Mind*, 112 ff, explaining that evolution has produced distinct moral “modules” such that there can be no single coherent theory of morality.
22. Lemos, *Commonsense Darwinism*, 31.
23. A further concern for the commitment theory is the possibility of people evolving a strategy of faking commitment in order to get help from others, and then taking advantage of them where possible. One should also note that the currently popular Handicap Theory does not fit with the Commitment Theory: if morality is wasteful display, then why would one need a sense of external obligation, any more than displays of wit, humor, or musical ability require a sense of normative obligation?
24. Wilson, *Evolution for Everyone*, 129.
25. Dawkins, *The God Delusion*, 253.
26. Ruse, *Taking Darwin Seriously*, 271.
27. Joyce, *Evolution of Morality*, 224.
28. Rosenberg, *Atheist’s Guide*, 95.
29. *Ibid.*, 96.
30. *Ibid.*, 144.
31. *Ibid.*
32. Nor is Rosenberg consistent on his claim that nihilism will make no difference. Indeed, he *endorses* a new understanding of the abortion question, given that “science” has proven that there “are no natural rights,” hence neither the mother nor the fetus can have any right (*Atheist’s Guide*, 288).
33. Huemer, *Ethical Intuitionism*, 99.

34. It is often claimed that the Copernican Principle, that humans are not special, is in fact a revolutionary principle. But that was never Copernicus' intent; he believed that the sun's place at the center of the universe was more appropriate and fitting as a symbol of God. It is also highly doubtful that very many people have lost their religion or their belief in human uniqueness merely because the earth rotates around the sun, rather than vice versa.
35. Kitcher, *Vaulting Ambition*, 434.

Is Utilitarianism a Scientific Morality?

We have argued that there is strong reason to doubt that evolution can explain any of the key elements of human morality, most notably the principle of impartiality and the normativity of ethics. Nonetheless, some naturalists have endorsed an even stronger claim, that evolution or at least scientific naturalism can not only explain but also *justify* an ethical theory, that is, it provides us with a normative ethical theory that is consistent with naturalism. Their argument is that naturalism supports one particular theory, the utilitarian theory of ethics.¹ In this chapter we assess such arguments, demonstrating not only their unsoundness but also the particular danger that a naturalist outlook can distort our approach to ethical reasoning.

Beginning with its origins in the eighteenth century Enlightenment, the moral theory known as utilitarianism has long prided itself on being a morality for the age of reason and science, a replacement for the traditional religious foundations of morality. The hope of the utilitarians was to apply the tremendous success of the natural sciences to the field of human affairs. As Jeremy Bentham wrote in 1776, “In the natural world...every thing teems with discovery and improvement....Correspondent to discovery and improvement in the natural world is reformation in the moral.”² In the nineteenth century, John Stuart Mill complained of the “backward state” in which the field of moral philosophy remains: “after more than two thousand years the same discussions continue,” and “little progress” has been made in defining a criterion of right and wrong.³ For the utilitarians, the “Greatest Happiness Principle” would provide the Copernican

Revolution that moral philosophy so badly needed, allowing us to resolve age-old moral controversies with a modern, rational, and secular morality appropriate to a scientific age.

It is easy to see the appeal of utilitarianism as a means of providing an objective method of resolving moral disputes. It is a wholly empirical theory of ethics, in that its *summum bonum* is the observable, natural (and ideally, measurable) property of human well-being; to ask whether lying is wrong is to ask what the concrete, observable effects of lying are on human welfare. Equally important, it is a causal theory of ethics, one that measures the rightness or wrongness of an action entirely in terms of its causal properties and its effects on human welfare. To decide whether capital punishment is legitimate does not require investigation of the nature of human inalienable rights, or the demands of retributive justice, but simply to compare the loss of welfare as the result of the early death of the criminal, along with the gains in welfare from the deterrent effects of his punishment. Moral disputes in this way can be reduced to factual disputes, the sort of question that is handled by empirical methods. To ask whether an action is right or wrong is to engage in the sort of thing that scientific experts can in principle handle: the prediction of future effects on human happiness.

Furthermore, the utilitarian theory appears to skirt the problem of free will as well as the problem of normativity by offering a causal, deterministic theory of human nature. As Jeremy Bentham asserted in the opening to his treatise on ethics, “Natural has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do. On the one hand the standard of right and wrong, on the other hand the chain of causes and effects, are fastened to their thrones. They govern us in all we do, in all we say, in all we think: every effort we can make to throw off our subjection, will serve but to demonstrate and confirm it.”⁴ That is, for Bentham the “ought” becomes but another name for causal determinism, and all our protestations about freedom of choice are in fact mere denials of the sovereignty of nature over our wills. We don’t need to decide what we ought to do; we are programmed to seek pleasure and avoid pain, and the only role of the field of ethics is to predict which actions will do so most effectively.

Darwin himself seems to have been attracted to the utilitarian theory as the most consistent with his evolutionary theory. In *The Descent of Man*, Darwin writes that “As all men desire their own happiness, praise or blame

is bestowed on actions and motives, according as they lead to this end; and as happiness is an essential part of the general good, the greatest-happiness principle indirectly serves as a nearly safe standard of right and wrong.”⁵ Darwin’s ambivalence about the Greatest Happiness Principle, as expressed in this passage, is clarified elsewhere in the book, where Darwin writes: “The term, general good, may be defined as the means by which the greatest possible number of individuals can be reared in full vigour and health, with all their faculties perfect, under the conditions to which they are exposed.”⁶ Though Darwin prefers the term “general good” to the utilitarian ideal of “general happiness,” the difference is relatively minor; either way, the idea is that ethics is defined by the flourishing of as many individuals as possible.

Moreover, Darwin saw this principle as not merely a descriptive, historical one, but as a normative ideal. Further down in the same passage, he writes: “The moral nature of man has reached the highest standard as yet attained, partly through the advancement of the reasoning powers and consequently of a just public opinion, but especially through the sympathies being rendered more tender and widely diffused through the effects of habit, example, instruction, and reflection.”⁷ That is, Darwin adopts the language of evaluation: “advancement,” “highest,” and “just,” to suggest that morality has an intrinsic goal. The idea seems to have been that, though ethics got its start in evolution via the social instincts, the natural development of ethics is toward something like a utilitarian view, one that did not need to be grounded in religious revelation.

However, despite the early hopes, the dream of utilitarianism to provide a scientific revolution in ethics has not been fulfilled. In fact, the large majority of moral philosophers now consider it a discredited moral theory, a mere historical curiosity.⁸ Utilitarianism foundered on a number of devastating objections, including the following: First, it was soon realized that the key concept in the theory, utility or happiness, was so vague and ill-defined as to make a mockery of any attempt to measure it empirically or calculate it precisely. Second, philosophers rejected the idea that the human good could be reduced to states of well-being; to do so would be to ignore central ethical virtues such as autonomy, integrity, and honesty. Thus, for example, being honest may require a sacrifice of one’s well-being, and indeed may be positively painful. Third, it is acknowledged by all but utilitarians that the moral goodness of an action cannot be reduced to the consequences of an action. This truism is expressed in the common saying that the end does not justify the means. It is not morally legitimate

to sacrifice the few to the benefit of the many, or to use people as a means to the greater good. In short, utilitarianism proved to be misguided in virtually all of its basic assumptions about morality.

Even more importantly, the leading alternative moral theory of deontology presents a very different, though still secular and humanist, vision of the purpose of ethics. Following Kant's arguments, many deontologists reject as degrading to human dignity the notion that morality is merely an instrument to produce human comfort. Rather, as Kant argued, morality is an expression of the far more noble human capacity to express his rational autonomy through obedience to the moral law for its own sake, and indeed the capacity to sacrifice such mundane values as mere happiness or pleasure in favor of moral duty. For Kant, moral rules themselves are not based on divine commands, but on the demands of reason itself. For example, it is wrong to lie not merely because lying likely to produce less human happiness than telling the truth (even if that is true). It is wrong because to lie to someone is to treat them not as autonomous, rational agents, but as objects to be manipulated and controlled. More precisely, it is to treat their rational capacity as merely an object to be manipulated by controlling the information it receives so as to guide it to the desired action. Moral rules, on this view, are not supernatural in origin but quite secular, and the obedience to moral rules is an expression of the very highest human capacities. Just as we view the pursuit of truth for its own sake as a noble goal (rather than truth as merely a means to human welfare), so too the pursuit of justice or morality for its own sake is the ultimate goal of morality.

Nonetheless, there remains a persistent, vocal minority who continue to tout the virtues of utilitarianism as the only way forward in bringing moral philosophy into the modern world, and that the idea that morality aims at transcendental ends such as justice or the good is a legacy of a pre-scientific worldview. What is remarkable about this phenomenon is that this support for utilitarianism does not arise from any claim of the superiority of utilitarianism as an ethical theory; to the contrary, supporters of utilitarianism take their position in spite of the many obvious weaknesses of the theory. The reason for their support appears to come down to one single factor: that, for all its flaws, utilitarianism is the only "scientific" theory of morality, and therefore should be accepted. Let us consider several versions of this argument, keeping in mind whether (1) there is any meaningful sense in which utilitarianism is a more "scientific" moral theory than the leading alternatives, and (2) why it should matter that a moral theory is scientific?

UTILITARIANISM VERSUS RELIGIOUS ETHICS

It remains today a surprisingly persistent idea that utilitarianism is scientific in the specific sense that it provides an alternative to religion-based ethics. That is, utilitarianism is not rooted in a religious tradition or in supernatural revelation, like the Ten Commandments that remain extremely influential in popular culture. Thus Sinnott-Armstrong claims that “Two visions of morality compete in contemporary society. On one view, morality consists in obeying God’s commands. On the other view, morality is independent of God and religion. Morality instead concerns harm to other people.”⁹ Patricia Churchland insists that moral problems are “practical problems emerging from living a social life,” not “divine” or “magical” in origin.¹⁰ Sam Harris dismisses any moral sense of “ought” that is independent of conscious experience—that is, any non-instrumental requirement of ethics, such as the duty to do justice come what may—as “another dismal product of Abrahamic religion.”¹¹ That is, any moral rules or even moral principles such as justice must ultimately be reducible to conscious effects on human (or animal) well-being, or else they are merely supernatural values. On this view, any non-utilitarian moral philosophy is ruled out as being a throwback to a pre-scientific, religious view.

This argument is puzzling, since moral philosophy in the West has been an essentially secular enterprise for over 2000 years, ever since Plato famously demolished the Divine Command theory of ethics in his dialogue *Euthyphro*. The deontological tradition in ethics, especially the Kantian version of this approach, is a wholly secular ethics; deontological rules are grounded not in supernatural revelation but in the demands of reason. For Kant, the ultimate basis of ethics is not pleasing God but in expressing the wholly this-worldly value of rational autonomy; in this respect, deontology is arguably *more* grounded in reason than is utilitarianism, in that the latter sees rationality as merely a tool to produce psychological states of happiness or satisfaction. Utilitarians regularly deride deontology as being “superstitious rule worship”¹² and Kant is often dismissed as merely giving us a disguised version of traditional Christian ethics. Yet the role of rules and principles in Kantian ethics is derived not from revelation but from the requirement of respecting the autonomy of individuals. One’s duty to tell the truth to others is not reducible to the positive effects it would have; in contrast to the utilitarian view, where there is nothing intrinsically wrong with lying if it produces more overall happiness. Moreover, the question of whether an essential element of morality involves obedience

to rules cannot simply be dismissed as “unscientific,” given that rules are a legitimate element in other rational disciplines such as logic or mathematics, without making such disciplines unscientific. To assume that rules can only be a means to promote states of happiness is to beg the question in favor of a utilitarian-style theory. Finally, we should note that all of the major objections to the utilitarian theory made by deontologists are entirely secular, not religious. Deontology is “religious” or “unscientific” only in the sense that it is committed to the traditional view of human nature, with the idea of ethics as representing a transcendent good.

Another of the attractions of utilitarianism to the naturalists is that it rejects the idea that morality makes us unique, different from other animals. By insisting that the goal of morality is happiness or pleasure, utilitarianism makes us continuous with animals, who can experience these feelings too (indeed, a classic objection against utilitarianism is the Sheep Problem, that it is unable to say whether or why human happiness should count any more than the happiness of a sheep). However, this argument does not work. While utilitarianism does make the goal of ethics, one we have in common with animals, happiness or pleasure, it does not follow that we are simply continuous with animals. An essential element of the utilitarian theory is the Impartiality Principle: the requirement to treat all sentient beings with equal respect. But then utilitarianism presumes human uniqueness in our capacity to do what no other animal can do: act wholly impartially for the good of all beings. So the theory ends up supporting human uniqueness, not undermining it.

UTILITARIANISM AS EMPIRICIST ETHICS

An equally important (though also illusory) attraction of utilitarianism is its promise to turn all value disputes into questions of fact, thus allowing empirical, scientific methods to resolve longstanding moral quandaries, modeling ethics on science. It would be hard to understate the influence of this idea among the supporters of utilitarianism. For Churchland, the “abolition of slavery” is “surely” morally correct “as a matter of the facts of well-being.”¹³ Joshua Greene declares that “claims about what will or won’t promote the greater good, unlike claims about rights, are ultimately accountable as *evidence*.”¹⁴ Owen Flanagan suggests that the requirement of impartial good is “testable in principle” and is based on “simple empiricism”: that is, whether it produces more overall happiness.¹⁵ For Sam Harris, “questions about value” are “really questions about the well-being

of conscious creatures. Values, therefore, translate into facts that can be scientifically understood.”¹⁶ Jeremy Bentham asked the question, “for what reason is it, that men ought to keep their promises?” His answer: “the advantage of society,” and whether forcing them to keep them is a good idea is entirely a “question of fact” to be decided by “testimony, observation, and experience.”¹⁷

There is no denying the attraction—even to non-naturalists—of the promise of utilitarianism to turn moral disputes into factual, empirical questions. However, it is highly questionable whether the notion of human welfare or flourishing or happiness corresponds to any measurable property accessible to scientific observation. Utilitarians like to insist that such a possibility is near. Joshua Greene speculates on the possibility of a way of measuring happiness that “bypasses our subjective impressions,” and says that “With the advent of functional brain imaging, we may soon have such measures.”¹⁸ But the idea that happiness could be read off of the brain by measuring blood flow seems rather far-fetched. And even if it were true, it is even more unlikely that we could develop moral rules, for instance whether promises should be kept, by calculating all the possible ways in which a policy of keeping promises versus not keeping them would lead to more human happiness in the indefinite future (this is the familiar Impossible Calculation objection to utilitarianism).

But even putting aside these concerns, there is a deeper problem. No moral theory can avoid making value judgments. Utilitarianism tries to respond to this problem by minimizing its value judgments to the principle that all peoples’ happiness should be counted equally, and that morality requires that we maximize the total happiness in the world.¹⁹ That is, utilitarians limit themselves to a single normative principle: promote the greatest happiness of all; all the rest of morality, they claim, can then be merely factual. The problem of course is that this is to make at least one value judgment, and as such it must be defended by something other than “facts.” That is, it is an illusion that a moral theory can be reduced to a factual, scientific one; there is no avoiding value judgments. The only question is whether the basic value commitments in a moral theory are plausible.

As to that question, critics of utilitarianism have long rejected the basic moral assumptions of that theory, notably that happiness is the only value to be pursued and that consequences alone matter in morality.²⁰ Though utilitarians try to portray these principles as neutral or even self-evident, the very fact that most moral philosophers reject them makes it obvious they are not. Indeed, they directly conflict with basic moral convictions.

Thus a familiar moral platitude is that the end does not justify the means; it is, for example, wrong to torture innocent people *even if* it promotes the overall good. And if pursuing justice requires a sacrifice of human happiness, then we must follow the dictates of justice. Even the idea that all forms of happiness are to be treated equally is not obviously correct. Critics of utilitarianism have long insisted that certain kinds of happiness should not be counted at all, for instance, the pleasure of a sadist, a rapist, or a child molester. To treat all happiness the same is not to be neutral, but to make a moral judgment (and a dubious one), and there is no “scientific” basis for this moral judgment.

The utilitarian theory thus has an extremely odd structure. It combines a radical subjectivism about human values (Bentham: “pushpin is as good as poetry”) with a rigid objectivism about the fundamental moral principle, the pursuit of happiness. Moral values are treated as mere “preferences” that gain their validity only through subjective taste, even while the moral theory requires the highly demanding and unnatural expectation that people must treat all other peoples’ preferences as equally valuable. It thus incongruously combines an extreme demandingness in terms of the requirement of impartiality, along with an extreme permissiveness as regards the contents of one’s preferences.

This strange duality in utilitarianism even leads to logical paradox. Utilitarianism claims to value all preferences equally, but it cannot do so for *moral* preferences, that is, preferences about justice, rights, and utilitarianism itself. Most people believe that happiness is not and should not be the only moral value. But *this* preference must be rejected as morally illegitimate on the grounds that it conflicts with the utilitarian theory itself. Thus we end up with the very odd result that racist or sadistic preferences are counted in the utilitarian calculus, while preferences for justice or human rights are rejected as, in effect, immoral, given that they conflict with the Greatest Happiness Principle. In the end, there is no avoiding moral judgments at every level (Should animal happiness be counted equally to human happiness? Should certain forms of illegitimate happiness—e.g. sadism or racist preferences—be discounted?). Ethics is a normative discipline, as even the utilitarians have to concede, and there is no good reason to expect that moral controversies can be resolved by factual, empirical methods. The idea that the pursuit of a state of subjective well-being is the only goal of the moral life is not only not a “neutral” claim, but it is not even likely a correct one; and of course, to promote it only encourages people to think that in moral philosophy, happiness is a superior good to justice, duty, or rights.

THE EVOLUTIONARY ARGUMENT

Another argument that utilitarianism is more “scientific” is the argument from evolution. On this view, evolution teaches us that the true function of morality is to promote the goal of human welfare. The idea seems to be that, since morality must have evolved to promote human well-being, its true function must be the same. Patricia Churchland’s recent book *Braintrust: What Neuroscience Tells Us About Morality* declares that “recent developments in the biological sciences” mean that we can “now meaningfully approach the question of where values come from”²¹; the problem with “contemporary moral philosophy” is that it has been “untethered” to “evolution or to the brain,” and therefore has been looking in the wrong place for the study of ethics.²² Morality, Churchland concludes, “originates in the neurobiology of attachment and bonding.”²³ Though Churchland does not explicitly endorse utilitarianism (her position remains strategically vague on the question of specific moral theories), her approach is utilitarian in the broad sense of basing morality on the “facts of well-being.”²⁴ Similarly, Stewart-Williams holds that “evolutionary psychology provides the groundwork for an argument for utilitarianism.” His claim is that, since morality is a product of natural selection, it follows that “morality is about consequences, whether we’re aware of those consequences or not.”²⁵ It has also become a commonplace that, since the evolutionary function of punishment is to promote social cooperation, then the utilitarian (deterrence) theory of punishment must be correct, not the deontological (retributive) theory. Daly and Wilson write that “From the perspective of evolutionary psychology,” punishment has a “straightforward adaptive function,” so that the “retributive sense of justice” is “ultimately” utilitarian at bottom.²⁶

But as we demonstrated in the previous chapter, it is implausible that evolution can provide any normative guidance in ethics. Indeed, if evolution were to be invoked to provide a purpose for morality, that purpose would not be human happiness or well-being, but reproductive success. So this approach would not give us a utilitarian theory, but rather a theory in which the morality of an action is dictated by whether it maximizes reproductive success, an absurd result.²⁷ But of course the deeper problem with this argument is that *even if* it were the case that morality had an evolutionary origin, it would not follow that the true purpose of morality must conform to its evolutionary function.²⁸ Consider the analogy with science. Science too is, in some sense, a product of evolution. However, it does not follow that the true measure of a successful scientific theory must

be a functionalist one, in terms of its ability to promote human well-being or social cooperation. Science is an autonomous enterprise that is guided at least in part by the pursuit of truth for its own sake. But then there is nothing the least bit “unscientific” about rejecting a functionalist account of morality, and holding that morality is an autonomous discipline pursuing justice and rightness for its own sake. This is of course not to deny that an important component of morality must be human welfare, and indeed one could say the same thing for scientific research. But it is to deny the utilitarian claim that human welfare is the *only* goal of morality (or of science).

Given the obvious fallacy of the evolutionary argument, its proponents frequently try a different approach. Rather than try to justify utilitarianism by means of evolution, they aim instead to discredit deontology by positing that all deontological rules are mere “heuristics” produced by the evolutionary process to promote human well-being, and hence that there is no rational ground to see them as moral values in their own right.²⁹ This strategy oddly reverses the previous one, which was that the evolutionary origin of utilitarianism is a reason for accepting it. Here, the purported evolutionary origin of deontology is a product of evolution is a reason to *reject* that theory. The typical form of the argument is that, given the complexities of information processing, it would have been impractical for early humans to carry out complex utilitarian calculations. Instead, evolution provided a quick and dirty alternative: follow moral rules that tend, in most circumstances and in the long run, to produce good consequences. Thus we feel that promises should be kept, even though in a given case keeping a promise might be a bad idea from a consequentialist perspective. The implications of this argument are that deontological rules are mere guidelines, and our feeling that they are sacred or absolute reflects the way evolution has implanted in us automatic tendencies to respect rules. In contrast, utilitarianism is portrayed as not only a rational system, but the true underlying reason behind our moral intuitions.

If there were strong evidence that deontological rules were merely heuristics to get us to maximize good consequences, that might indeed be a good reason to call their validity into question as normative moral principles—though even there, we would need a moral argument, for it is possible that deontological rules are valid in their own right, regardless of their origin (compare mathematical or logical rules). But the same standard must apply to utilitarianism: even if there were evidence that morality evolved because it promoted good consequences, it would not follow that

we ought to adopt a utilitarian approach—rather, it would tend to undermine the utilitarian ethics as being merely a product of evolution rather than of moral truth. In the end, there is no avoiding normative moral argument: is utilitarianism plausible on moral grounds? Joshua Greene’s attempt to “use science to get underneath our anti-utilitarian moral intuitions” is an evasion of the hard work of moral philosophy, not to mention a patronizing dismissal of those who disagree with his utilitarian commitments.³⁰ Indeed, the fact that utilitarians draw these sweeping moral conclusions based on mere evolutionary speculations in the absence of any direct evolutionary evidence suggests that the argument really is based on prior moral convictions rather than on science, using evolution to avoid having to face the difficult moral debate over the merits of different moral theories, a debate that utilitarians have consistently lost.

THE MORAL NIHILISM ARGUMENT

Let us consider one last attempt to use science to support utilitarianism. As we saw in the previous chapter, an increasingly widespread belief is that evolution, by revealing the mundane origin of ethics, undermines ethics entirely. That is, it reveals that our belief in moral truths is an illusion. Morality has no more binding force than does any mere preference or taste, for instance, a taste for chocolate over vanilla. There is no moral truth, no objective moral principles. Morality is merely nature’s way of getting us to promote our own survival and reproduction. This is the position known as Moral Nihilism. Surprisingly, a number of naturalists have tried to use the purported truth of Moral Nihilism to support the utilitarian theory.

The assertion of Moral Nihilism is problematic. First, as we have noted, there is no actual evidence that morality is the product of evolution, other than in the trivial sense that we evolved and we have morality. Second, even if it were demonstrably a product of evolution, Moral Nihilism would not follow. As we have noted, even if science and mathematics are the product of evolution, it does not follow that there is no scientific or mathematical truth. But let us put that issue aside, and ask how the Moral Nihilist position is supposed to support utilitarianism. One example comes from Stewart-Williams. He argues that in fact no moral theory, utilitarianism included, is “ultimately justifiable.” One cannot justify one’s moral commitments beyond saying they “just happen to be my taste.” Yet, he thinks, “the utilitarian value system will be accepted by those who,

on reflection, decide that the amount of joy and suffering in the world is more important than an unquestioned allegiance to ethical principles that emerge from the competing forces of biological and cultural evolution.”³¹ Another example comes from Robert Wright, who thinks that, in the light of Darwinism, it is a real question whether “the word *moral* can be anything but a joke.”³² Yet, he thinks, utilitarianism can be defended as a moral theory. This is because it is “the most practical, if not the *only* practical basis for moral discourse. It is the common denominator for discussion, the only premise everyone stands on. It’s just about all we have left.”³³ Psychologist Joshua Greene also takes this approach, arguing that since there may be “no ultimate moral truth,” what we are left with is “whatever works best,” that is, utilitarianism.³⁴

The argument is puzzling if not outright incoherent. The claim that science has proven Moral Nihilism is questionable, to put it mildly. But even if science had proven that Moral Nihilism is true, then utilitarianism has no claim to be any better than any other theory, since our choice of moral theory is just a matter of taste. Indeed, that would seem if anything to disqualify utilitarianism, since most people reject it. So why think that Moral Nihilism favors utilitarianism? Wright claims that utilitarianism is most acceptable because of its “minimalism,”³⁵ its making fewer foundational assumptions. But even apart from the fact that it is not obviously true that deontology makes more foundational assumptions, the argument is incoherent. If morality is an illusion, then it makes no difference how many assumptions a moral theory has. There is no such thing as minimal moral realism, if nihilism is true. A defense of utilitarianism must be based on arguments that it is a better moral theory, in that happiness is or ought to be an uncontroversial or at least a workable goal. But then the (purported) fact of Moral Nihilism drops out as false or irrelevant, and we are back to rational deliberation about what is the best moral theory. As we have seen, utilitarianism is widely rejected precisely on the grounds that it fails the test of rational deliberation. A claim of Moral Nihilism is beside the point: either way the problem is to decide on what the best moral theory is. In the end, these thinkers provide normative arguments disguised as merely factual ones: what counts as “working best” or “more important” or more “practical” is a normative matter that cannot be decided by evolutionary psychology.

Thus the argument is an incoherent mixture of naturalistic nihilism and traditionalist normative argument. If nihilism is true, then there can be no reasoned basis to defend utilitarianism over any other moral theory, so the

argument fails. If utilitarianism is being defended on substantive rational grounds, then nihilism cannot be true. But it makes no sense to say that, if nihilism is true, utilitarianism is somehow the least problematic theory. Utilitarianism must be defended on substantive grounds in either case. The suggestion is perhaps that, given nihilism, we need to adopt the moral theory that will convince the most people, and utilitarianism seems closest to an intuitively acceptable theory. But it has been repeatedly demonstrated that utilitarianism leads to innumerable wildly counterintuitive results, and that deontology arguably has a better claim to fit common sense intuitions.³⁶ In any case, this is a substantive moral argument that needs to be made; assertions of nihilism cannot be a shortcut to evade such debate. Utilitarianism is not “all we have left”; what we have is the same range of secular theories we had before, including more plausible theories such as deontology.

To return to an issue broached above, it is equally an illusion that the utilitarian theory is consistent with a causal, deterministic model of human nature—even if that were a desideratum of a moral theory, which is to say the least highly debatable. A truly causal deterministic theory of ethics would have no point: it would merely be a description of how people necessarily behave. It could have no recommendations or normative force. There would be no need for human morality, any more than a morality of neutrinos. Further, Bentham’s hedonistic determinism is implausible as a description of human behavior and is accepted by no one. People do not make their decisions entirely based on what maximizes their pleasure and minimizes their pain. Finally, utilitarianism could not be a deterministic theory of ethics, *even if* it were true that people were motivated entirely by pleasure and pain-avoidance. For the central principle of utilitarian ethics is that one is to act wholly impartially, maximizing not one’s own pleasure but the pleasure of all people without discrimination. But this is a normative not a descriptive principle, and one that perhaps no person in history has ever lived up to. It is a wildly demanding moral principle, and hence requires abandoning the pretense that utilitarianism is the moral theory that is more “natural” in that it most closely describes how we already behave (let alone a theory that is based on a causal description of our behavior). Yet without the Impartiality Principle, utilitarianism would not even be a moral theory, but a theory of hedonistic egoism. So utilitarianism is not based on natural tendencies at all, but just the opposite: a radical overcoming of the natural human desires, including the desire for happiness. The only way to motivate such an unnatural moral principle would be a transcendental normative value, a notion of the “sacred” which utilitarians tend to dismiss

in discussing deontological ethics. Utilitarianism is in the end no less based on a transcendent notion of moral value than any other moral theory. It is not a “naturalized” moral theory.

WHY NATURALIZING MORALITY IS A BAD IDEA

Utilitarianism attempts to provide a secular, worldly value as the *summum bonum* of human existence, but in doing so it not only fails to explain human morality as it exists, but also threatens to push morality in the wrong direction. In trying to root morality in our animal nature, the theory threatens to reduce us to animality. Thus a famous objection to utilitarianism is the Swine Objection, which holds that happiness or pleasure is a moral good worthy of animals but not humans. One can accept the importance of happiness, and of increasing pleasure and reducing pain, without reducing morality to those goals. Even within utilitarianism, the danger of reductionism has long been apparent; Mill rejected Bentham’s idea that the supreme goal is pleasure, broadening it to the vaguer but more humanistic goal of happiness. But Mill did not go far enough: happiness is still too mundane a goal for morality. On the traditional theory, humans need higher, more noble goals, that can only be provided by transcendent, non-natural ends. Thus the distinctive human moral capacity is the ability to pursue justice for its own sake, and to ground ethics in human rational autonomy. To be sure, it is nature that supplies the specific content of ethics; what counts as justice will depend on the nature of us as physical beings. What counts as wrong will depend on the contingent facts about what causes harm to people; giving them candy is morally permissible, but arsenic is not. But essential to morality, as Kant recognized, is treating people as autonomous agents, not merely as passive recipients of pleasure or happiness. Moreover, the very distinctiveness of human morality consists in the fact that we are not reducible to the drive to seek happiness, but that morality essentially involves our capacity to pursue the principle of equal respect for others even if doing so does not promote our own happiness. It is just in this sense that we argued above that utilitarian ethics is every bit as transcendental as any ethical theory, for it requires impartiality among all beings.

The biggest problem with the utilitarian theory is its rejection of the very idea of transcendental values, and the attempt to reduce them to merely instrumental means to some sort of felt subjective satisfaction. Justice or truth or beauty becomes mere means to well-being. It is of

course hardly surprising that a naturalist, materialist metaphysics tends to produce a materialist morality; one which rejects abstract ideals such as justice or autonomy as the goals of ethics and replaces it with something more concrete and physically embodied, such as felt happiness or pleasure. The attraction of utilitarianism is to a great degree based on the materialist reductionist model of man as just another animal, pursuing practical needs as a means to survival and reproduction. But it is just the reductionistic aspects of utilitarianism that have led to its widespread rejection: its mechanistic, deterministic conception of human needs, its downplaying of free will and autonomy, and its refusal to countenance morality as a transcendental goal of human life. Moreover, utilitarianism is not even consistent in its reductionism: it settles on pleasure or happiness as ultimate goals, a value that is not consistent with the evolutionary idea of happiness as merely an incentive to get us to reproduce. So it ends up with the worst of both worlds: too reductionistic to be a plausible ethics, but not reductionistic enough to be able to claim the backing of science. It ends up just as transcendental as any ethical theory, in requiring an evolutionarily-implausible impartial moral concern—a requirement that can only be made sense of by accepting that morality is a transcendental value, and hence undermining the principal argument for choosing utilitarianism over other ethical systems.

NOTES

1. I use the term “utilitarianism” in this chapter to refer to a moral theory in which the measure of rightness of an action is its tendency to produce good consequences, and where those consequences are measured in terms of happiness or well-being. This definition is meant to encompass a broad variety of theories not all of which might adopt the name utilitarianism (e.g. Churchland in *Braintrust* and Sinnott-Armstrong in *Morality Without God* would count as utilitarians, even though they do not use this term). The central contrast I mean to bring out is between this type of theory and its principal rival, deontology, which I will define as a moral theory that rejects the claim that morality can be reduced to the consequences of an action, and holds that such factors as the agent’s intention and the rule by which he acts are themselves morally significant over and above the consequences produced by his actions.
2. Bentham, *Fragment on Government*, 5.
3. Mill, *Utilitarianism*, 1.
4. Bentham, *Principles of Morals and Legislation*, 1.

5. Darwin, *Descent of Man*, Vol. 2, 393.
6. *Ibid.*, Vol. 1, 98.
7. *Ibid.*, 394.
8. See, e.g. Smart and Williams, *Utilitarianism For and Against*; Scheffler, *Consequentialism and its Critics*; and Kaufman, *Honor and Revenge*, Chap. 3.
9. Sinnott-Armstrong, *Morality Without God?*, 54.
10. Churchland, *Braintrust*, 201.
11. *The Moral Landscape*, 38.
12. E.g. Smart, in Smart & Williams, *Utilitarianism For and Against*, 6.
13. Churchland, *Braintrust*, 200.
14. Greene, *Moral Tribes*, 304.
15. Flanagan, *The Really Hard Problem*, 208.
16. Harris, *The Moral Landscape*, 1.
17. Bentham, *A Fragment on Government*, 55–6.
18. Greene, *Moral Tribes*, 166.
19. The idea of “satisficing” is not an alternative to maximizing. The only reason to choose satisficing is that it maximizes well-being; that is, if trying to maximize happiness would in fact lead to undermining happiness. Of course, it may be rational to maximize by not consciously aiming at maximizing but rather settle for satisficing. But the only reason for this heuristic strategy would be that it is the best way to maximize well-being.
20. A further problem is how utilitarianism justifies its Impartiality Principle. However, I will not pursue that question here, since deontology too endorses the Impartiality Principle (though it provides a rational derivation of the principle).
21. Churchland, *Braintrust*, 3.
22. *Ibid.*, 2.
23. *Ibid.*, 71.
24. *Ibid.*, 200.
25. Daly and Wilson, *Homicide*, 305–6.
26. Daly and Wilson, *Homicide*, 256. Cf. Pinker, *Better Angels*, 539.
27. To complicate things even more, it would have to be *differential* reproductive success—so would the theory have to favor the reproduction only of genetically superior individuals?
28. At most, one could argue that the evolutionary origin constrains us psychologically in terms of what moral theory we could accept. But this is not an argument that utilitarianism is a true moral theory, only that it is psychologically difficult to avoid. Indeed, this argument would if anything undercut utilitarianism, given that the demand for impartial consideration of the welfare of all people would seem to be too psychologically demanding and evolutionarily implausible.
29. See, e.g. Dennet, *Darwin's Dangerous Idea*, 506 ff; Greene, *Moral Tribes*.

30. Greene, *Moral Tribes*, 212. Joshua Greene simply asserts that the Doctrine of Double Effect has “no justification” beyond the fact that it is supported by some of our intuitions. Greene betrays a lack of knowledge of the vast literature providing a careful moral defense of the DDE. See, e.g. Kaufman, *Justified Killing* for a detailed defense of the DDE.
31. Stewart-Williams, *Darwin, God, and the Meaning of Life*, 307.
32. Wright, *The Moral Animal*, 326.
33. *Ibid.*, 334.
34. Greene, *Moral Tribes*, 149; cf. 178.
35. *Ibid.*, 332.
36. See, e.g. my discussion of the practice of criminal punishment in light of the two leading theories (Kaufman, *Honor and Revenge*).

Art, Beauty, and Darwinism

To say that the aim of art is the expression of beauty will no doubt sound naïve and outdated. It is a position largely abandoned by contemporary philosophers and artists, though not entirely. Philosopher Roger Scruton remains loyal to this traditional view: Beauty, he argues, is a “real and universal value, one anchored in our rational nature”¹; it is a fundamental human value, not merely a frivolous and unnecessary decoration, a “necessary part of doing anything well.”² Yet Scruton remains the isolated exception in a postmodern age skeptical of any transcendental ideals and most skeptical of all about the idea of a rational basis for beauty. We have become accustomed to think of art as merely a matter of subjective taste, or culturally inscribed preference, especially when apparently anything can be called “art,” even a discarded toilet or the canned feces of the artist. Moreover, since the Romantic era we have been accustomed to valorize creativity, imagination, and originality as the true measure of artistic success—whether the artist has demonstrated his “authenticity”—and to suggest that the artist’s role is constrained by an external standard of beauty to which he must conform seems to undermine his creative capacity. Many a book on art and aesthetic philosophy today is written with barely any mention of the concept of beauty.

And yet beauty cannot, it would seem, be reducible to mere subjective preference. For one thing, as Kant famously pointed out (and Hume before him), beauty is a normative standard—to say that a work of art is beautiful or great is to say that we *ought* to appreciate it, that any rational

being would recognize it as such: “A judgment of taste determines its object in respect of our liking (beauty), but makes a claim to everyone’s assent, as if it were an objective judgment.”³ Further evidence against the subjectivist view comes from the close historical connection between art and other transcendental values such as truth and morality. “Beauty is truth, truth beauty—that is all/Ye know on earth, and all ye need to know,” famously declared poet John Keats. Even the traditional standard of mimesis or verisimilitude required that art be true to reality, not a mere invention. Of course, the mimetic theory of art is highly controversial, at least if its aim is taken to be the imitation of the observable world. But there is no doubt that much art is not merely an expression of emotion but has a strongly cognitive dimension. For example, Andres Serrano’s notorious “Piss Christ,” a photograph of a crucifix immersed in urine, was widely taken to be a blasphemous attack on religion. In fact, Serrano’s aim was a meditation on the implications of the doctrine of divine incarnation—what it means for God to be present in fully human form, not excluding the more disturbing aspects of physicality such as urination.

Similarly, art has long had an intimate connection with the expression of moral ideals. Harriet Beecher Stowe’s *Uncle Tom’s Cabin* owes its fame to its unrelenting moral condemnation of slavery. To be sure, the modern ideal of art for art’s sake has criticized the idea of subordinating art to morality. Oscar Wilde famously declared (albeit through one of the characters in a dialogue) that “all the arts are immoral, except those baser forms of sensual or didactic art that seek to excite to action of evil or of good.”⁴ However, Wilde’s point here is that art aims at a mood of disinterested contemplation, rather than that of practical action—a point we will return to below. Moreover, it is widely accepted that where art is “didactic,” that is, wholly subordinated to delivering a clear “moral” to the viewer or reader, it has ceased to be true art, for the element of beauty has been subordinated to that of ethics (and usually to an overly simplistic ethical formula). Thus Stowe’s book is often criticized as morally compelling but artistically flawed, for its excessive sentimentality and melodramatic plot. Nonetheless, the relation between beauty and morality is real, and many languages have words that apply equally to beauty and morality (e.g. Greek “*kalos*”).

WHAT IS THE AIM OF ART?

Modern theorists of art, having largely abandoned the traditional ideal that art aims at the transcendental value of beauty, have struggled to explain what the goal of art is. Indeed, the mimetic theory of art itself is

arguably the first stage in the attempt to provide a secular theory of the purpose of art, and its influence on the Western tradition can hardly be overstated—though oddly no one has ever been able to say just what the purpose of imitating reality was supposed to be. In an age of photography and other high-technology means of reproducing the world, the mimetic theory has come to seem even more pointless. Yet this leaves an enormous gap in aesthetic theory, as there is now no clear explanation at all for one of the most important and valued of all human activities. We may take as illustration the recent ambitiously titled treatise on aesthetics by Ben-Ami Scharfstein, *Art Without Borders: A Philosophical Exploration of Art and Humanity* (2009).

Scharfstein declares that art is essential to humanity: “humans cannot remain human without art.”⁵ But why should this activity be so important to us? Why is it that even basic human necessities such as food and sex need “to be made attractive by art”?⁶ Scharfstein valiantly struggles to answer this question. He flirts with practical, evolutionary explanations—that it helps strengthen a community, bonding a group together,⁷ or that it provides the practical advantage of exploring the world through imagining “all the world’s interesting possibilities,” without the “inconvenience of actually encountering them.”⁸ Yet he does not pursue these ideas, perhaps because Scharfstein sees that art involves a “hunger” (a word he uses repeatedly) for something that goes far beyond the merely practical. Indeed, given the popularity of such wildly unrealistic genres as the literature of fantasy and science fiction or surrealist art, it would seem foolish to claim that art aims at the practical exercise of useful faculties for the real world. Nor does group bonding seem very useful in explaining the importance of art—indeed, it would only push the question back: What is it about art that binds the community together? As Steven Pinker asks, such explanations merely “pass the enigma along rather than explaining it.”⁹

Scharfstein’s principal thesis, though advanced quite tentatively, is that art satisfies our “hunger for imagined experience.”¹⁰ Stated more fully, “this hunger is our need to create, contemplate, possess, and repossess at least the shadow of what we do not have fully enough to satisfy us.”¹¹ Thus does art “strengthen the desire to live.”¹² It does this by “countering boredom, lassitude, and depression. It does so by enriching experience or, in the simplest words, by making experience more interesting.... Seen in this light, the function of art is to enhance the quality of life by satisfying the hunger for experience in all of its actual and imaginable variations.”¹³ Here Scharfstein seems to have abandoned the idea of art as practical utility; art does not exist to help us succeed in functional tasks, but merely to overcome our

“boredom.” Indeed, the function of art seems for Scharfstein to be not the enhancement of our lives but the escape into a world of fantasy, to give us the “shadow of what we do have.”¹⁴

This account of the purpose of art, however, raises more questions than it answers. For one thing, it seems curiously anachronistic, an expression of the modern *ennui*, of the loss of purpose and the need for diversions. But art has been central to human life as far back as we have records, going back to the Paleolithic. More importantly, it is a radically deflationary view of art (and of human nature itself), one in which art is mere entertainment, an escape from the travails of everyday existence into a fantasy realm. Art becomes mere wish fulfillment, escapism from life, a response to boredom. Such a tendency would be very puzzling from a biological perspective—why would evolution make us invest such enormous energies in escaping from reality? Nor is it the least bit clear why art should be able to achieve this aim: How can a mere fantasy provide us any form of satisfaction—as opposed to just the opposite, making us even *less* satisfied with our lives by comparison with what we could imagine it to be? (Scharfstein says that art provides “at least the shadow” of what we lack, but it is hard to say why we should value experiencing the “shadow” of something, or even what that means). Why would art make life more interesting, rather than make it less so?

Further, the Scharfstein theory makes it even more difficult to explain the normative dimension of art—both why art is so highly valued in human culture, and also why certain kinds of art are far more valued than others. We feel that any well-educated person *ought* to appreciate great art, and not because it is a useful escape from boredom. Art that is merely an expression of fantasy or wish fulfillment will almost certainly not be considered great art—consider, for example, the case of pornography, almost universally considered the lowest form of art (if it is art at all), in that it appeals to a mere sensual fantasy. By contrast, much of the greatest art portrays events that are disturbing and frightening, as in Homer’s *Iliad* or the great tragic drama in the Western tradition. Further, the important connections between art and both truth and morality (as discussed above) would seem to undercut the idea that art is about wish fulfillment. Nor can this theory account for the aesthetic ideal of detachment or disinterested contemplation, which is to say an ideal not of mere entertainment but of a far more significant state (and of course one that art shares with both truth and morality).

Nonetheless, despite its limitations Scharfstein's theory contains the elements of a more plausible account of art. Scharfstein seems quite right that art is an expression of a deep human "hunger" or desire. Radically constrained by modern secularist assumptions, he cannot say just what this hunger is for, and ends up giving us a reductionistic account of art as wish fulfillment or diversion. Yet at moments even Scharfstein recognizes that this hunger must be for something greater than that; that as he says "aesthetics everywhere has needed some concept of transcendence,"¹⁵ an urge toward needs that "go beyond prosaic naturalism and cannot be explained by it."¹⁶ Only such an explanation, he sensibly remarks, can give art the "depth and dignity of which it is capable."¹⁷ And this approach alone can explain the aesthetic ideal of detachment, which requires transcending the self and its base selfish desires.¹⁸ This is, as Scharfstein says, to adopt a "mystical" rather than a materialistic or naturalistic account of the purposes of art,¹⁹ though he ends up calling it "semi-mystical," apparently due to his personal skepticism about religious mysticism.²⁰

ART AND TRANSCENDENCE

We may thus emend Scharfstein's theory of art by saying that art expresses a hunger for a particular goal: the transcendent. That is in fact the traditional theory of art, that accounts for both the goal of art (the expression of the transcendent value beauty) and the mode of appreciation of art, that of disinterested contemplation. In the current intellectual climate of course, the idea that art is a transcendental value is hardly taken seriously. Chatterjee, for instance, assumes that beauty is merely a matter of visual pleasure, misunderstanding entirely the idea of transcendent values in arguing that beauty cannot be the aim of art since that would be to "reduce art to visual candy."²¹ In fact, despite modern skepticism, the field of art carries all the marks of being a domain of transcendental inquiry every bit as much as the field of ethics or scientific or philosophical truth-seeking:

- Its status as an "ultimate concern," one of the few human values worth devoting one's life to, even sacrificing one's well-being to, even while it is not something fully definable. (The partial truth in the slogan "art for art's sake" is that art is an ultimate end—though this does not preclude it being subordinate to higher transcendental aims such as morality.)

- Its function as, at least for many artists, more a “calling” than a profession; not merely a way to make a living but a way of life with a quasi-religious intensity.
- The close association throughout all human history of art and religion.
- Its ideal of disinterested appreciation and impartial detachment, parallel to the fields of ethics and philosophy.
- Its close connection (remarked on above) with the other transcendentals, truth and morality.
- Its extraordinarily high cultural prestige.
- Its universality in human culture, despite lack of any clear utilitarian value.

Consider the extremely high prestige of the artist, and the normative cultural value of an appreciation of art—the remarkable fact that one is not considered a fully educated, culturally sophisticated person unless one has at least some appreciation of the finer arts, the music of Bach, French Impressionist painting, and Homeric poetry. One might compare this with similar activities that are considered mere pastimes, of which video games or sports are a good example. While there is currently a movement to recognize video games as a legitimate art form, still the basic purpose of the video game is one of exercising mundane practical (if virtual) skills such as shooting aliens, discovering hidden treasure, or conquering the world. This is what makes the video game a “game,” in the same way that sports are mere games and not a form of art. What both lack is the pursuit of something more than arbitrarily defined goals such as the number of spaceships destroyed. For either sports or video games to become art, they would have to cease to be “games,” in the sense of activities involving the exercise of skill at achieving an arbitrary and mundane end, such as throwing a ball through a hoop. Similarly, despite the enormous popularity of pornography, by its nature it is largely (though not necessarily entirely) disqualified from counting as art, for its purpose is to titillate not to inspire, to appeal to a powerful sexual impulse rather than to stimulate reflection on the human condition or inspire us to pursue higher goals. Not only does it lack a transcendental goal, but it positively interferes with the pursuit of the transcendental by substituting an earthly goal of sexual satisfaction as the highest aim.

BEAUTY AND THE SUBLIME

We have so far examined art as a transcendental quest for the ideal of beauty. However, that analysis is not quite accurate, for at least in the Western tradition it has for at least several hundred years been assumed that the idea of beauty needs to be supplemented by a further concept, that of the *sublime*. It has long been noted that the concept of beauty is ambiguous between two distinct meanings: It can mean what is attractive, pleasing to the senses, and it can also mean what is aesthetically significant and moving. Great art can accommodate what is disturbing, shocking, and even revolting; this idea is accommodated by the latter sense of beauty but not by the former. The concept of the sublime arose in part to provide a clearer sense of this distinction, but more importantly to rescue art from the idea that its purpose is merely to provide decorative beauty or a pleasant appearance (“eye candy”). The concept of the sublime was apparently first introduced by an obscure Greek author of the third century now known as Longinus, though the manuscript was discovered only in 1554. Beginning in the seventeenth century and especially in the eighteenth century, it became a central critical concept in the newly developing field of aesthetics, especially in the writings of Edmund Burke and Immanuel Kant, in his third Critique.²²

The sublime allows for aesthetic properties that are disturbing, frightening, and even shocking, in contrast to the beautiful, characterized instead by such properties as order, symmetry, and harmony. While both, ideally, produce an aesthetic detachment, they are very different; the sublime is a response to the infinite and overwhelming, while beauty is more a response to the pleasant and attractive. Hence the concept of the sublime insists that art has a higher goal than mere pleasure or entertainment. The sublime produces in the viewer states such as wonder, awe, and even fear, unlike the beautiful. Thus great works of art need not be beautiful; like Shakespeare’s *King Lear* or Picasso’s *Guernica*, they can be profoundly disturbing and yet affect us all the more powerfully for just that reason. The concept of the sublime became important for a number of reasons, including as a response to the bourgeois appropriation of the idea of beauty as sentimentality or the picturesque and the decline of religion in an age of science. Beginning in the eighteenth century, art began to function as a substitute form of religion, and the sublime provided, in Robert Doran’s interpretation, a “secular analogue of religious transcendence.”²³ Beauty provides

us a representation of this world, and gives us worldly pleasure, but the sublime disturbs us, shocks us, and lifts us to a higher, transcendent reality. Here is Edmund Burke's contrast between beauty and the sublime:

For sublime objects are vast in their dimensions, beautiful ones comparatively small; beauty should be smooth, and polished; the great, rugged and negligent; beauty should shun the right line, yet deviate from it insensibly; the great in many cases loves the right line, and when it deviates, it often makes a strong deviation; beauty should not be obscure; the great ought to be dark and gloomy; beauty should be light and delicate; the great ought to be solid and even massive.²⁴

Hence the idea of the sublime has performed a crucial function in aesthetics (and for Kant, in moral philosophy as well) since the seventeenth century, counteracting a tendency of the idea of beauty to take on a worldly or sentimental focus, and to avoid the more disturbing but also more uplifting idea of the infinite and transcendent.

It is a commonplace that art cannot be about beauty, because much art is not beautiful. Thus for example Chatterjee: "artworks from masters like Francis Bacon, Edvard Munch, Francisco Goya, and Hieronymous Bosch were powerful without necessarily being beautiful."²⁵ But these are precisely examples of the sublime in art. This is why it is important to recognize the supplemental idea of the sublime: Art aims at both beauty and the sublime. In fact, another way of approaching the sublime is to say that it is merely a form of the beautiful, addressing the problem that the concept beauty is too often misidentified with the pleasing, sentimental, or merely attractive. Were the concept of beauty properly understood from the beginning, the concept of the sublime would not have been necessary.

ART AND EVOLUTION

It should be no surprise at this point that we will express skepticism about the possibility of providing an evolutionary or naturalist account of the role of art in human life. The field of evolutionary aesthetics closely parallels that of evolutionary ethics, providing a plethora of distinct and often mutually contradictory theories, which are more properly termed speculations as there is no hard evidence for any of them nor any clear prospect of testing them. The dilemma of explaining art in evolutionary terms is similar to that of explaining ethics, only worse. For while morality

provides clear practical benefits, the production and consumption of art appears to serve no clear evolutionary purpose; indeed historically it has been the predominant view that the artistic should be contrasted with the merely useful. To be sure, some of the arts are more useful than others: Architecture, for example, is on the useful end, while such arts as painting and sculpture appear entirely useless. But even in the case of architecture, the more practical elements are typically distinguished from the truly artistic or decorative elements.

Thus the problem is to explain why an apparently useless activity is found universally in human culture, and not only that, but one must explain the enormous resources devoted to art, both its production and consumption, and the astonishing importance of art to human life. What is typically most remembered from past cultures is their artistic achievements: sculptures, paintings, architecture, and literature. Artistic creations are among the most valuable objects in the world; the *Mona Lisa* is currently assessed at around \$800 million. Art museums remain the great treasure houses of modern culture, and the cultured person is expected to visit them regularly. Even more remarkable is the level of resources devoted to mass or popular art as distinct from fine art: the time and money expended on music, movies, television, and popular fiction. From a Darwinian perspective this would appear to be a wholly irrational waste of resources, even more so than either ethics or philosophy—at least the quest for truth has substantial practical benefits, and so does ethics, as it largely involves the giving and receiving of practical aid to those in need.

Nonetheless, there is no shortage of theories to explain this evolutionary puzzle, among which are the following:

- **Practical Utility:** Art serves some practical, concrete purpose, for instance, in the exercise of our imaginative capacities, or the use of art to explore hypothetical possibilities we might face in the future.
- **Sex Selection/Social Selection/Handicap:** Art evolved to impress females, or to display one's skills, or perhaps precisely because it is useless so that one can show off one's ability to engage in wasteful activity.
- **Social Bonding:** Art evolved as a way to tie a social group together, perhaps through group selection, as for instance, the use of music to provide shared emotions.

- Byproduct/“Cheesecake” Theory: Art is of no evolutionary value, but it is a byproduct of other adaptations, just as our present love of cheesecake is not adaptive.

And of course, an evolutionary explanation of art can rely on a mixing and matching of any number of the above explanations.²⁶ We will not, however, engage in a detailed criticism of each of these theories, as they are subject to the same sorts of objections discussed earlier in regards to evolutionary explanations of ethics.²⁷ Moreover, the field of evolutionary art is at such an early, incipient stage that there is very little consensus on most issues, making it a moving target for critics. Instead, our approach will focus on two areas of the field on which there does exist an apparent consensus on both methods and results, both of which are widely taken as early and significant successes in the field of evolutionary aesthetics. The larger of these areas will be taken up in the following chapter: the field of Darwinian literary criticism, which is widely taken as one of the few areas in aesthetics where the Darwinists appear to have reached the stage of a mature theory and in which concrete results are already evident.

In the remainder of this chapter, we will consider one result that is widely touted as providing evidence of the fruitfulness of the evolutionary approach: a Darwinian explanation of the landscape aesthetic, including our preference for the typical suburban lawn landscape. To be sure, this case is at the very borderline of aesthetics, as it involves an explanation of suburban lawn preferences more than art per se (though it is worth noting that the distinction between beauty in art and beauty in nature is a late development, a product of eighteenth century theory). Further, the evolutionary account of landscape preferences is largely aimed at “lowbrow” art rather than fine or high art, including the photos in calendars. Nonetheless, as a starting point for evolutionary aesthetics this does not seem objectionable: begin with the easier cases, those of popular art and the borderline between the aesthetic and the practical (lawns) before moving on to the more difficult cases. Lest one doubt my objectivity in beginning with this case, it should be noted that my choice parallels that of Denis Dutton’s influential recent book on evolutionary aesthetics, *The Art Instinct: Beauty, Pleasure, and Human Evolution*, a book that according to Steven Pinker’s blurb “marks out the future of the humanities.” Dutton justifies his choice as an attempt to begin with an area of art that is “familiar and down-to-earth: calendars and the kinds of landscape illustrations that decorate them across the world.”²⁸ He holds that it is best to start with “what we know by direct,

first-hand experience,” and that in doing so we will see that our landscape preferences are directly traceable to “prehistoric tastes shared... across the globe.”²⁹ And beginning with this modest example, Dutton goes on to conclude (with a surprising lack of caution) that art can indeed be explained by evolution, that “our aesthetic tastes and interests do not form a rational deductive system but look rather more like a haphazard concatenation of adaptations, extensions of adaptations, and vestigial attractions and preferences”³⁰ and that “we forget how close we remain to the prehistoric men and women who first found beauty in the world... Our art instinct is theirs.”³¹ It seems thus appropriate to see if this alleged success in explaining what is presumably among the easiest cases for the Darwinian—landscape preferences—gives us reason to expect that the Darwinian approach will eventually be able to extend to the entirety of the field of art.

LANDSCAPE PREFERENCES AND THE “SAVANNA HYPOTHESIS”

One of the widely celebrated accomplishments of evolutionary psychology is the purported explanation of an important aspect of environmental aesthetics, notably our preference for a certain kind of landscape: a pastoral scene, grassy but with occasional trees. Our preference for this kind of landscape is said to be evident in city parks such as Central Park in New York, in golf courses, in calendar art, and even in our obsession with lawns. Evolutionary psychologists have proposed the “Savanna Hypothesis” to explain this behavior. Here is E.O. Wilson’s version: “For most of two million years human beings lived on the savannas of Africa, and subsequently those of Europe and Asia, vast, parklike grasslands dotted by groves and scattered trees. They appear to have avoided the equatorial rainforests on one side and the deserts on the other.”³² This ancestral homeland implanted in us, says Wilson, an “unconscious” predisposition to seek out similar settings.³³ This preference is, on this theory, a psychological adaptation; according to Gordon Orians, natural selection would have favored “individuals capable of identifying safe and productive environments,” and the savanna is an environment of “high resource potential.”³⁴ It thus accounts for our present preferences in environmental aesthetics, including our puzzling obsession with carefully manicured lawns. As Steven Pinker colorfully relates, he himself is in the grip of an irrational but ancient evolutionary imperative: “every weekend my fellow burghers and I would drag out our lawn mowers, leaf blowers, weed

whackers, limb loppers, branch pruners, stem snippers, hedge clippers, and wood chippers in a Sisyphean effort to hold the forest at bay.”³⁵

The Savanna Hypothesis is widely seen as a small but significant accomplishment in the field of evolutionary aesthetics.³⁶ It purports to trace a direct link between our ancestral Pleistocene habitat and our behaviors today, behaviors that would be otherwise inexplicable. As Pinker suggests, why would we waste so much money, time, and energy cultivating a useless patch of grass in front of our houses? The hypothesis also purports to reduce an apparently conscious, planned behavior to automatic, emotional, and even unconscious impulses or “instincts,” impulses that would be inaccessible to the humanist studying our behavior without the help of evolutionary psychology. Further, it takes on the field of aesthetics, a discipline widely held to be an expression of what is uniquely human, and claims to reduce it to a purely functional and biological explanation. To be sure, our preference for lawns and parks is not exactly high culture, but nonetheless it is at least an inroad into the aesthetic dimension of human life, with the promise of much more evolutionary explanation to come in the realm of aesthetics. It is taken as a vindication of the basic sociobiological assumption that human nature can only be explained by recourse to the theory of evolution, contrary to the traditional approach of the humanities. As Denis Dutton writes, “We are what we are today” because of our ancient ancestors’ relation to the landscape.³⁷ Says E.O. Wilson: “[Extraterrestrial] zoologists visiting this planet could make no sense of our morality and art until they reconstructed our genetic history—nor can we.”³⁸

Gordon Orians, one of the staunchest advocates of the Savanna Hypothesis, declares that the available evidence (mostly surveys of peoples’ landscape preferences by having them compare black and white photos) “strongly indicates” an innate preference for “savanna-like landscapes.”³⁹ In fact, Orians would seem to have greatly overstated the case for this highly speculative hypothesis, given the minimal, artificial, and highly ambiguous evidence he offers. As Stephen Davies points out, those studies showing a savanna preference can be given an alternative interpretation, as an innate preference of young children for low pictorial complexity. And other studies directly contradict the hypothesis, notably one study of college students showing that of the six major types of landscape, the grassland was in fact judged the *least* preferred.⁴⁰ Further, preferences for photos or calendar art for those raised in modern, largely urbanized cultures are of dubious value as evidence of the much stronger claim that we

have a natural attraction to live in the savanna. The preference for calendar art is hardly the basis to extrapolate as to where people prefer to live; many people purchase calendars of tropical islands, but that may represent more a fantasy than a realistic desire to move to such a location (and there is little likelihood that evolution would have implanted in us an instinct for tropical islands). The attraction to the lawn may reflect an urbanite's yearning for an idealized pastoral environment, just as the attraction to tropical islands reflects an idealized tropical paradise, an alternative to the noise, congestion, and dirt of the modern city.

As Davies also points out, the savanna hypothesis suffers not merely from a lack of evidence, but from questionable internal coherence. For one thing, the crucial assumption that our ancestral habitat was a savanna is a mere hypothesis, and probably false. The evidence in fact suggests otherwise: that the period of human evolution was one of constant environmental change, with large and relatively sudden changes in both climate and vegetation.⁴¹ If anything, this would suggest the evolution of human flexibility in adapting to a variety of habitats rather than a fixed preference for a single landscape type. This alternative possibility is supported by the fact of rapid human colonization of the many different landscapes outside Africa, so that eventually humans spread to virtually every possible type of landscape. There seems no obvious evolutionary reason for humans to have an inborn preference for a single type of landscape. It is perfectly plausible to believe that we are attracted to landscapes of "high resource potential" without assuming that this involves solely an interest in savannas; perhaps humans excel in being able to see the resource potential of many different kinds of landscapes, and this would likely be a skill that involved rationality rather than mere instinct. In any case, the very foundation of the theory—the idea that we evolved in a savanna environment—is itself entirely speculative. Yet without firm evidence for that claim, it is hard to take seriously the hypothesis itself as anything more than a just-so story.

In fact, things get even worse for the theory. Let us consider two highly valued types of landscapes in our own culture: the suburban lawn and the national park, beginning with the lawn. The typical American lawn, as a matter of fact, looks very little like African savanna. The grasses grown in our lawns are not species found in Africa; our habit of pursuing a weed-free monoculture with geometric proportions makes the lawn even more artificial and distinctive, and contrary to E.O. Wilson's claim, the typical shade tree really doesn't resemble the African acacia much at all.⁴² Nor is

the American habit of mowing the lawn to look like a golf green, of never letting it go to seed, or for that matter keeping it green year-round as far as possible, reminiscent in the least of the African savanna. The resemblance between the two can best be described as fanciful, as well as so vague as to be essentially untestable. But that is not even the most serious problem.

The Savanna Hypothesis is meant to provide a biological explanation as an alternative to cultural or historical explanations of our habit of growing useless grass crops around our house. In fact, there is already a substantial literature providing a far more plausible cultural and historical explanation.⁴³ The conventional green lawn, it turns out, is not a cultural universal, but rather a largely American and modern phenomenon. Before the Civil War, very few Americans had lawns, and as domestic front lawns started to become more popular in the late nineteenth century, Europeans frequently remarked on this novel feature.⁴⁴ Lawns are not part of the cultural heritage of Africa, Asia, and South America. The American tradition was inherited from the aristocratic landscapes of England and France, and the rise of the new middle-class suburb consciously modeled itself on emulating the great aristocratic estates, albeit on a much smaller scale, with a perfectly useless crop growing as a symbol of conspicuous consumption. This suburban model of the neatly kept front lawn also reflects a new pastoral ideal, as an escape from the increasingly crowded, disease-ridden cities, and the ugly new industrial world. In short, what is required is a cultural explanation, not a biological one, for the rise of the cultivated front lawn. It would also be remiss to ignore the simple practical concerns involved, in keeping a green space for children to play in, but one that is short-cut so as not to harbor snakes or insects (for myself, I keep the grass short to reduce the number of disease-bearing deer ticks), and limiting the number of trees due to the danger of falling limbs and the desire for sunlight in the house. The cultural, historical, and rational explanation is perfectly sufficient to explain our lawn obsession; a biological explanation in terms of unconscious, automatic instincts is otiose. The reason Pinker and his neighbors spent so much time working on their lawns is not an inbuilt genetic imperative, but rather the pressure of social conformity. Had he lived at any other time in history, he would likely not have had the slightest interest in the American-style lawn.

A further problem for the Savanna Hypothesis is the difficulty in explaining America's beloved national parks. For if there is an instinct for savanna landscapes, that should presumably be reflected in our national park system as well. Thus Gordon Orians insists that pastoral landscapes

“rank high on the conservation agenda.”⁴⁵ In fact, the national park system demonstrates just the opposite. It has long been recognized that our parks largely focus on the spectacular and dramatic landscapes: mountains, canyons, gorges, vast forests. Indeed, the one type of landscape that is conspicuous by its absence is the grassland (there are grasslands within certain parks, such as Yellowstone or Badlands, but they are not the reason each was made a national park). Even today, there is not a single national park that is devoted to prairie or grassland or savanna—and that is despite the fact that the vast central section of North America is grassland habitat. Even swamps (the Everglades) and numerous deserts have become national parks, but never prairie. The immense popularity of the American national park system would, if anything, seem to directly falsify the theory of a natural savanna preference. The American ritual of visiting national parks would seem to have nothing to do with any innate savanna preference.

Orians, aware of this problem, defends the Savanna Hypothesis with a new strategy. He acknowledges that our national park system has a “focus” on the “monumental.” Though this preference for the monumental would seem to be the direct opposite of the savanna preference, Orians suggests that our interest in the monumental reflects another innate attraction, this one to “expansive views” which are “valuable for learning about the environment.”⁴⁶ Thus, he thinks, the park system in fact reinforces the Savanna Hypothesis rather than undermines it. The move is, however, ad hoc and unconvincing. Orians does not tell us just what we are supposed to learn from visiting the Grand Canyon or Yellowstone. Nor does he say why this sort of learning is important in our national parks, but not in our lawns (or why the supposedly hard-wired unconscious preference for the savanna landscape would cease functioning when it comes to national parks but not in our lawns). And there are further problems. Why is the Everglades one of the most popular parks, despite the fact that it is alligator-infested swamp and offers no expansive views? One might have expected at least that national parks would be a mix of the monumental and the savanna. Nor is there any reason to believe that our love of the Rocky Mountains or the Grand Canyon stems from our ancestral African experience. It seems unlikely that hunter-gatherers would have sought out sights like the Grand Canyon for the views. It is furthermore hard to see why would anyone be motivated to travel thousands of miles from home just to get an expansive view of a region far from home. Moreover, it is not true that the typical tourist experience in the parks consists largely of seeking out high

points for the views. Most tourists go to see the Rocky Mountains or the Tetons from below, not to climb them for the views. And one of the most beautiful and popular places to visit in all of the United States is Yosemite Valley, despite the fact that it is an enclosed space with no expansive views at all (very few tourists climb up to the heights). A view *of* mountains is as valued as a view *from* them, undercutting the suggestion that mountains are useful only for functional purposes.

In the case of the national parks, as with the lawn, the hypothesis appears hopelessly vague, troublingly flexible, and of dubious coherence.⁴⁷ Even more importantly, as with the case of the lawn, we already have available a plausible sufficient explanation based on cultural and historical factors rather than biological ones. The national park system, like the American lawn, began at a particular historical moment, the mid-nineteenth century. In part, the interest in preservation of natural landscapes arises, as with the lawn, in response to the increasing industrialization and urbanization of the United States, and the desire for the natural landscape as an escape from the ugliness of the modern industrial landscape. Why then did the national park system, unlike the lawn, focus on the spectacular and scenic rather than the pastoral? The explanation for this can be found in the nineteenth century Romantic Movement and its celebration of the idea of the “sublime,” an aesthetic concept that, as we explained earlier, contrasts with the merely beautiful in that the sublime involves a sense of the infinite, the wild, the ungraspable. Thus the naturalist John Muir, one of the great advocates for protecting places such as Yosemite, celebrated the “wild and sublime” in nature, contrasting this with the “poor, shallow comfort” of civilized life.⁴⁸ Muir in fact rejects the suburban garden ideal as “pathetic and silly” in contrast to the grandeur and spiritual qualities found in truly wild nature,⁴⁹ that is, as lacking the transcendent dimension of experience. The first national parks became those parks whose qualities best express the notion of the sublime: Yosemite, Yellowstone, the Grand Canyon, and these parks remain the most popular today. The lawn and the park can thus be seen as complementary ideals, each in reaction to the ugly urban and industrial development of the nineteenth century.⁵⁰ The evolutionary explanation is thus rendered otiose and unnecessary, even apart from the total lack of hard evidence for it.

However, to emphasize the social, cultural, and historical explanation of the lawn and the national park is not to discount the purely aesthetic element. Where the suburban lawn tends to focus on practical needs, for obvious reasons, the national park is a good illustration of a genuinely aes-

thetic drive: the desire to experience the sublime. And while the national park system has a clear aesthetic dimension, it is arguable that even the humble American lawn does as well. It is sometimes recognized by proponents of the Savanna Hypothesis that there is another unique property of the grassland landscape, apart from its being our (purported) ancestral home. That is, the savanna landscape can be characterized, as Wilson notes, as an “intermediate terrain.”⁵¹ That is, its “gestalt” is one of middle complexity, neither the dense wilderness of the jungle nor the barren openness of the desert. But note that this possibility implies an alternative explanation of the preference for the grassland landscape: not a causal, evolutionary functionalist explanation, but an autonomous aesthetic preference for the middle value, the intermediate—thus the pastoral ideal has often been recognized as expressing a mean between nature and culture, the wild and the civilized. The popular image of the lone tree in an open landscape can also be interpreted as a preference for the figure-ground relationship, the individual set against the whole. What this suggests is that our landscape preferences seem to raise questions for aesthetics rather than biology (though as noted above, aesthetics need not be seen as wholly independent of cultural or historical forces).⁵²

We have thus emphasized the interplay between the idea of beauty and the sublime in explaining our landscape preferences. The concept of beauty emphasizes the harmonious, orderly, and balanced, whereas the sublime celebrates the wild, the unknowable, and the infinite. If the lawn exemplifies (in part) the beautiful, the national park exemplifies the sublime. Of course, this is not meant to be a complete explanation, for it inevitably interacts with cultural, historical, and even practical ones (it is, for example, generally not practical to have one’s dwelling in a sublime location, for most people). It also interacts with the biological dimension to some extent: the social conformity element in dictating the traditional lawn surely has an element of status-seeking. But one thing that does not seem to be either plausible or even needed is a complete biological reduction of this category of the aesthetic, such that human behavior can be explained in terms of specific innate aesthetic instincts implanted by evolution. It is no small irony that, in an attempted biological explanation of the aesthetic, a key element that gets left out is the aesthetic itself, replaced by the functional, practical concerns such as food, shelter, and safety from predators.

The failure of the Darwinian approach even in the easy case does not bode well for the much more important and interesting harder cases. More troubling is the methodological starting point of this approach,

as evidenced by Dutton's wildly question-begging assumption that "the pleasures of the arts should be as easy to explain as the pleasures of sex and food"⁵³—so that the guiding principle of evolutionary aesthetics is that all human activities are no different in kind than basic biological drives. It is also troubling how quickly the Savanna Hypothesis has come to be taken as a successful theory. What starts as a mere evolutionary speculation rapidly shifts into the language of established scientific fact, as in Chatterjee: "as a general principle, spatial and temporal features that were signals for safety and sustenance to our ancestors are what we now regard as beautiful"⁵⁴ or David Buss: "our standards for attractive landscapes embody dues such as water, game, and refuge, mimicking our ancestors' savanna habitat."⁵⁵ As such, it cannot but have pernicious effects, especially when it is already declared to be the "future of the humanities."⁵⁶ For it assumes in advance a deflationist, biological explanation of human behavior: Even aesthetics is ultimately guided by basic biological drives, for example safety, predator avoidance, and food productivity in our choice of landscapes (or sex, according to the sexual selection theory of art). Further, this approach will inevitably distract us—and indeed is intended to distract us—from the explanations that can be provided by the humanities: cultural, historical, and philosophical accounts of our landscape preferences, or other aesthetic preferences. Further, just as in the field of evolutionary ethics, in the Darwinian approach to art we see a prior presupposition that art is not a unified phenomenon but a heterogeneous collection of behaviors with no single overarching explanation.⁵⁷ This approach unfortunately cuts off prematurely the study of a unifying set of principles, notably the idea that both art and ethics have unified transcendental aims, however diversely expressed.

To reject the Darwinian reduction of art is not of course to deny the relevance of biology to at least some aspects of aesthetics (our standards of personal attractiveness are almost certainly connected with markers of health and fertility). But we need to beware the sort of totalizing reduction that suggests that the humanities need to become biologized, and that evolution will henceforward provide the central organizing principle of art and aesthetics. In the next chapter, we examine another purported success story of evolutionary aesthetics: the area of Darwinian literary criticism, making a similar criticism of the claim that the Darwinian approach can revolutionize the discipline of literary studies.

NOTES

1. Scruton, *Beauty*, x.
2. *Ibid.*, 79.
3. Kant, *Critique of Judgment*, I. II.32, 145.
4. "The Critic as Artist," 158.
5. Scharfstein, *Art Without Borders*, 3.
6. *Ibid.*, 1.
7. *Ibid.*, 68.
8. *Ibid.*, 1.
9. Pinker, *How The Mind Works*, 528.
10. Scharfstein, *Art Without Borders*, 3.
11. *Ibid.*
12. *Ibid.*, 68.
13. *Ibid.*
14. *Ibid.*, 2.
15. *Ibid.*, 410.
16. *Ibid.*, 411.
17. *Ibid.*
18. *Ibid.*, 420–21.
19. *Ibid.*, 410.
20. *Ibid.*, 435. For an expression of Scharfstein's distaste for mysticism, see his *Mystical Experience*, where he analyzes mysticism as a form of escape from reality, a "hair's breadth away from psychosis" (164).
21. Chatterjee, *The Aesthetic Brain*, 169.
22. For an excellent recent treatise on the sublime, see Doran, *Theory of the Sublime*.
23. *Ibid.*, 12.
24. Burke, *Philosophical Inquiry*, quoted in Doran, *The Theory of The Sublime*, 140.
25. Chatterjee, *The Aesthetic Brain*, 169.
26. Denis Dutton for example claims that art is a product of natural selection, including group selection, "sharpened and intensified by sexual selection." *The Art Instinct*, 245.
27. See also Davies, *The Artful Species*, for a useful critique of such theories.
28. Dutton, *The Art Instinct*, 3.
29. *Ibid.*
30. *Ibid.*, 219.
31. *Ibid.*, 243.
32. Wilson, *Biophilia*, 109.
33. *Ibid.*
34. Orians and Heerwagen, "Evolved Responses to Landscapes," 557.

35. Pinker, *How the Mind Works*, 377.
36. See Davies, *The Artful Species*, for a list of citations to the many advocates of this theory.
37. Dutton, *The Art Instinct*, 28.
38. Wilson, *Biophilia*, 114.
39. Orians and Heerwagen, "Evolved Responses to Landscapes," 558. Why use black and white rather than the more accurate color photographs? According to Orians, the use of color photographs did not support the existence of a savanna preference. He explains this contradictory evidence on the grounds that "variations in lushness and the color of the sky influences peoples' preferences." This is puzzling: how does he know that color 'influences' preferences, rather than revealing them (especially since natural human experience of the world is in color, not black and white)? The fact that the savanna hypothesis is supported only under the artificial imposition of color suppression would appear to be strong evidence against any significant innate savanna preference. And it also undercuts an evolutionary explanation of this landscape preference, for it seems unlikely that sky color is a useful indicator of any properties of the landscape, rather than of the vagaries of the weather or time of day.
40. Davies, *The Artful Species*, 96.
41. *Ibid.*, 96.
42. Wilson, *Biophilia*, 113. In fact, one American tree that does closely resemble the thorny acacia is the mesquite tree in the southwest, which as it happens is considered a trash tree that people do not want in their yards.
43. See, e.g. Jackson, *Crabgrass Frontier*; Jenkins, *The Lawn*.
44. Jenkins, *The Lawn*, 3.
45. Orians, "Evolved Responses to Landscapes," 568.
46. *Ibid.*, 570.
47. Ironically, there is perhaps a cultural explanation for the attraction to Darwinists of the Savanna Hypothesis, suggested by Chatterjee: that it reflects a romantic, sentimental conception of human nature as yearning for our home, our roots. Chatterjee, *The Aesthetic Brain*, 50.
48. Muir, *Wilderness Essays*, 36, 23.
49. *Ibid.*, 253.
50. Appleton does acknowledge the concept of the sublime (see *The Experience of Landscape*, 25 ff.) but ultimately dismisses it as artificial and reduces it to a "functional" explanation (*ibid.*, 257). He relies on a crude reading of John Dewey's pragmatic philosophy, a philosophy which rejects the reduction of human values to mere functional utility. Indeed, Dewey suggests an interpretation of the significance of mountain landscapes to us, not as a means of providing useful views, but as symbols of "the stability and endurance of existence." (*Art and Experience*, 230), which I take as gesturing at the idea of the sublime.

51. Wilson, *Biophilia*, 111.
52. Dutton wonders, quite reasonably, why great art does not favor savanna landscapes. He seems however undeterred, comparing this to the problem of why centerfolds are not considered great art, arguing that sex is simply too “simple” to be great art. It is unclear whether he means that pastoral landscapes are too simple for great art, in what sense sex is a “simple” activity, or why simplicity is incompatible with great art. In any case, this introduces a distinct aesthetic criterion that has nothing to do with biology. *The Art Instinct*, 238.
53. Dutton, *The Art Instinct*, 100. The insistence that art must be like food and sex is disturbingly pervasive among evolutionary psychologists; cf. Chatterjee: art “must be vital to our being, the way food and sex are vital to our being” (*The Aesthetic Brain*, 123).
54. *Ibid.*, 51.
55. Buss, *The Evolution of Desire*, 52. (The reference to “game” indicates how inapt the theory is with regard to the suburban lawn).
56. Steven Pinker’s blurb for Dutton’s *The Art Instinct*.
57. E.g. Chatterjee, *The Aesthetic Brain*, 156ff.

Literary Darwinism: Can Evolution Explain Great Literature?

Advocates of the new field of Darwinian literary theory or “evocriticism” promise that their approach will revolutionize the study of literature. Gottschall and Wilson call literature the “last frontier” in human evolutionary studies, in that it has longest resisted the incursions of biology.¹ Yet, they predict, evolutionary theory will become “part of the normal discourse in literary studies.”² “Evolutionary biological insights,” say Barash and Barash, “yield a powerful set of instruments with which to understand literature and, in the process, ourselves.”³ The field of literary theory is widely viewed as the most important holdout for anti-scientific, postmodernist theory, and the one most subject to passing fads such as Marxist or Freudian literary theory. “Contemporary literary research,” declare Kruger et al., “is generally not held to the standard of scientific responsibility.”⁴ For Brian Boyd, the Darwinian approach gives us the “first fully scientific attempt to understand human nature.”⁵ Gottschall views the field of literature as in a pre-scientific state if only for its failure to adopt “quantitative and statistical analysis.”⁶ The Darwinian approach can, insists Joseph Carroll, “give us conscious theoretical access to the elemental forces that have impelled all human beings throughout time.”⁷ As Ian McEwan declares, in observing a “troop of bonobos”—our closest living relatives—“one sees rehearsed all the major themes of the English nineteenth-century novel: alliances made and broken individuals rising while others fall, plots hatched, revenge, gratitude, injured pride, successful and unsuccessful courtship,

bereavement and mourning.”⁸ Tragedies end in death and comedies end in marriage, asserts Nettle, because those are the “logically maximal fitness changes,” and therefore “dramatic genres will tend to evolve toward them.”⁹ The most fundamental rule in literature, holds Barash and Barash, is that the characters must be “believable,” which is to say, they “must accord with a kind of evolutionary reality.”¹⁰ If the evocritics are right, literary Darwinism will finally give literary theory a scientific foundation.

The field of literary Darwinism is quite new, and its advocates readily concede that its value has yet to be proven and that many of its hypotheses are merely exploratory and tentative. Nonetheless, given the grandly ambitious claims for the discipline, it seems fair to apply Pinker’s test: has this method provided important new insights into the study of literature, insights unavailable before the application of evolutionary principles? The only way to answer this question is to examine representative examples of this approach to see whether they succeed in their ambitions, and this chapter looks at several such examples: the Barashes’ analysis of *Madame Bovary*, Joseph Carroll’s essay on Wilde’s *A Picture of Dorian Gray*, and Jonathan Gottschall’s book-length examination of Homer’s *Iliad*. As we will see, the grand claims of Literary Darwinism are not justified by the results yet produced, and there are good reasons to doubt the very possibility of a true Literary Darwinism.

MADAME BOVARY’S OVARIES

We begin with the work that provides the (unfortunately crude) title of Barash and Barash’s *Madame Bovary’s Ovaries: A Darwinian Look at Literature*. The Barashes claim that Darwin’s “breakthroughs” can be “immensely useful” in the interpretation of literature.¹¹ They adopt the Aristotelian view that the purpose of literature is to “capture fundamental truths about the human condition.”¹² But what Aristotle did not know is that human beings are products of evolution, and as a result “we unconsciously behave in ways designed to enhance our success” in survival and reproduction.¹³ “Even the loftiest products of human imagination are,” they write, “first of all, emanations of that gooey, breathing, eating, sleeping, defecating, reproducing, evolving and evolved creature known as *Homo sapiens*. We aren’t idealized ethereal essences but genuine biological beings.”¹⁴ Evolution thus “offers a raft of refreshing, rewarding, challenging insights into the world of fiction.”¹⁵

What challenging insights do the authors provide for the classic 1857 French novel, *Madame Bovary* by Gustave Flaubert? The plot of the book is fairly simple: The young woman Emma Bovary marries a dull middle-class health official, Charles Bovary, and finds her life disappointing. After having a daughter, she finds even motherhood unsatisfying. She escapes the boredom by spending her days reading romantic novels, and eventually decides to pursue true love by having an extramarital affair with the aristocratic Rodolphe. After the affair ends badly, Emma ends up having a series of further affairs and getting deeper into debt, until she finally commits suicide in despair. Charles himself, never having ceased loving her, dies soon afterwards of heartbreak.

The Barashes claim to explain this plot as an exemplification of evolutionary principles: “Biologists understand that a major reason why Emma wanted sex with Rodolphe, Leon, and the marquis... was because deep inside (in the DNA of her brain) she heard a subliminal Darwinian whisper that tickled her ovaries... Madame Bovary evidently found her various lovers sexually exciting, just as a hungry person—even if she knows nothing of digestive physiology—can be seduced by a tasty meal. ... By seeing such urges for what they are, the modern reader can also see how the prospect of enhancing her evolutionary situation undergirds a beleaguered heroine’s erotic hunger.”¹⁶ Emma’s adultery, therefore, can be explained in biological terms: a desire to enhance her “evolutionary situation.”

The Barashes go further in their explication of the plot. Emma’s husband is repeatedly characterized as dull-witted, a limitation that the Barashes explain as indicating that he is “probably offering poor genes.”¹⁷ But then why did she marry him in the first place? Because her father was in debt, and since Charles had a regular source of income, therefore this marriage is, the Barashes say, a “typical example of ‘marrying up’ or hypergamy, whereby women seek to pair with men who are socioeconomically above them.”¹⁸ It is unclear how the previous account of Charles as a deficient husband fits with this latter claim that he is a good catch, biologically speaking. In any case, as to Emma’s adultery, the Barashes explain that Charles has experienced a “major professional reversal” due to a malpractice case, and that a female is “especially likely to be unfaithful when her mate has suffered a decline in status.”¹⁹ This assertion is rather puzzling, since her affair with Rodolphe began before the decline in status (as did her initial attraction to her second lover, Leon), and anyway, we have already been given a motivation for her unfaithfulness due to his deficient genes.

What of Emma's final desperate act of suicide? Explaining suicide in evolutionary terms is a serious difficulty, since there are very few conceivable circumstances in which suicide could promote one's genetic advantage. Nor does it do so in this case; Emma in the end has only one child, and with the death of both parents that child is likely doomed to a miserable existence. Nonetheless, the Barashes offer a biological theory of her suicide, based on the fact that biology "underpins a predictable male response to female infidelity": violence. The problem, of course, is that the violence came from Emma's own hand, not from a jealous male. Her husband Charles did not react violently at all; to the contrary, he continued to love her and begs the doctor to try to save her. No matter, the Barashes explain that the death of Emma can be seen as her "punishment" by the male author, Flaubert.²⁰ What about works in which a female author exacts the punishment on a female adulterer, as Kate Chopin does in *The Awakening*? Well, that may be because the author is merely reflecting the biases of her own time²¹ (which is notably a cultural rather than a biological explanation). But what about cases where there is a male author and it is the "male participant" in the female adultery who suffers the most, as in *The Scarlet Letter*? The Barashes characterize this case as "unusual in the annals of literature," and say no more about it.²²

It seems fair to say that the "biological" explanations offered here are banal and unhelpful, indeed quite empty. That Emma marries for money due to her father's financial distress hardly needs to be explained by the biological concept of "hypergamy"; similarly, it adds nothing to tell us that her distress at a husband who is intolerably dull is due to his bad genes (even if there were a gene for dullness). The larger problem is that the methods used here make them vulnerable to the classic criticism of evolutionary psychology, that its ability to explain anything renders it unfalsifiable. When Emma marries, when she is unfaithful, when she commits suicide—everything can be given a "biological" explanation. Indeed, the authors never come to terms with the fact that Emma's behavior is, if anything, irrational in evolutionary terms; she ends up with only a single child, and that child ends up condemned to live in misery with probably little chance of reproduction. They do not attempt to explain, or even mention, the single most important and determining fact about Emma Bovary in the novel: her romantic imagination, and the trouble it causes her. Nor are we told what makes this novel a classic, when there any number of cheap romance novels with plots involving love, adultery, and violence.

Of course, if we lack a better way to make sense of *Madame Bovary*, then we are not in a good position to complain of the dullness of the biological explanation. Let us return to the Barashes' assertion that "a major reason" for Emma's infidelity is biological. What the other possible reasons are, the Barashes do not say. But in fact, it is precisely these other reasons that constitute the essence of the novel and of its greatness. The essential theme of the book, which the evolutionary approach misses, is the tragic tension between the insufferable ugliness and emptiness of modern bourgeois society, and yet the futility of the romantic and spiritual aspirations to escape to something better, though it is not clear what. Emma's adultery is not a "mating strategy" but an expression of her artistic nature (which is why Flaubert famously identified himself with her: "*Madame Bovary, c'est moi*"). Her adultery, and even her suicide, reflects her yearning for a life with more meaning, sought through the romantic heights of passion unavailable in the dull everyday world. Flaubert satirizes these excesses, portraying Emma as having been deluded by cheap, sentimental novels. Yet at the same time, as critics have long recognized, Flaubert deeply sympathizes with the romantic yearning and the dissatisfaction with the modern world. Indeed, for Flaubert, the modern scientific materialist view of the world is part of the problem, as exemplified by the intolerable Homais the pharmacist, who constantly offers reductive "scientific" explanations of Emma's spiritual malaise, at one point theorizing that the smell of apricots caused her fainting spells, not realizing that the real cause was that the apricots were a gift from Rodolphe. The greatness of the novel consists, at least in part, of Flaubert's ability to sustain the tension between these two views, the spiritual aspirations of man versus the tawdry material realities, the central paradox of modern life and indeed more broadly of the traditional theory of human nature, the paradox of being a biological being with transcendental aspirations.

This is not of course the place to set out a comprehensive interpretation of *Madame Bovary*. My aim is simply to demonstrate that it is most emphatically not a book about the biological basis of human behavior, but in a way quite the opposite: a tragedy of human rebellion against the reductionist, materialist view of reality. Indeed, one gets the sense that the Barashes are not really all that interested in interpreting the book, but rather in using it merely as a springboard for discussing their true interest, "*The Biology of Adultery*" (the subtitle of their chapter on *Madame Bovary*). Hence less than 5 pages of the chapter actually discuss Flaubert's book, with the other 23 pages covering various topics, including examples

of female adultery from other works of literature, discussions of the evolutionary logic behind female adultery, and the provision of numerous examples of female adultery in the animal kingdom (especially in birds, which makes it a little disconcerting when Charles Bovary is twice compared to a bird).²³ This chapter is typical of the whole book, which shows little interest in literary interpretation other than mining literature for incidents that help illustrate points of evolutionary theory.

The problem is not just that this evolutionary approach adds little or nothing to our appreciation of great literature. It is that it directs our attention the wrong way. Even if the loftiest products of the human mind are the “emanations” of the biological, it does not follow that the best way to understand the higher elements is by examining their “gooey” evolutionary origins. I have been suggesting that the very greatness of classic literature resides precisely in its attention to our higher spiritual aspirations, the human capacity to transcend its biological origins, to seek higher, more profound goals. But the very method of evocriticism blinds us to this possibility, for it is committed to the very opposite view, that all “noble” goals are merely disguised or unconscious programmed biological drives. Thus for the Barashes, altruism is “actually selfishness in disguise”²⁴; “seemingly selfless devotion” in literature is actually reciprocity; without payback for friendship, they declare, such friendships “aren’t destined to last very long”²⁵ (an observation belied by the plot of *Madame Bovary*, in which Charles, for all his limitations, is selflessly devoted to Emma, despite the fact that she gives him nothing in return). The Barashes even bizarrely enlist poet John Keats as authority for the idea that humans “share the same purpose” with animals, a purpose that evolutionary biologists can now definitively identify: “achieving the greatest possible success of their genes.”²⁶ It is hardly surprising that the authors are unable to recognize that this sort of mechanistic conception of human nature is itself one of the satiric targets of *Madame Bovary*. The very title of the chapter and the book, “*Madame Bovary’s Ovaries*,” even allowing for the attraction of a clever rhyme, is indicative of the problematic reductive assumptions of the evocritical method: that this novel, like all great novels, is really only about sex, and that human nature, at the bottom, is only about the sexual drive.

THE PICTURE OF DORIAN GRAY

The preceding discussion of the interpretation of *Madame Bovary* by prominent evolutionary psychologists was aimed not to single out one poor example of literary Darwinism, but to demonstrate a general tendency

that is endemic to any form of Darwinism: the attempt to make literary theory “scientific” by reducing human values and aspirations to biological needs, the high to the low, the spiritual to the material. It may, however, be charged that I have merely picked an example of “vulgar Darwinism,” and hence adopted too easy a target.²⁷ Let us therefore turn to an example from a scholar who is widely considered among the best of the field, the dean of Literary Darwinism and its founder, English professor Joseph Carroll. Here I have picked out what is, to my mind, the best example of “Darwinian” literary criticism I could find: his careful and thoughtful examination of Oscar Wilde’s *The Picture of Dorian Gray*.²⁸

Carroll’s essay on *Dorian Gray* is insightful, powerful, and to me quite convincing; it is the best single analysis of Wilde’s novel that I have ever read. Carroll interprets the novel as displaying the essential moral tension between hedonistic, selfish, temporal desires and moral, spiritual, ideal values. The novel tells the story of Dorian Gray, who after having his portrait painted, wishes that the figure in the portrait would age and grow old rather than himself, so that he could fully pursue a sensual life. Dorian then pursues this life, seeking every sensual pleasure and exploring every possible vice. The more corrupted he becomes, the more he notices his appearance in the painting become grotesque and distorted. Eventually, stricken by conscience, Dorian tries to become good, but is unsuccessful. In a last desperate attempt to eliminate the conscience that tortures him, he stabs the painting. But in doing so, he has killed himself.

For Carroll, the three main characters in the novel represent different aspects of Oscar Wilde, in particular the conflict between the selfish hedonistic desires and the demands of morality. Dorian’s life is an acting out of Walter Pater’s aestheticism, the philosophy that “places a maximal value on youth, beauty, and transient sensual pleasure.”²⁹ For Carroll, homosexuality in particular represents this pleasure-seeking lifestyle with its “promiscuous, impersonal sex.”³⁰ He argues that “For Wilde, the central enigma of personal identity is that the creative spirit... is fundamentally divided against itself.”³¹ Basil, the artist, pays a “terrible price” for choosing sensual beauty over his conscience, as does Dorian. However, as Carroll rightly recognizes, there is no “simple moral message” in the novel,³² but rather an expression of the “unresolvable conflict between the aesthetic and moral sides” of human identity.³³ The “central artistic purpose” in the novel, says Carroll, is “to articulate the anguish in the depths of Wilde’s own identity.”³⁴ One might quibble with this final conclusion; surely the novel depicts something not merely unique to Wilde, but a universal dilemma in human nature. We all experience the conflict

between the sensual, material side of our nature and the moral, ideal, spiritual side, and none of us are likely to be satisfied by any simple formula for resolving this conflict. Nonetheless, Carroll's approach is quite illuminating, and it is particularly praiseworthy that (contrary to Buss) Carroll does not try to suggest that the noble, spiritual aims are really reducible to the material ones.

All well and good—but the reader cannot help but wonder, in what way is this “Darwinian” literary criticism, rather than merely literary criticism? What does evolution have to add? Indeed, Carroll barely mentions Darwin or evolution over the course of this 18-page essay. And the central guiding theme he finds in *Dorian Gray*, the conflict between the two sides of our nature, is a theme that makes far more sense within the traditional view of human nature than within the Darwinian one. But Carroll insists that Darwin has two important contributions to make to understanding Wilde's novel. First, he says that “Darwin tells us that humans have an evolved moral sense that consists in empathic bonds extending over time and generating a sense of personal responsibility.”³⁵ This is quite a strange claim. It is almost as if Carroll is suggesting that it is Darwin who discovered the existence of this moral sense, or that Darwin's authority is sufficient for us to believe in its existence. But we know perfectly well that we have a moral sense, and do not need Darwin to tell us—indeed, if evolutionary theory told us we did not have such a sense, we would say that evolutionary theory is simply mistaken. Even worse, of course, is the fact that there is no evidence whatever that our moral sense is an evolutionary adaptation, rather than a problem that evolutionary theory has yet to resolve (see Chap. 5). Further, this evolutionary account of morality would, if taken seriously, reduce moral conscience merely to a source of feelings, no better or worse in nature than feelings of pleasure. It would show that conscience has no special higher claim on us, and there is no reason to choose it over sensual pleasure unless we choose to—thus undermining the central conflict at the heart of Wilde's book. Thus this evolutionary element plays no explanatory role whatever in the essay, or worse, it undermines the very explanation offered by Carroll.

The other area in which Carroll invokes Darwin in support of his literary analysis is in the discussion of homosexuality. Carroll cites evolutionary psychologist Donald Symons for the proposition that homosexual sex is “promiscuous” and “impersonal.”³⁶ It is for this reason, Carroll argues, that homosexuality can serve as the fullest expression of the “aesthetic,”³⁷ sensual, amoral lifestyle hostile to fidelity or committed relationship, thus

bringing out the conflict with morality to the highest degree possible. Now in fact one might wonder about the evolutionary basis for the stereotypical view of gay men as promiscuous, hedonistic, and amoral. Further, in the novel the homoerotic element is only hinted at, and Dorian's moral corruption is displayed not through homosexual acts but through his mistreatment of his female lover, Sibyl, as well as his committing other crimes such as murder and blackmail. But even if the homoerotic theme does play an important implicit role in the novel, we need not assume that it does so because it intrinsically leads to immoral behavior. It could simply be a symbol for the double life of the immoralist, who must keep his homosexual preferences secret. In any case, it is hard to see how speculative evolutionary psychology theories of homosexual behavior have much to contribute to understanding this novel. One need not be a homosexual in order to be a hedonistic aesthete.

We thus see in Carroll's essay, surely an example of some of the best Literary Darwinism has to offer, little encouragement for the field. To the extent the essay is good literary analysis, it is not Darwinian; to the extent it is Darwinian, it is not good literary analysis. Hence the essay by its very excellence if anything demonstrates the limits of the Darwinian approach, for it is just the Darwinian contributions in the essay that are the least useful. Whereas the Barashes' Darwinism leads them to misunderstand *Madame Bovary*, Carroll's intrinsic good literary sense leads him to an insightful and non-biological interpretation of *Dorian Gray*—with the sole exceptions of where he tries to insist that his analysis is furthered by insights from Darwin.

HOMER'S ILIAD: APES FIGHTING FOR MATES

Let us then consider in detail one more example of Literary Darwinism in action, perhaps the most important example to date: Jonathan Gottschall's *The Rape of Troy*. The importance of this book lies first in the fact that it takes on one of the giants of the world literary tradition, Homer and his *Iliad*, but equally important that it is to my mind the best single example of Literary Darwinism. As we saw, the Barashes' treatment of *Madame Bovary* is an illustration of how not to do evocriticism: superficial, simplistic, and with little interest in close analysis of the text, it is Darwinism but not serious literary analysis; in contrast, Joseph Carroll's treatment of *Dorian Gray* illustrates the opposite problem—it is insightful and thorough literary analysis, but with precious little Darwinism. Gottschall's

analysis of the *Iliad* makes neither of these errors: It is a true Darwinian analysis and one that takes seriously the effort to provide an interpretive guide to the *Iliad*. Gottschall is as radical in his ambitions as any Darwinist; in an earlier book he called for a “total disciplinary upheaval” in literary studies.³⁸ Gottschall explains the origin of his book on Homer while in graduate school:

“I became convinced not only that an evolutionary approach could bring something new and useful even to a poem that had been picked over by scholars for 2,500 years but that it could do the same for literary analysis generally by providing it with its first truly scientific theory of human psychology and behavior.”³⁹

The eventual result, *The Rape of Troy* (published in 2008) is beautifully written, intelligently argued, and genuinely innovative in its approach to Homer. It proposes a particular method: We should use the same “tools we use to study animal behavior” to understand humans⁴⁰ and even to understand the highest and most noble creations of human beings: our classic literature. The question here is whether this method does indeed add any new insights to the interpretation of Homer.

Gottschall complains that Homeric scholars have failed to provide an explanation for the most characteristic feature of the epic poem: the “special fury of Homeric conflict.”⁴¹ Moreover, what could explain the wildly disproportionate cause of the war: fighting for 10 years over a single woman who committed adultery?⁴² He proposes a simple Darwinian explanation, that the poem can be understood within a “single explanatory context”: human behavior is an attempt to enhance Darwinian fitness.⁴³ Honor, heroism, and glory are all means to achieve status, which is instrumental to reproductive success in Homeric society. But why is the fighting so particularly ferocious in the *Iliad*? Gottschall’s hypothesis is that Homeric society must have “suffered from acute shortages of available young women relative to young men.”⁴⁴ The combination of sexual frustration and acute competition for mates resulted in a particularly violent, war-obsessed society; men had nothing to lose by risking their lives in competition for scarce females, since if they did not win a woman they would suffer reproductive death in any case. This sociological and non-supernatural explanation becomes for Gottschall the key to the understanding and appreciation of the special virtues of the *Iliad*. It explains not only the violence in Homer, but the tragic worldview and the “frequently cruel and capricious natures of the gods and fate” in Homer.⁴⁵ The tragic

outlook of the *Iliad*, Gottschall claims, reflects the pessimism and despair of a world in which, there not being enough women to go around, men are doomed to fight endlessly. Even though the warriors in the *Iliad* blame their fate on the merciless deities, in fact there is a perfectly natural sociological explanation of their troubles: a shortage of available females. This interpretive key to the poem also supplies, Gottschall holds, an explanation of the universal appeal of Homer's text, that is, its special status in the literary canon, given Homer's "sensitive treatment of the central, universal theme of the preservation of life and family."⁴⁶

In assessing this sweeping and revolutionary hypothesis, we begin by noting that this hypothesis of a shortage of women in the Homeric world is unsupported by any historical evidence. There is no mention anywhere in the text of the *Iliad* of any such problem, nor independent anthropological or literary evidence of any such crisis in the Homeric world. Gottschall admits as such and carefully qualifies his thesis: "the patterns of violence in Homeric society are tantalizingly consistent with the hypothesis that Homeric society suffered from acute shortages of available young women."⁴⁷ Gottschall admits there is "no direct evidence" for his hypothesis⁴⁸ and little if any indirect evidence either; it is an "educated hunch" at best.⁴⁹ Equally problematic is the vague notion of the "Homeric world": exactly what period in history does this refer to? No one knows when the *Iliad* in its current version was first composed or written down, though the usual date range is given as somewhere between the ninth century and the seventh century BCE. But the *Iliad* is a collection of preexisting myths and epic tales that presumably were passed down by oral tradition from centuries before. Moreover, the time period in which the poem is ostensibly set is the Mycenaean age, around the thirteenth century BCE. So exactly when is there supposed to have been this shortage of women? Was it in the Mycenaean age when the poem is set, or in the intervening centuries when the poem was being created through oral tradition, or in the eighth century when the poem seems to have come into final form? Gottschall's hypothesis rests on a very specific historical claim about a particular place and time, but without any clear sense of what place and time that is it is hard to know how even to begin to evaluate it.

Indeed, as we will see below, a far more fundamental problem is that Gottschall's approach rests on a highly controversial assumption, that the poem should be treated as historical commentary rather than as timeless myth. In contrast, classical scholar Ken Dowden notes that the *Iliad* is composed in large part of a range of much earlier myths and is not about any historical period at all; that is "simply not what myth was for."⁵⁰ It is

as if future generations were to look back on the HBO television series “Game of Thrones” and try to explain its hyperviolence in terms of particular historical factors from the twenty-first century, or perhaps the quasi-Middle Ages setting, or some period in between the two. There seems little obvious reason to attempt to explain Homer’s great poem in the same way. But even supposing that there were a shortage of females that caused a period of intense warfare somewhere in Greek history, which inspired Homer to write his epic: would this fact provide an explanatory framework for all the themes and the classic status of the *Iliad*? In fact, I will argue that such an explanation would miss everything of interest and importance in the epic. It would of course be impossible to do full justice to the richness of Homer’s work here, but we present here a brief account of some of the key elements of the poem that Gottschall’s reductive approach misses or misconstrues.

Homer’s Transformation of Greek Religion One important reason for the special significance of the *Iliad* and the *Odyssey* is the way in which Homer effected a religious revolution in Greece, transforming a set of unconnected local hero cults based on ancestor worship into a panhellenic Olympian religion, unifying Greece in the worship of the Olympian gods commanded by Zeus.⁵¹ This radical reshaping of Greek religion involved the near-elimination of the chthonic deities of the underworld, with their incessant demands for sacrifice, as well as the establishment of patriarchal supremacy in the world of the gods, where Zeus becomes dominant over the previously powerful Near Eastern goddess figures.⁵² Homer’s new worldview involved as well a radical naturalizing of religion. The *Iliad* has long been noted for its suppression of most supernatural events; the gods mostly stay in their Olympian realm and there are very few miracles in the poem. Homer also tries to eliminate that characteristic feature of the hero cult, the idea of the hero gaining immortality through his death, which is a ritual sacrifice. Homer notably suppresses the tradition of Achilles gaining immortality, substituting instead the purely secular idea of immortality through one’s name being remembered by the poets. None of these ideas appear in Gottschall’s analysis, nor could they usefully be subsumed into a Darwinian account in which humans are motivated entirely by fitness concerns.

This emphasis on the religious transformation created by Homer also provides a far more convincing—albeit still controversial—explanation of the role of women in the poem. Gottschall hypothesizes that the

magnified role of women in the poem—the war is fought, strangely, for 10 years over a single adulterous woman—may be explained in terms of a shortage of mates (though fighting so long over a single woman still makes no evolutionary sense). But a more plausible explanation is that the significance of woman in the poem is explained instead by the religious transformation away from a goddess-based religion to a patriarchal one. It has long been noted that Helen, though presented as a mortal woman in the poem, has many features of goddess, and is even compared to a goddess at one point: “A goddess the woman is to look at.”⁵³ Murray notes that Helen was recognized as a goddess in Sparta, and a central myth surrounding her was her being carried off by a ravisher, then recovered and brought back, an idea which must have provided the basic structure of the *Iliad*’s plot.⁵⁴ Nagy notes her function as a dawn-goddess in myth, with traces of this idea in the *Iliad*.⁵⁵ If so, the *Iliad* represents not the story of a historical people seeking more women, but the transformation of a goddess myth into a historical event through which the powerful goddess is demoted to a merely beautiful woman—resulting in the strange plot anomaly that men would fight a vicious war for 10 years over a mere woman.

Cosmic and Mythical Themes An interpretation of the poems in the pedestrian terms of a need to gain more marriageable women also obscures the cosmic and mythical themes that make the *Iliad* a major work of literature. We have already mentioned how the poem is in large part an attempt by Homer to secularize and historicize ancient mythical themes, such as the idea of the abduction and return of the goddess. It has been observed that the basic plot structure of the *Iliad*—Achilles’ withdrawal from the fight, the resulting disaster, and his return to save the Greeks can be seen as a version of an ancient and widespread Near Eastern myth of the disappearance/devastation/return of a godlike figure (e.g. the Persephone myth). Homer also secularizes the central core of the Achilles’ myth—that Achilles represents the son who was prophesied to replace Zeus, and that Achilles’ willing acceptance of his own death is a sacrifice to ensure the cosmic order (Homer turns this into a secular choice, whether to fight and die for glory, or return home to a simple life). This theme, unmentioned by Gottschall, is arguably the single key idea in the poem. It suggests that the theme of the poem is the preservation of cosmic order⁵⁶ and that Achilles is in effect the ritual sacrifice to ensure that order. The *Iliad* is the Greek equivalent of the

myth of the Fall of Man from a Golden Age; through suffering bringing about a stable cosmic order in which man gives up his challenge to the divinities by accepting his mortality.⁵⁷ Even the length of the war (9 years, or 10 by Greek inclusive counting), appears to have a source in myth and ritual; Dowden connects it to an ancient Indo-European initiatory ritual involving a 9-year stint as a wolf outside of society before returning as a full citizen.⁵⁸

The Tragic Vision of Homer Gottschall recognizes, to his credit, that the *Iliad* is about more than a war caused by a shortage of females, but that a central part of its appeal is the tragic vision that Homer's poem gives us. Unfortunately he chooses to interpret tragedy in the vulgar sense, as meaning merely pessimism, gloom, or fatalism. But literary scholars have long rejected this inadequate definition of tragedy, noting that the tragic vision is affirmative as much as it is negative; it is an expression of human greatness and nobility through suffering and sorrow. The tragic paradox is that man's nobility—and here one might say his divinity—can show through only in his mortality. The expression of this idea in the *Iliad* is that the true hero can gain honor only by his willingness to suffer an early death. The price of heroic glory is death.⁵⁹ Those who shirk battle or seek to avoid death so as to return home, like Odysseus, cannot be tragic heroes.⁶⁰ Nothing better explains the universal appeal of Homer, or his elevated position in the canon, better than his expression of this central tragic paradox of human life: our choice between the mundane goods of temporal existence (wealth, status, power, reproduction) and the higher more noble goals as represented by the hero. Indeed, one of the most puzzling features of Gottschall's book is his claim that the Darwinian approach should explain Homer's high stature as a poet. For Gottschall turns Homer into an evolutionary psychologist, explicating the principle that a shortage of females will lead to violent conflict among males (even though Homer never mentions or hints at this principle). It takes an evolutionary psychologist to claim that the glory of Homer is that he was an evolutionary psychologist even before Darwin!

The Nature of the Hero The hero in Homer and the Greek mythical/religious tradition has a special role. He is the mediator between the two realms, earthly and heavenly. He combines opposites within himself, and nowhere more so than in Achilles, who is at the same time

the most bestial and the most divine of mortals. Gottschall attempts to explain the “special fury” of the *Iliad*, and unsurprisingly uses the idea of a frustrated sexual desire to do so. But in fact Homer has a special word for this fury, “menis,” the rage of Achilles, the first word of the poem. It is Achilles’ rage that marks him as beastlike but also as divine; menis is a word ordinarily used only of divine beings, not mere humans. Achilles is the pivot of the war, the savior of the Greeks and by extension the savior of human beings, the one who by his death establishes the cosmic order and avoids a return to the primal chaos. The hero situates man in his rightful place, between animals and gods. The life of the gods is pointless, trivial in the *Iliad*; there is nothing really at stake for them, since they cannot die. The life of animals is no better, since they live merely by instinct and have no higher goals. But the human being, being composed of both, is the ideal form of existence, for he shares in both realms.⁶¹ In short, the Homeric tragic and heroic vision of human beings is the classic hybrid conception of man, containing both an element of earth and of heaven, unifying the two though at the price of his mortality.

The utter wrongheadedness of Gottschall’s approach is nowhere better illustrated than by his marking of Achilles and Hector as losers, those who have “lost” in the struggle to reproduce.⁶² In fact, Achilles is the hero par excellence, the “greatest of the Achaeans,” the man who achieves greatest kleos, and perhaps even immortality (though Homer downplays that aspect). To see Achilles (or any other dead hero) as a loser is to misunderstand the poem entirely—just as to see Odysseus as a “winner.”⁶³ Gottschall misses the very essence of the heroic ideal, what makes men greater than mere animals, the willingness to give their lives. If one looks only for the animal element in man, that is what one will see. But that is to miss what is most essential in Homer. For Homer, the human being is more than merely animal, though less than god. The central theme and appeal of Homer is not the “preservation of life and family,” but the heroic ambition and its transcendence of ordinary values such as life and reproduction. One cringes to hear Gottschall conclude that the greatness of the *Iliad* consists in its depiction of “hard struggles for survival and reproduction.”⁶⁴

The *Iliad* is not a treatise on evolutionary psychology, nor a book of history or anthropology. It is a philosophical and religious treatise, an exploration of man’s place in the cosmos, the meaning of death, and the nature of the human being. Gottschall tries to make Homer into

a Darwinist, insisting that Homer “would not have been scandalized by *The Descent of Man*.”⁶⁵ For Gottschall, we are firmly rooted in biology rather than placed at the “top of the chain of being.”⁶⁶ But while this may be Gottschall’s view, it is not Homer’s. Homer does share with Gottschall an attempt to eliminate as far as possible the overtly supernatural aspects of traditional Greek religion. But Gottschall like so many Darwinists sees the debate as polarized between two extremes, Darwinism versus supernaturalism.⁶⁷ Homer presents a third alternative: a (largely) naturalized conception of man but one that does not reduce man to apes, that sees the “divine” element of man in his power to pursue transcendent values even at the cost of death. Achilles is not the “loser” in the *Iliad*, he is the winner, the greatest of Greek heroes in the book. Darwinist approach to Homer would not pretend to enlist Homer as an ally in the Darwinist debate, for he is rather, any more than Flaubert or Wilde. A true literary Darwinism would not enlist Flaubert, Wilde, and Homer as Darwinists, but rather accept that they are anti-Darwinists who need to be debunked as based on a false and outmoded and pre-scientific conception of human beings. For then the Literary Darwinists can call for replacing them with a new classic literature that depicts man as merely naked apes fighting and fornicating—that is, in the Darwinist conception of the true nature of man.

LITERATURE AND HUMAN NATURE

We have suggested that there is good reason to cast doubt on the usefulness of the Darwinian perspective on literature, at least when taken as a totalizing approach (without denying that biology can provide some insights into literature). However, we can also present an alternative, positive outcome of the preceding analysis: that great literature embodies and expresses not the reductive, biological conception of humans but the traditional, hybrid one. Each of the works we have looked at expresses the essential tension in the human being between his lower, biological nature and his higher spiritual one. Emma Bovary is miserable because of the inadequacy of ordinary life, of the tedium of bourgeois goals of respectability, marriage, and reproduction. The characters in *The Picture of Dorian Gray* live out the conflict between the desires of the flesh and the demands of the conscience. The hero Achilles in the *Iliad* expresses the tragic destiny of man, less than a god but more than a beast.

It is worth saying a word more about *Madame Bovary*, as this work represents a particularly interesting modern take on the hybrid picture of human beings. Superficially, one might read this book as a cynical rejection of the traditional fairy tale view of humans as having a divine element, of the vanity of aspirations to something higher in the modern age. Emma can seem childish and even pathological, and her ultimate suicide can be taken as indicative of her maladjusted state. Moreover, the way her higher aspirations are directed, toward storybook romantic conceptions of love is hardly indicative of admirable spiritual or moral ideals, but rather tawdry adulterous affairs. So is Flaubert trying to teach us, as some critics have suggested, that we had better learn to accept this world as it is and not aspire to a nonexistent fantasy world? In fact, I would argue that the greatness of the novel is that it also suggests another perspective: that Emma is the true artist aspiring to something great, and that the fault lies not in her but in her society, which no longer recognizes the aspirations to the transcendent, nor provides any institutions to satisfy those needs. From this perspective, Emma's suicide is not a pathological act but a rational response to a pathological materialist world no longer capable of recognizing genuine transcendent ideals.

LITERARY DARWINISM AND HUMAN VALUES

We have raised two distinct though related questions in this examination of the merits of the sociobiological approach to understanding human culture in an attempt to make the humanities more "scientific." One is a descriptive question: does this method provide new and useful insights into such fields as human art, moral values, or literature? Indeed, does it even suggest the possibility of largely (if not entirely) supplanting the traditional methods of study of the humanities? For instance, does Darwinism explain previously unsolved problems, such as why the fighting in Homer is so ferocious, or is all religious doctrine merely a symbol for primary biological needs such as food and shelter? The other question is normative: does the materialist worldview as embodied in the evolutionary approach inevitably endorse a materialist set of values, if only by limiting its focus to such values?

We have tried to take seriously Pinker's insistence that the hypotheses of sociobiology and evolutionary psychology be assessed by whether they provide successful insights into otherwise unexplained human behavior. However, the very definition of success is not a neutral or scientific one.

What counts as a successful hypothesis in such matters as literary interpretation or moral theory will depend in part upon one's prior commitments. One who is committed to the mechanistic, deterministic model of the human being is not likely to accept a Kantian theory that is grounded in human rationality and autonomy. Similarly, a Darwinist is likely to assume that altruism has not been explained until it has been discovered how it really serves the selfish purposes of the genes. So Pinker's method is not quite as transparent as it might seem.

Nonetheless, we have tried to present an objective analysis of the results of three case studies of the purported contributions of the sociobiological approach to literary interpretation. In each case, the results have been, it seems, clearly negative. As we have shown in each of these cases, the sociobiological hypotheses have been at best speculative, and at worst unfalsifiable or obviously fallacious. Consider, for example, Pinker's own insistence that the Darwinist approach to literature is vindicated: "A Darwinian would say that ultimately organisms have only two [goals]: to survive and to reproduce. And those are precisely the goals that drive the human organism in fiction."⁶⁸ But as we have tried to demonstrate in this chapter, Pinker's claim is quite wrong. To see humans as driven only by survival and reproduction is to miss what is most essential in great works of literature—the conflict between our lower, "Darwinian" nature and our higher values and aspirations. This is the essential role of the humanities, which is predicated on the study of the traditional view of human nature as bipartite, torn between lower and higher values. It is furthermore worth noting that our analysis of literature refutes the Darwinists approach twice over: First, literature is revealed to be a critical reflective activity rather than an instinctive, biological one, and as such is no more reducible to evolutionary goals than is physics, mathematics, or for that matter evolutionary psychology itself (as we saw above, even the Barashes accept the "Aristotelian" view that the purpose of literature is the seeking of truth, and they do not attempt to reduce this purpose to a Darwinian goal⁶⁹). Second, the particular content of these reflections undercuts the Darwinian account of man in favor of the traditional view of the human as embodying a tension between the animal side and the higher rational, moral side.

None of this is to deny the possibility that sociobiological approaches can contribute to the humanities by revealing some of the ways in which our behavior can be explained by evolution. But as we have seen in all three examples given here, in practice such explanations tend to become

imperialistic, crowding out traditional explanations by imposing a mechanistic, materialistic framework on human behavior to the exclusion of the humanistic approach. The evolutionary approach to literary criticism takes the nineteenth-century novel or the ancient Greek epic and sees in it nothing but the behavior of primates—thereby missing out on just what makes literature important and an expression of what is uniquely human. This pattern is no accident. To admit that human activities such as art, literature, or morality have rational, teleological ends rather than mechanistic functional ones would be to admit that the approach of the natural sciences has little to offer in terms of understanding human cultural behavior. Recall Ian McEwan's remarkable claim that in bonobos one "one sees rehearsed all the major themes of the English nineteenth-century novel: alliances made and broken individuals rising while others fall, plots hatched, revenge, gratitude, injured pride, successful and unsuccessful courtship, bereavement and mourning."⁷⁰ To which one is tempted to reply: Do they display Stowe's moral condemnation of slavery *Uncle Tom's Cabin*? Dostoevsky's exploration of the moral implications of atheism? Melville's exploration into fate, evil, and man's destiny in *Moby-Dick*? Such intemperate remarks will not help the cause of Darwinism.

In retrospect, it is hard to see how a materialist worldview could not be expected to promote a materialist set of values. The Darwinist assumes a deflationary theory of human nature, one that delights in puncturing human pretensions to have higher goals and aspirations than other animals. To understand our behavior is to identify the underlying causal, deterministic factors that govern us even in purportedly "higher" human activities. Inevitably this means rejecting the very idea of a hierarchy of values, the traditional assumption that mundane goals such as material well-being should be subordinated to higher goals such as cultivation of one's moral or artistic capacities. In the Darwinian approach to ethics, the destructive consequences of this approach are generally on the surface, in the repeated insistence that morality is an illusion. But in Literary Darwinism, the effect is equally insidious: a relentless reduction of all human behavior to material aims, particularly the "ultimate" aim of successful mating. The Darwinist inevitably ends up just where he started, with the conclusion that great literature is about mating strategies. This has the advantage for the Darwinist of providing an account of human behavior that is mechanistic and hence amenable to scientific inquiry. But as evidenced by the examples given here, it has the unfortunate effect of distorting rather than clarifying our understanding of human behavior, and even undermining

our most important values. We do not seek or need an evolutionary theory of physics or mathematics, for the reason that these are rightly recognized as rational disciplines, for which a causal, mechanistic explanation would be pointless. Of course, the humanities aim to study not merely rationality, but the entirety of human nature, and of course biology may help provide some insights into that side of humans. But the core of the humanities will always be the study of the complex and unique problem of the human being: the animal aspiring to, and if all goes well becoming, a fully rational and autonomous being.

NOTES

1. Gottschall, *The Literary Animal*, xvii.
2. *Ibid.* xxvi.
3. Barash, *Madame Bovary's Ovaries*, 9.
4. Gottschall, *The Literary Animal*, 225.
5. *Ibid.*, 149.
6. *Ibid.*, 201.
7. *Ibid.*, 103.
8. *Ibid.*, 11.
9. *Ibid.*, 66–7.
10. Barash, *Madame Bovary's Ovaries*, 8.
11. *Ibid.*, 3.
12. *Ibid.*, 5.
13. *Ibid.*, 4.
14. *Ibid.*, 8.
15. *Ibid.*, 10.
16. *Ibid.*, 101.
17. *Ibid.*, 105.
18. *Ibid.*, 103.
19. *Ibid.*, 107.
20. *Ibid.*, 118.
21. *Ibid.*, 114.
22. *Ibid.*, 116.
23. *Ibid.*, 104, 107.
24. *Ibid.*, 129.
25. *Ibid.*, 211.
26. *Ibid.*, 132.
27. Carroll, *Reading Human Nature*, 81.
28. *Ibid.*, 91–108.

29. Ibid., 96.
30. Ibid., 99.
31. Ibid., 103.
32. Ibid., 104.
33. Ibid., 107.
34. Ibid., 108.
35. Ibid., 107.
36. Ibid., 99.
37. One might also worry about the use of the term “aesthetic” as a synonym for sensual, revealing Carroll’s own reductionist assumptions.
38. Gottschall, “The Way We Live Our Lives.”
39. Gottschall, *The Literary Animal*, xix.
40. Ibid., 160.
41. Gottschall, *The Rape of Troy*, 2.
42. Ibid., 57–58.
43. Ibid., 3.
44. Ibid., 4.
45. Ibid., 55.
46. Ibid., 162.
47. Ibid., 4. It is not clear what he means by “tantalizing” here; presumably only one seeking a Darwinian explanation would be tantalized by such a possibility.
48. Ibid., 128.
49. Ibid., 138.
50. Dowden, *The Uses of Greek Mythology*, 69–70.
51. See, e.g. Nagy, *Best of the Achaeans*, 116.
52. E.g. Murray 1967, 267.
53. Homer, *Iliad* 3:155.
54. Murray, *Rise of the Greek Epic*, 205.
55. Nagy, *Greek Mythology and Poetics*, 256.
56. Cf. Whitman, *Homer and the Heroic Tradition*, 142.
57. Nagy, *Best of the Achaeans*, 220.
58. Dowden, *The Uses of Greek Mythology*, 111.
59. Whitman, *Homer and the Heroic Tradition*, 220.
60. At least from the perspective of the *Iliad*; the *Odyssey* of course portrays Odysseus as a heroic character. Nonetheless, the traditional conception of Odysseus as a coward persisted throughout antiquity.
61. Cf. Schein, *The Moral Hero*, 62.
62. Gottschall, *The Rape of Troy*, 162.
63. Ibid.
64. Ibid.

65. Ibid., 162.
66. Gottschall of course gets this wrong: in the Chain of Being conception, man is at the middle, not the top.
67. Ibid., 4, 141.
68. Pinker, *How the Mind Works*, 541.
69. Barash and Barash, *Madame Bovary's Ovaries*, 5.
70. Gottschall and Wilson, *The Literary Animal*, 11.

Darwinism and the Meaning of Life

It is the ultimate question of human existence: what is the purpose of life? Why are we here? How should we live a meaningful life? It is also the single hardest question for a naturalist to answer, since a central guiding principle of the scientific tradition is the denial of purpose, values, or goals as real or having explanatory value. The Darwinist account of human origins allows for quasi-purposes or “functions” (the function of the eyes are to see), but such functions are taken as mere figures of speech; evolution is in no sense forward-looking or teleological. Moreover, to the extent that there is any sort of ultimate purpose in the evolutionary process, it is successful survival and reproduction. All of this creates a dilemma for the committed Darwinist in considering the meaning of human life: On the one hand, he wants to deny that there is any answer to the question or that the question even makes any sense. But on the other hand, he does not want to make his discipline irrelevant to the very question that people most want to ask: what is the meaning of life? As we will see, the Darwinist struggles to deal with this dilemma. What is clear at least is that Darwinists cannot help but be fascinated with the problem, as revealed by the spate of titles on this question:

Darwin, God, and the Meaning of Life (Steve Stewart-Williams)

Sex, Murder and the Meaning of Life (Douglas Kenrick)

Darwin's Dangerous Idea: Evolution and the Meanings of Life (Daniel Dennett)

The Really Hard Problem: Meaning in a Material World (Owen Flanagan)
The Meaning of Human Existence (E.O. Wilson)

Indeed, a recent trend among Darwinists has been to insist that the theory of evolution now, finally, gives us the tools to answer the ultimate question, what is the meaning of human existence. Kenrick declares that “By combining a few modern scientific insights into evolution, cognition, and complexity, we can now actually begin to answer that grand question.”¹ E.O. Wilson writes: “I believe that we’ve learned enough about the Universe and ourselves” to address the question of the meaning of human life “in an answerable, testable form.”² Haidt declares that “psychology and related sciences have revealed so much about human nature that an answer is now possible” to the question of the meaning of life.³ But before we explore this alleged new vision of the meaning of life, we must address a disturbing possible answer to that question: the nihilist idea that science has revealed that there is in fact no meaning at all to human existence.

THE GOSPEL OF NIHILISM

Many naturalists have insisted on what I will call the Gospel of Nihilism: the denial of any purpose or meaning in the world. For many physicists, biologists, psychologists, and philosophers, the study of the universe is said to reveal that there is no grand purpose or meaning in the world; all is blind chance. Physicist Lawrence Krauss insists that the belief in purpose and design is an “illusion”; instead what we find is a “universe without purpose.”⁴ Steven Weinberg in his book *The First Three Minutes* famously remarked that “the more the universe seems comprehensible, the more it seems pointless,” and remarkably, his critics attacked him for even suggesting that there *could* be a point or purpose to existence. Dawkins declares that “there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless indifference” in the universe.⁵ Sherman-Williams holds that “People want to think that there is some ultimate purpose or meaning behind their lives. Most probably there is not.”⁶ Sommers and Rosenberg insist that Darwinians are necessarily “metaphysical Nihilists denying that there is any meaning or purpose to the universe,” both on the global and local scale.⁷ William Provine writes that people “want to have some kind of ultimate meaning in life coupled with life after death. If modern evolutionary biology is true, then all these lofty desires are hopeless.”⁸

Do the sciences, from physics to biology, dictate the Gospel of Nihilism? It would be a remarkable claim indeed if science has definitively proven the absence of purpose in the universe—perhaps the greatest scientific discovery ever. Yet one is hard-pressed to discover just what the supposed empirical evidence is for this grand metaphysical claim. To be sure, science has not discovered any positive evidence of meaning or purpose. However, the idea that, if the world does have a meaning or purpose we should expect science to have discovered it, is a category error. Consider the literary critic examining a difficult passage in *Hamlet* to ascertain its meaning. The meaning of the text is not something “in” the text that can be observed or measured or tested; analyzing the physical text will reveal only ink blots on paper. Ascertaining the meaning of the text requires a holistic, interpretive judgment of the available evidence, the text itself. It may in fact be that there is no meaning at all; perhaps the text has been corrupted—but even this is an interpretive judgment for which the methods of science are not designed to address.

In the same way, if human life or the universe itself has a meaning or purpose, it is not obviously anything that the methods of science are suited to discover—especially given that a guiding assumption of the natural sciences has long been to exclude any teleology in advance. Meaning or purpose is not a physical entity, but an interpretive fact about physical entities that require the methods of the humanities to ascertain. To be sure, it could have been the case that there was physical evidence of meaning in the universe: Perhaps every atom could have been stamped with the label “Made By God,” visible only with electron microscopes (though even so, it would still require an interpretive judgment to understand the significance of this phrase). But there is no obvious reason to expect that meaning is present in such a crude and clumsy way, any more than the meaning of *Hamlet* is present in the text on a microscopic scale, waiting to be discovered by science. Thus the assertion that science has not discovered any evidence of meaning or purpose is misguided, a form of scientism (if science has not discovered meaning, then there is no meaning).

One might argue, however, that there is a different and more plausible way to reveal the lack of purpose or meaning: by providing a complete, causal mechanistic explanation of everything there is, without need for purpose in the explanation. Thus Krauss and others have argued that the universe naturally gives rise to the complexity found in it, without need for an external designer; and biologists insist that human nature can be given a complete causal explanation in terms of the principle of natural selection.

On this approach, one does not claim merely that there is no evidence of purpose, but that there is no *need* for such a hypothesis, and that by Ockham's Razor, purpose and meaning can be discarded as unnecessary entities with no explanatory usefulness.

Now one might wonder about the cogency of this argument. Suppose that, in principle it were possible to give a complete causal, physical explanation of how the ink blots on the pages of my edition of Hamlet came to be organized just the way they are. However, even if we had such a causal account, it would hardly entail that the text had no meaning. Hamlet does have a meaning, and was written for a purpose by Shakespeare. The physical explanation does not and need not compete with the purposeful explanation. And the purposeful explanation clearly does have an explanatory role: To understand why the ink blots came to have the structure they did, we *need* an explanation in terms of the purpose of the author. So if the Ockham's Razor account won't do for Hamlet, there is no obvious reason to assume it will do for the universe as a whole. One must be very careful in declaring that we have a "complete" explanation of anything, without begging the question.

Moreover, this argument rests on the crucial assumption, at present more like an article of faith, that we have or will have a complete causal explanation of the universe and of human existence. As for the universe, in fact the current evidence arguably points in just the opposite explanation. David Albert's searing review of Krauss' book in the *New York Times Book Review* points out the fundamental error in Krauss' argument that we can now explain how the universe was created from nothing, by pointing out how the laws of quantum mechanics will inevitably give rise to a universe of the sort we see. But Albert observes that this account *presupposes* the existence of just the right sort of laws that will produce our universe, and hence does *not* explain how the universe can come from nothing.⁹ Moreover, some physicists think that the argument from Cosmic Fine Tuning—the fact that the laws and constants in the universe are fixed with incredible precision at just the right point to give rise to the ordered complexity of the universe and to make human life possible—is evidence of purpose in the universe.¹⁰ The argument is of course hotly disputed, but for present purposes it is sufficient to note that it is simply not true that physics has given us a complete causal, mechanistic account of the nature of the universe, much less that it has demonstrated that there is no meaning or purpose in the universe. At best, such a claim is wildly premature.

Turning to the question of biology and human existence, the Nihilists assert that evolution provides a complete account of the origin of human nature, and therefore we can safely conclude that there is no need to ascribe a purpose (divine or otherwise) to human existence. But the very project of this book is to question this premise. We have addressed whether evolution can provide a complete biological reduction of human nature, and have argued that at every point, the argument fails. We have made the case that human behavior cannot be understood or explained without reference to higher meanings or purposes: the transcendental values that people have pursued in all ages and places. If so, the evidence regarding human nature in fact currently supports rather than refutes the existence of meaning and purpose in the world.

Why then are so many naturalists insistent that the universe and human life can now definitively be declared meaningless? One answer is the fear that to allow for any possibility of meaning in the universe would be to concede too much to religion, effectively admitting the idea of Intelligent Design. Equally important, the prevalence of cosmic nihilism is probably due to the all-too-easy slippage from methodology to metaphysics. Science originally defined itself by limiting its study to mechanistic processes and avoiding the study of teleology. The very success of science encourages the quite unjustified shift from leaving the study of purposes to other disciplines such as the humanities and theology, to the grand metaphysical declaration that there are no such things as purposes (along with the implication that the humanities and theology are not even real disciplines). It is often noted that science began its existence in epistemic humility, deliberately limiting the scope of its investigations—in sharp contrast with the grand imperial ambitions of contemporary scientism. One still sees traces of this original humility, as for example in Jerry Coyne's sensible observation that "Evolution is simply a theory about the process and patterns of life's diversification, not a grand philosophical scheme about the meaning of life."¹¹ However, Coyne does not appear to follow his own principles, holding that evolution does in fact teach that there is no purpose to human life.¹²

The insistence that science has proven there are no purposes in the universe, moreover, runs up against the awkward fact that there obviously *is* purpose in the universe: Human beings do act purposefully, pursuing goals and values. As Whitehead once wryly observed, "Scientists animated by the purpose of proving that they are purposeless constitute an interesting

subject for study.”¹³ If there are purposes, then teleology is real, and there can be no *a priori* scientific principle that excludes the idea of purpose or meaning. As Stewart-Williams concedes, “it is false to say that the universe is purposeless,” at least as long as human beings exist.¹⁴ A few stalwart naturalists refuse to concede even this much, insisting even to the point of absurdity that even among human beings, there is no such thing as purpose. Rosenberg, for example, insists that human purpose is a “myth”¹⁵; he makes the admittedly “outrageous” claim that “Science must even deny the basic notion that we ever really think about the past and the future or even that our conscious thoughts ever give any meaning to the actions that express them.”¹⁶ Rosenberg, making a virtue of rigorous consistency, insists that even his own book is not an expression of purposeful activity, nor is it even “about” anything.¹⁷ But even Rosenberg cannot consistently hold to such bizarre claims, as evidenced by his frequent slippage into the language of purpose: he describes the “aim” of his book, the “hopes” he has for the book, and what he is “trying” to do in the book.¹⁸

In any case, the vast majority of naturalists wisely reject such an extreme and implausible position. However, it leaves naturalists in a very uncomfortable position, as illustrated for example by Jerry Coyne’s claim that “‘Meaning and purpose’ are human constructs, products of intelligent minds, and ‘purpose’ implies forethought of such minds, either human or divine. These are teleological ideas that are not part of science, except in work on human behavior.”¹⁹ This is a puzzling assertion. If human purpose is real, then there is intelligent forethought in the universe, and the fact that purposes are “created” by humans is neither here nor there. Moreover, it then becomes irrational to reject *a priori* the study of purpose by science, and even more irrational to allow that science can study purposes but only when studying humans. Either purpose is a legitimate part of science or it is not. If human purposes are real, then purposes are part of the furniture of the universe, and the scientist must decide whether he will leave the study of purposes to other disciplines, or aspire to universal knowledge and allow that the study of purposes is a legitimate part of science.

Coyne’s attempted way out of this dilemma is a common one: to hold in effect that purposes are quasi-real. They exist, but only insofar as they are created by human beings. The position would appear to confuse two issues: whether there are purposes, and where they came from (the fact that they are “created” does not make them any less real, unless only eternal purposes can be real). It also confuses the question of whether there are

purposes with the question of whether the *object* of those purposes are real; that is, do humans act as if there are ultimate moral values, versus whether there really are ultimate moral values. Nonetheless, this “existentialist” position has become the dominant view among naturalists. However, as we suggested earlier, it is a wholly unsatisfactory and even incoherent position. Let us consider this “existentialist” position in more detail.

THE EXISTENTIALIST APPROACH TO VALUES AND PURPOSES

It has become fashionable to insist that purposes and values exist among humans only because we create them, and that the universe does not provide any ready-made purposes for us. Thus Jerry Coyne: “we make our own purposes, meaning, and morality.”²⁰ Richard Dawkins: “our life is as meaningful, as full and as wonderful, as we choose to make it.”²¹ Lawrence Krauss: “Instead of divine purpose, the meaning in our lives can arise from what we make of ourselves.”²² Sherman-Williams: “We choose these meanings and purposes for our lives. They are not imposed on us from any external source.”²³ Steven Weinberg: “I do not believe in a cosmic plan in which human beings have any special place, or in any system of values other than the ones we make up for ourselves.”²⁴

The existentialist position is, however, logically equivalent to nihilism, while hiding its nihilism behind a benign-sounding celebration of human freedom. For either there are meanings and purposes in the universe, or there are not. To say that we make them up is to try to have it both ways: to deny their reality while allowing that they do exist. This position is no more coherent than denying there is objective truth, while insisting that we can create our own truth. As Alex Rosenberg explains, “Creating purpose in a world that can’t have any is like trying to build a perpetual motion machine after you have discovered that nature has ruled them out.”²⁵ Often the existentialist tries to soften the edge of his position by saying we “choose” rather than “make up” our values; the rhetorical effect of this word choice is to make the argument sound less nihilistic, as it implies that we choose—and choose rightly—from among a set of pre-given purposes and values. But this is highly misleading, for on this view there are no such already-existing purposes to choose from. Moreover, the existentialist position does not explain how it is possible for human beings to create a purpose *ex nihilo*, to start with blind, mechanistic patterns of matter and energy, and create something radically new and different, a normative value or purpose.

But what is most troubling of all about the existentialist position is its implicit, undefended, and unwarranted assurance that, when we do choose our values and purposes, these choices will be benign, based on love rather than hate, kindness rather than cruelty. But whence this assumption? The assurance is parasitic on the existence, or at least the widespread belief in the existence, of objective moral values, so that we need not worry about the nihilistic conclusion since people can generally be trusted to choose the right thing anyway. Thus Jerry Coyne assures us that, once we accept the idea that mind, purpose, and self are all “illusions,” then we “can go about building a kinder world.”²⁶ Sherman-Williams expresses confidence that after we realize that morality is an illusion, we will adopt the “avoidance of suffering” as a “solid and sensible rationale” for our ethical principles, including protecting animals.²⁷ Richard Dawkins uses the cooperative behavior of vampire bats as the “vanguard of a comfortable new myth, a myth of sharing, mutualistic cooperation,” which could “herald the benign idea that, even with selfish genes at the helm, nice guys can finish first.”²⁸ Even Alex Rosenberg, the most thoroughgoing nihilist, assures us that it turns out to be a “nice nihilism,” as most of us cannot help being nice all the time, and as for monsters like Hitler, the nice people cannot help “protecting ourselves against them.”²⁹ But all of this is pseudo-nihilism that (illicitly) assumes the existence of objective moral values, the ideas of “niceness” or “kindness” or “cooperation” as the goals that people will naturally choose. If nihilism is true, then there is no sense in which niceness or kindness is any better than cruelty or indifference; norms must necessarily lose their normative force.

It is even more problematic for the nihilists to assume that people will choose the nice over the nasty, especially when the nihilists themselves are promoting the idea that objective values are illusions. History indicates that ordinary people are capable of making choices of the most egregiously immoral nature, even in the face of widespread societal conviction in objective moral values. What ought we expect if the “experts” now declare that moral values are an illusion? The nihilist cannot help himself to the idea that certain values are better or worse and that people can be trusted to choose the better: If people choose nastiness, that is just as valid as choosing niceness. Hence even stranger is the fact that each of these writers calls for radical moral *revisionism*: in the case of Dawkins and Sherman-Williams, the extension of basic rights to animals; in the case of Rosenberg and Coyne, the elimination of the institution of criminal punishment, unless it is based on deterrence.³⁰

An intellectually honest existentialist position will have to accept that, given the absence of objective values or purposes, then “everything is permitted.” Love is no better than hate; kindness no better than cruelty. It is relatively easy to be a nihilist so long as most people are moral objectivists. But a consistent nihilist will have no basis to endorse animal rights, the elimination of punishment, or opposition to Hitler. Existentialism is not a viable position for the value-nihilist to take; it is an unstable halfway house between true nihilism and value-objectivism. If one is going to be a nihilist, then one must accept the implications: Morality is dead, and the only basis for action is self-interest.

NIHILISTS AS CRYPTO-MORALISTS

It is thus difficult to avoid the suspicion that most if not all nihilists are in fact crypto-moralists. For while they insist that purpose and value are illusions, they with almost comical predictability accompany this assertion with specific moral recommendations. As we have seen, both Sherman-Williams and Dawkins adopt a tone of moral outrage when it comes to our treatment of animals.³¹ Rosenberg, Dawkins, and Coyne make a moral issue out of our practice of criminal punishment, arguing that we should cease this practice on the grounds that criminal activity, like all activity, is not in the control of the criminal but is determined by events outside his control.³² Dawkins in *The Selfish Gene* expresses indignation at the “dishonesty” of scientists who put their name on articles that they had no role in writing.³³ It is also extremely common in tracts defending scientific naturalism against religious supernaturalism to use moral principles as an essential premise in the argument. Weinberg makes the historical claim (albeit an intuitive rather than evidence-based claim) that “on balance the moral influence of religion has been awful,” and that one of the “great achievements” of science is to free people from the influence of religion.³⁴ Jerry Coyne also claims that religion has been largely corrupting and toxic (there is an entire entry on “religious harm” in his index to his book *Faith versus Fact*) and that science saves lives while religion kills.³⁵ Michael Ruse makes a case against belief in God based on the “moral repugnance” of belief based on minimal evidence, as well as the problem of evil.³⁶ None of these thinkers seems troubled by the incongruity of denying that there are any objective moral values while simultaneously defending the value of science on moral grounds.

A similar pattern is found in the widespread tendency to defend scientific nihilism on the grounds that human beings need to “grow up” and “face reality.” Owen Flanagan insists that those who reject naturalism are “childish” and engaging in “wishful thinking,” in a way “unbecoming” to a rational being.³⁷ Sherman-Williams writes that we should be “honest” and “courageous” enough to admit that existence is “ultimately without purpose or meaning.”³⁸ Alex Rosenberg claims that most people “avoid” hard questions about the world, but only the atheistic nihilistic worldview provides an “uncompromising, hard-boiled, no-nonsense unsentimental view of the nature of reality.”³⁹ Richard Dawkins wonders whether we might learn to “cope with the real world like grownups.”⁴⁰ And the guiding premise of Steven Weinberg’s book *Facing Up* is the advice presented in the title; the story of science is one of the human being learning to “grow up,” and recognize that “we just don’t count for much in the grand scheme of things.”⁴¹ Again, what is odd about this argument is that it is advocating the acceptance of nihilism—the lack of any objective values or purposes—but doing so on straightforwardly normative moral grounds, in which accepting nihilism is a matter of personal character and virtue.

Similarly, it is quite frequently asserted that one of the most beneficent effects of science is that it teaches us humility, in sharp contrast to the purported arrogance of religious worldviews which give the human being a special place in the universe. Dawkins, for instance, holds that recognizing the genetic closeness of human beings and chimpanzees should “provide exactly the come-uppance that ‘human dignity’ needs.”⁴² Jerry Coyne claims that “deriving your spirituality from science... means accepting an attendant sense of humility before the universe.”⁴³ The assumption that religion produces pride while science produces humility is of course highly problematic. For Saint Augustine, the most basic of all sins is pride.⁴⁴ And scientists appear to be every bit as vulnerable to pride as religious believers; Peter Atkins, for example, claims that there are no limits to the powers of science, and that this is a genuine basis for “pride.”⁴⁵ E.O. Wilson goes so far as to argue *against* humility on the grounds that it constitutes an impediment to scientific progress.⁴⁶ In any case, the present point is that this is to recommend nihilism, paradoxically, on explicitly moral grounds, the virtue of humility and honesty.

NIHILISM AND THE MEANING OF LIFE

Nihilists face a further problem: People will still want and need a purpose in life, regardless of whether nihilism is true. For all that Rosenberg insists on denying that people do have purposes and that their behavior is deter-

mined, even he is forced to acknowledge that people will demand a purpose. His unhappy solution, “if meaninglessness makes it impossible to get out of bed in the morning, is Prozac.”⁴⁷ It is unclear why for Rosenberg it is not better to live with the illusion that life is meaningful, say through religion, than to accept nihilism and take Prozac. The only explanation can be, as noted above, that he is not really a consistent nihilist: Truth is a supreme value, and is worth having even if it makes one miserable. For a true nihilist, there is no reason to insist on truth, nor is there such a thing as truth in a nihilistic world. Superstition and science are mere preferences, neither better than the other.

In any case, few nihilists want to go as far as Rosenberg. Some nihilists accept the possibility of embracing illusion, at least in part: “It is admirable to acknowledge these uncongenial truths, yet to struggle on as if life *were* meaningful and strive to make the world a better place anyway, without promise of eternal reward or hope of ultimate victory.”⁴⁸ Here we see two confusions: First, the mistaken assumption discussed above that the existence of purpose to human life necessarily entails eternal life or “ultimate victory.” Second, the claim that it is “admirable” to try to make the world a “better place” is incoherent. If nihilism is true, then there is no meaningful concept of better or worse, nor is there any meaning to the word “admirable.” At most, one can say that we can choose to live our lives in the illusion that we are making things better, even while knowing that “better” is a meaningless concept. This approach, however, might well require Prozac as well.

Other nihilistic naturalists seek instead a source of purpose that can be derived from a fully naturalist account of human nature, in particular from evolution. Now this project is going to be problematic from the start: as Jerry Coyne explains, “How can you derive meaning, purpose, or ethics from evolution? You can’t.”⁴⁹ The problem is that evolution is a causal explanation of the origin and behavior of life forms, including humans. It is not a theory of meaning or purpose. Any product of evolution cannot have any normative force, for evolution is a descriptive theory. And when we seek a meaning or purpose to life, we are seeking a goal with normative force, not merely a contingent causal tendency deriving from a purely natural, mechanistic process.

The even more obvious problem with using evolution as a source of meaning is that it would seem to imply that the only real meaning or purpose of life is reproductive success. But even staunch Darwinists will hesitate to endorse the goal of maximizing the quantity of one’s offspring as the *summum bonum* of existence. Some Darwinians have, however,

flirted with this idea. Daly and Wilson tell us that “In a profound sense, the bearing and rearing of children is the meaning of life and the point of all striving.”⁵⁰ The ambiguous qualifying phrase “in a profound sense” allows them to distance themselves from explicitly endorsing childbearing as the sole purpose of life (“profound” presumably means irrelevant from any practical import). Evolutionary psychologist Douglas Kenrick goes a little further, attempting to operationalize a definition of the meaning of life in terms of childrearing. He reconstructs Maslow’s famous pyramid of motives to bring it into the twenty-first century, on the (unlikely and uncharitable) grounds that Maslow “did not understand the central importance of reproduction to human life.”⁵¹ Maslow placed physiological needs at the base of the pyramid, on top of which came safety, then love, esteem, and finally self-actualization at the top. Kenrick’s reconstructed pyramid starts with physiological needs at the bottom, then self-protection, affiliation, then status and esteem. However, Kenrick discards self-actualization at the top and replaces it with three distinct Darwinian impulses: mate acquisition, then mate retention, and finally parenting as the top of the hierarchy of human goals.

But what exactly is Kenrick’s new evidence for the “central importance” of reproduction to human life, other than the obvious fact that most people do have children? It rests on Kenrick’s claim that reproductive goals are the “ultimate driving force” behind the higher activities such as art, morality, and religion.⁵² How does he know this? Basically, through showing how males who perform at a high level in such activities are “often quite attractive to women” (Kenrick gives the example of “rebellious thinkers” such as Picasso and Che Guevara).⁵³ On astonishingly flimsy evidence such as this he concludes that art, politics, and religion are all just “mating strategies”⁵⁴ and that the “noble and brilliantly creative things human beings accomplish” are “elaborate forms of foreplay.”⁵⁵ And why add “three separate motivational systems” to Maslow’s hierarchy, replacing self-actualization with parenting, mate retention, and mate acquisition? Kenrick explains that this modification derives from “life history theory,” the idea that humans are similar to elephants in that we have slow-maturing offspring needing parenting and a long search for a mate.⁵⁶

It is this sort of armchair theorizing passing as scientific evidence that has led Jerry Coyne to describe evolutionary psychology as a “scientific parlor game.”⁵⁷ As Coyne explains, we know essentially nothing about the evolution of such human activities as morality, religion, and art.⁵⁸ It is all

too easy to construct hypothetical scenarios about how they might have evolved, but such speculations can hardly count as the basis for creating an entire new theory of human psychological motivation. Nor is observing a vague parallel between elephants and humans sufficient for determining that humans have three distinct motivational systems, let alone that these motivations constitute the top three human values, or that any of the highest aspirations of humans such as art, morality, religion, or politics should not even have a place on the pyramid. All such activities are implausibly reduced to the goal of reproduction—indeed presumably, Kenrick’s motivation for writing his book is not his contribution to science but an attempt to impress women.

Kenrick’s account is furthermore clearly intended as a normative guide to the meaningful life, providing us “insights about how to live a more caring and connected life.”⁵⁹ He does not, however, explain just how one shifts from the descriptive to the normative. More broadly, the entire project of deriving normative principles from evolution faces a problem: Given that evolution is based on the principle of self-interest, that is, not merely of reproductive success but of *differential* reproductive success—out-reproducing your neighbor—then if any normative principle would seem to follow from evolution, it is one of ruthless self-interest. This is not to say that one should never be cooperative or act morally, but to say that such actions are recommended only when they serve one’s self-interest, and they are not intrinsically better in any sense than ruthless cruelty or indifference to others. Thus Kenrick says that reproductive success is the “ultimate” goal of human life, but not that success means out-reproducing others. Naturally, no Darwinist wants to draw this normative conclusion from evolution, and inevitably emphasizes the “nice” aspects of evolution—for instance, Kenrick’s advice that you “let yourself enjoy the natural pleasures of taking care of [your] intimate associates,”⁶⁰ or his assurance that male violence “is not sexy to women”—here neglecting to mention that great warriors are often attractive to women.⁶¹ But what justifies his ignoring the nasty side of evolution? The project of deriving the meaning of life from evolution has this same repeated pattern: Somehow evolution is able to provide a basis for love, kindness, and respect, but not cruelty, violence, or callousness. One begins to suspect that the nihilists never really were nihilist at all—or perhaps that we are being subjected to a clever public relations operation, to show that accepting Darwin need not make the world a worse place, but can even make the world a better place than religion has done.

THE HAPPINESS INDUSTRY

Neither nihilism nor its logical equivalent, existentialism, is ever likely to be widely accepted. The overwhelmingly most common response to the problem of meaning in a secular age is to endorse happiness as the goal of human life. The right to the “pursuit of happiness,” as announced in the American Declaration of Independence in 1776, has become the secular substitute for religious or transcendental purposes for human life, just as utilitarianism became the new moral philosophy of the Enlightenment. A new “science” of happiness has recently appeared with a steady stream of new books explaining how to achieve a satisfactory life, based on scientific rather than religious principles. Happiness has become the ultimate goal in life, and the ultimate explanation for human behavior. Even morality must be reducible to the goal of happiness; as psychologist Daniel Gilbert insists: “if we examine all the many objects and experiences that our species calls good and ask what they are good *for*, the answer is clear: By and large, they are good for making us feel happy.”⁶² Economist Richard Layard even claims that happiness as the only goal of human life is a “self-evident” principle.⁶³

The adoption of happiness as the ultimate goal of human life has a strategic value, in that it allows an evasion of the problem of normativity and nihilism. The question of what is the meaning of life can be replaced by the concrete, empirical question of how best to produce measurable states of happiness. Given that science has no method by which to recommend goals or norms (and on the strong interpretation, rules out the very existence of goals or norms), the easy solution is to assume a given, fixed goal of human nature and turn to the experimental testing of the best means to achieve this goal. Thus the drive to happiness is often described as something fixed and causally determined in our nature, so that it does not need to be argued for. Layard thus argues that the pursuit of happiness is “programmed” in us by evolution; the “search for good feeling is the mechanism that has preserved and multiplied the human race.”⁶⁴ Recall also Jeremy Bentham’s claim that the pursuit of pleasure and the avoidance of pain are causal principles that entirely determine our behavior, no matter what we do.⁶⁵ If the pursuit of happiness is a fixed, certain goal, then the empirical approach can focus on its strength; evaluating different means to that goal, the very strategy of the current happiness industry.

The obvious problem with this strategy is that humans are not in the grip of an iron law of determination to pursue pleasure and avoid pain;

they have many other complex motives, including notably the pursuit of justice, truth, or beauty even at the price of great suffering. Nor is there any actual evidence for Layard's insistence that we are "programmed" to seek happiness, apart from the tautological assumption that everything we do aims at happiness. Indeed, it does not even cohere with basic evolutionary principles, for evolution did not "program" us for happiness but for reproduction. As Dawkins explains, what is being "maximized" is "DNA survival," and "this is not a recipe for happiness. So long as DNA is passed on, it does not matter who or what gets hurt in the process... Genes don't care about suffering, because they don't care about anything."⁶⁶ To be sure, it seems likely, as Darwin argued in his *Autobiography*, that in general, natural selection has motivated us by the pursuit of happiness, for unhappy creatures tend not to reproduce.⁶⁷ Nonetheless, even on this account, happiness is merely a means to get us to reproduce, and so if anything it would seem is that humans are programmed to reproduce rather than to seek happiness. Thus if one elevates happiness to an ultimate goal, that is a normative, moral choice, and cannot be defended based on some dubious ascription of a causal necessitation to the pursuit of happiness. So the strategy of evading the normative debate by embracing happiness as a neutral goal must fail.

In fact, as we saw in Chap. 6, as a normative principle, happiness is very far from self-evident as the goal of human life. Immanuel Kant's classic critique of happiness in his *Groundwork* remains a devastating response to the utilitarians. Kant argued, among other things, that happiness is an ignoble and unworthy goal for a human being; that the distinctive feature of humans is their capacity to reason, and that the true goal of human life must place the exercise of reason higher than happiness; that happiness is an indeterminate concept that cannot usefully guide us; and that happiness is an amoral concept: evil actions are wrong even if they produce happiness, and good actions are right even if they do not produce happiness. This last argument is perhaps the most important. For Kant, happiness is not even an intrinsic good. If an evil person is happy, that happiness is not itself a good but an evil. Happiness, Kant agrees, is valuable and important, but only as a reward for virtue, not its motivation. Famously, Kant said that a "good will is the indispensable condition of even being worthy of happiness."⁶⁸

The standard response of the happiness defenders is that, whatever we do, we do for the sake of happiness; if we pursue virtue, it is because that makes us happy. But this response turns the happiness principle into

a mere tautology. Happiness becomes then an empty concept, and the debate is simply pushed back into the question of how to define happiness. Remarkably, Bentham willingly embraced the tautological status of the happiness principle⁶⁹: “In words a man may pretend to abjure their empire [of pleasure and avoidance of pain]: but in reality he will remain subject to it all the while.”⁷⁰

Now, in a sense Bentham is quite right: It is arguably true that all people have always assumed that happiness (though not pleasure, as Bentham thought) is the ultimate end of human life. This is true even in the Christian tradition, which has often been seen as rejecting happiness as the goal of life. Thomas Aquinas, citing Augustine, agrees that the ultimate end of man is happiness.⁷¹ However, the Christian means something very different by happiness; ultimate happiness consists in the eternal contemplation of God, the beatific vision, which can only be achieved by a life of virtue.⁷² Aquinas is very clear that worldly goods—wealth, bodily pleasure, fame, power—cannot provide true happiness⁷³; in fact, ultimate happiness can be attained only by a willingness to sacrifice worldly happiness. Since utilitarians have an entirely opposite definition of happiness, based entirely on worldly and even bodily happiness, it seems perverse and pointless to insist that it is “self-evident” that happiness is the goal of life, as if we all had a single, clear definition of happiness. Aquinas makes just this point: There is a tautological sense in which it is necessarily true that every man seeks happiness. But the real debate, he says, is in defining the specifics of what we mean by happiness, and in that sense, not all men desire happiness, since they do not all know just how to find happiness.⁷⁴

In fact, there are many different definitions of happiness, though they tend to cluster around two distinct conceptions: the hedonistic, according to which happiness is a feeling, emotion, or mood; and the eudaimonistic, according to which happiness is an activity or state of being rather than a feeling. The former is largely a descriptive, factual conception of happiness, whereas the latter tends toward a normative, evaluative sense. That is, for the eudaimonist, to ask whether one is happy is not something that one can answer without making an evaluative judgment of the worthiness of one’s activities and endeavors. The eudaimonic theory rejects the idea that activities are to be judged wholly by whether they produce positive feelings (though it does not deny the value of positive feelings). The utilitarian moral theory can be seen as an attempt to reduce the eudaimonistic to the hedonic; to make happiness an objective, factual, measurable property. Perhaps needless to say, the rise of the new purported “science

of happiness” rests on an endorsement of the hedonic rather than the eudaimonic theory of happiness.

But that choice is itself a normative choice, and must be defended on normative grounds. In that sense there can be no “science of happiness,” for the very field rests on an extra-scientific moral judgment. In fact, there are strong reasons to reject the hedonic theory of happiness, in addition to those given by Kant. One reason is the sheer arbitrariness of the causes of one’s mood. For example, as Gilbert points out, in one study in which participants were asked about their level of happiness, those who lived in cities that were experiencing good weather that day reported they were relatively happy, while those experiencing bad weather reported feeling relatively unhappy.⁷⁵ Then there is the effect of culture on happiness; according to Gilbert, “Asian culture does not emphasize the importance of personal happiness as much as European culture does, and thus Asian Americans believe that they are generally less happy than their European American counterparts”—though when asked to record their happiness at regular intervals during the day, Asian Americans report *higher* happiness than European Americans.⁷⁶ These results raise serious questions about the objectivity as well as the moral significance of reported happiness.

Seligman also criticizes the hedonic idea of happiness by noting that one’s mood is to a large extent determined by one’s genetic endowment; roughly half the population are “low-positive affectives.”⁷⁷ He notes the fundamental unfairness of a social policy that focuses on happiness, since it would be far more effective ministering only to those of natural high-positive affect, whose level of happiness can be far more easily improved. Seligman in fact has radically changed his position, and has come around to *rejecting* hedonic happiness as the ultimate goal of life as being far too trivial a goal. Instead, he has adopted a theory of well-being with five components: positive emotion, engagement, meaning, accomplishment, and positive relationships.⁷⁸ In this view, the human good does not reduce to positive feeling; accomplishments, relationships, and so forth are values independent of their measurable effect on mood.

Such a major change comes at a significant cost however. First, it undermines the idea that human meaning and purpose can be made “scientific” by identifying a single measurable property, the dream of those like Layard that we can have “physical measurements on brain activity” to settle arguments about the best social policy to pursue the common good.⁷⁹ Even if happiness were something that could be measured in the brain (itself a dubious claim), clearly such factors as “accomplishment” and “meaning”

are not. Second, Seligman's new approach raises the question of why we should choose just these particular five factors. Surely others will come up with different lists—can we, for example, rule out Maslow's ideal of self-actualization, as Kenrick tried to do on pseudo-evolutionary grounds? The purported advantage of the happiness idea was that it provided a way to avoid this kind of messy debate. Third, Seligman's new approach would appear to put to rest any idea that we can use evolutionary ideas to settle the question of the meaning and purpose of human life. Seligman does himself make a half-hearted effort to use evolution to support his theory, arguing, for example, that the element of positive relationships is supported by evolutionary theory, notably the hypothesis that the big brain was selected for social relations as well as the theory of group selection.⁸⁰ But such ungrounded factual speculations are wholly inadequate to establish the normative conclusion that sociality should be a primary goal of human life, and in any case we hardly need evolutionary theory to know that humans are social beings and that very few people can be happy being alone. Moreover, it is hard to see how one could use evolution to defend the other elements of his theory, including engagement, meaning, and accomplishment. Evolutionary theory in effect becomes irrelevant to this new approach to human happiness.

Seligman's new theory also demonstrates why it is unlikely that there could ever be a science of human meaning and purpose, evolutionary or otherwise. For it would seem to be a category error to try to make a scientific judgment as to when a human life is meaningful, or to choose what are the essential goals of human life (without reverting back to the hedonic criteria, what produces most satisfaction). Seligman tries to avoid this question by insisting that his theory is entirely descriptive and not prescriptive.⁸¹ He insists that it is merely an account of how humans would and do choose under conditions where there is no coercion.⁸² But this is already to make a normative judgment: that we should aim to satisfy peoples' desires as measured by what they would do absent coercion. Moreover, Seligman's assurance that his theory is merely descriptive is unconvincing. In fact, the aim of the book is quite clearly prescriptive, both for individuals and public policy; Seligman even recommends that we "measure and then make policy around well-being rather than just around money."⁸³ Even if the theory is based on peoples' demonstrated wants, the choice to endorse those wants is itself a normative one. Moreover, he insists that his theory is "objective" rather than "subjective"; people can be mistaken about whether they have positive relationships or engagement.

Seligman gives the example of Lincoln: though he may have “judged his life to be meaningless,” we “judge it pregnant with meaning.”⁸⁴ But to say there are objective meanings to be had in life is to introduce a normative element into the theory. Indeed, one might wonder just how we are to judge that Lincoln’s life, or anyone else’s, was meaningful or not? Judgments about human purpose and meaning are inescapably normative and not merely empirical facts. Lincoln did achieve a great moral purpose, but to make judgments such as this requires not a science of happiness but rather an acceptance of the traditional theory of human nature: that the purpose of human life necessarily involves the pursuit of transcendental ideals such as truth, beauty, and the good.

THE MEANING OF HUMAN EXISTENCE

Surprisingly, even the most secular, empirical, scientific theories of human happiness have often come to recognize the necessity of a transcendent dimension to human life, or as they sometimes uncomfortably say a “spiritual” dimension. Seligman’s theory recognizes the need for “something bigger than the self.”⁸⁵ Layard acknowledges that happiness requires an “overall purpose wider than oneself.”⁸⁶ Haidt sees the need for devotion to “something larger than oneself.”⁸⁷ This is a welcome change from the dogma of pure self-interest that has so long ruled social science. Unfortunately, these thinkers all feel compelled to explain this transcendent drive in terms of an evolutionarily respectable idea of devotion to the social group, often speculatively deriving this drive from the operation of group selection. For Seligman, it is the social group that provides a purpose “larger than the solitary self.”⁸⁸ Haidt also sees the social group as providing this purpose: “There is indeed something larger than the self, able to provide people with a sense of purpose they think worth dying for: the group.”⁸⁹ But such an account is inadequate, both on descriptive and normative grounds. For while many people do find transcendent meaning in their devotion to the group, many great men and women in history like Socrates have *resisted* the values of their group on account of higher values. Moreover, the idea of total devotion to one’s group, right or wrong, is more often fanaticism than genuine transcendent purpose; few believe that patriotism can be an ultimate good—especially given that a group’s values can be corrupt. (Haidt almost brings himself to acknowledge this problem, but takes refuge in moral relativism: “Of course, one group’s noble purpose is sometimes another group’s evil.”⁹⁰ Even so, Haidt effectively

concedes that the larger purpose is provided not by the group per se, but by its perceived “noble purpose.”)

A far more coherent account of the transcendental drive in human nature is provided by the traditional theory. Indeed, it is one of the most surprising features of the “new science of happiness” that it largely avoids discussion of the three transcendent ideals, beauty, truth, and morality as goals of human life. There is no mention of such goals, for example, in Seligman’s five aspects of well-being (though the idea of ethics is implicit throughout his book, and indeed is presumably implicit in Seligman’s very project of trying to improve human flourishing). Haidt mentions morality and aesthetics only to peremptorily debunk both areas as pure “confabulation.”⁹¹ But for the traditional account, the pursuit of these transcendental ideals is essential to human flourishing. The devotion to a group cannot in itself satisfy this yearning for ultimate purpose, unless that group is itself constituted by the devotion to an ultimate value, be it scientific, aesthetic, or moral.

A full development of the idea of the role of transcendental ideals in the meaningful human life is far beyond the scope of this project. However, we will say a few words here to correct one major misconception about the traditional view: that it is necessarily otherworldly and demeaning or diminishing of the body, the earth, and the material world (this was Nietzsche’s chief complaint about the Western tradition). As we have seen, this accusation is not without merit; Aquinas holds that ultimate happiness cannot be found in this life but only in the next one, and only in beatific contemplation of God. An overcorrection against this otherworldliness is evidenced by the rise of the secular happiness industry, and such vapid conclusions as Flanagan’s insistence that we must give up any prospects for “transcendent meaning” and settle for mere “personal satisfaction and contentment.”⁹² But is it true that the commitment to transcendental ideals necessarily results in an otherworldly orientation such as that of Aquinas?

In fact, as we already suggested in Chap. 2, there is a good case to be made that the traditional view is best understood as this-worldly, as grounding the human ideal in the fact of our being entities that are physically embodied as well as capable of pursuing spiritual ends. This issue raises the longstanding and contentious debate between the relative merits of the active versus the contemplative life. Partisans of the active life have long insisted that human purpose is best found not through solitary

contemplation of the transcendent, but through the effort to embody those ideals in the world so far as possible: not to contemplate beauty, but to create beautiful works of art; not merely to philosophize about justice, but to strive to be just and to create a just society; not merely to theorize about truth but to apply it in the world, educating people to help them understand the world and showing how theories can be put into practice to improve human life. Perhaps the best expression of this position is found in Plato's *Symposium* (notwithstanding Plato's reputation as an advocate of the otherworldly view), with its insistence that those who have achieved a vision of the Good and the Beautiful will inevitably be motivated to "give birth" to beauty in the world, either through procreation or artistic creation on the model of the ideal, realizing the absolute as far as possible in the physical world.⁹³

It is not, of course, my intention to try to settle this debate here, but merely to show that a commitment to transcendental norms does not imply an otherworldly ideal, a depreciation of physical existence, or the assumed superiority of the contemplative life—though one may perhaps fault the Western tradition for overemphasizing the contemplative ideal and its culmination in an eternal afterlife of the beatific vision. Even Aquinas, a partisan of the contemplative life, makes a significant if reluctant exception: "Yet in a restricted sense and in a particular case one should prefer the active life on account of the needs of the present life. Thus the Philosopher [Aristotle] says: It is better to be wise than rich, yet for one who is in need, it is better to be rich."⁹⁴ Though Aquinas does not elaborate, this appears to be a major concession to the physical needs of this life. After all, in order to pursue truth, beauty, or goodness, one needs to be able to make a living in order to survive. And it seems perfectly plausible to hold that satisfying bodily desires can be, when done in moderation, a legitimate end in itself, not merely of instrumental value. In the traditional conception, we are both body and soul; a life that failed to recognize the legitimate value and importance of each is a deficient one. Just as the modern secularist ideal neglects the higher ideals, so the contemplative ideal neglects the legitimate joys of material existence. A full and meaningful existence, we have been arguing, requires attention to both sides of our nature: the physical, biological needs, and the "spiritual" or transcendent goals, and the ultimate goal is a life that can harmonize the two sides in a full and rich existence.

NOTES

1. Kenrick, *Sex, Murder, and the Meaning of Life*, ix.
2. Wilson, *The Meaning of Human Existence*, 11.
3. Haidt, *Happiness Hypothesis*, 215.
4. Krauss, "A Universe Without Purpose."
5. Dawkins, *River Out of Eden*, 133.
6. Sherman-Williams, *Darwin, God, and the Meaning of Life*, 197.
7. Sommers and Rosenberg, "Darwin's Nihilistic Idea," 653.
8. Provine, "Response to Philip Johnson".
9. Albert, "On the Origin of Everything."
10. E.g. Davies, *The Goldilocks Enigma*.
11. Coyne, *Why Evolution is True*, 225.
12. *Ibid.*, 231.
13. Whitehead, *The Function of Reason*, 16.
14. Sherman-Williams, *Darwin, God, and the Meaning of Life*, 197.
15. Rosenberg, *Atheist's Guide*, 19.
16. *Ibid.*, 165.
17. *Ibid.*, 193.
18. *Ibid.*, x, xiv.
19. Coyne, *Faith versus Fact*, 228.
20. Coyne, *Why Evolution Is True*, 231.
21. Dawkins, *The God Delusion*, 404.
22. Krauss, "A Universe Without Purpose."
23. Sherman-Williams, *God, Darwin, and the Meaning of Life*, 198.
24. Weinberg *Facing Up*, 42.
25. Rosenberg, *Atheist's Guide*, 279.
26. Coyne, "Why You Don't Really Have Free Will."
27. Sherman-Williams, *God, Darwin, and the Meaning of Life*, 275.
28. Dawkins, *The Selfish Gene*, 233.
29. Rosenberg, *Atheist's Guide*, 144.
30. *Ibid.*, 299.
31. Sherman-Williams, *Darwin, God, and the Meaning of Life*, 275; Dawkins, *The Selfish Gene*, 10.
32. Dawkins, "Let's All Stop Beating Basil's Car"; Coyne, "Why You Don't Really Have Free Will"; Rosenberg, *Atheist's Guide*, 299.
33. Preface to 1989 Edition, xi.
34. Weinberg, *Facing Up*, 241-2.
35. Coyne, *Faith Versus Fact*, 262-3.
36. Ruse, "Why God Is a Moral Issue."
37. Flanagan, *The Really Hard Problem*, 108.
38. Sherman-Williams, *Darwin, God, and the Meaning of Life*, 308.

39. Rosenberg, *Atheist's Guide*, vii, ix.
40. Dawkins, *A Devil's Chaplain*, 189.
41. Weinberg, *Facing Up*, 5.
42. Dawkins, *A Devil's Chaplain*, 223.
43. Coyne, *Why Evolution Is True*, 232.
44. Augustine, *City of God*, XII, 6.
45. Atkins, *On Being*, xiv.
46. Wilson, *Consilience*, 227.
47. Rosenberg, *Atheist's Guide*, 281.
48. Sherman-Williams, *Darwin, God, and the Meaning of Life*, 308.
49. Coyne, *Why Evolution is True*, 225.
50. Daly and Wilson, *Homicide*, 95.
51. Kenrick, *Sex, Murder, and the Meaning of Life*, 100.
52. *Ibid.*, 102.
53. *Ibid.*, 139.
54. *Ibid.*, 151.
55. *Ibid.*, 143.
56. *Ibid.*, 110.
57. Coyne, *Why Evolution Is True*, 228.
58. *Ibid.*, 230.
59. Kenrick, *Sex, Murder, and the Meaning of Life*, 8.
60. *Ibid.*, 203.
61. *Ibid.*, 34.
62. Gilbert, *Stumbling On Happiness*, 78.
63. Layard, *Happiness*, 113.
64. *Ibid.*, 224, 24. Layard does not recognize that this causal, deterministic account of ultimate human motivation conflicts with his claim that happiness is a "self-evident" goal, the latter of which presumes that happiness must be chosen from among other possible goals.
65. Bentham, *Principles of Morals & Legislation*, Chap. 1.
66. Dawkins, *River Out of Eden*, 131.
67. Darwin, *Autobiography*, 88ff.
68. Kant, *Grounding for the Metaphysics of Morals*, Section I.
69. Though ironically at the same time undermining it, by insisting that people aim solely at "pleasure." But most people, including most utilitarians, would sharply distinguish pleasure from happiness.
70. Bentham, *Principles of Morals*, I.1.
71. *Summa Theologica* 2.1.Q. 1. Art. 8.
72. *Ibid.*, 2.1 Q. 3 A. 8.
73. *Ibid.*, 2-1 Q. 2 A. 8.
74. *Ibid.*, 2-1 Q. 5 A. 8.
75. Gilbert, *Stumbling on Happiness*, 136.

76. *Ibid.*, 229.
77. Seligman, *Flourish*, 14.
78. *Ibid.*, 16.
79. Layard, *Happiness*, 31.
80. Seligman, *Flourish*, 20–1.
81. *Ibid.*, 20.
82. *Ibid.*, 16.
83. *Ibid.*, 240.
84. *Ibid.*, 17.
85. *Ibid.*, 12.
86. Layard, *Happiness*, 234.
87. Haidt, *Happiness Hypothesis*, 239.
88. Seligman, *Flourish*, 144.
89. Haidt, *Happiness Hypothesis* 238.
90. *Ibid.*
91. *Ibid.*, 21. Note that he leaves out truth or science, presumably because that would imply his own life goal, and his book itself is mere confabulation.
92. Flanagan, *The Problem of the Soul*, 319. Incidentally, Nietzsche was equally critical of this sort of bovine contentment as the goal of life.
93. Plato, Symposium, e.g. 206b, 209c.
94. *Summa Theologica* 2–2 Q. 182 A. 1.

Conclusion

Who are we? It is the greatest live issue of our time, or any time. Today it is widely taken for granted that human behavior will eventually prove to be fully reducible to naturalist, causal processes, including in particular the evolutionary process that gave rise to us. It is also widely assumed that the reigning ideology of scientific materialism makes it no longer legitimate to believe in transcendent ideals that guide (or should guide) human behavior. On this view science can in principle provide a complete explanation of the human mind and human behavior, as all of the causal determinants of human behavior are within the expertise of the natural sciences. The alternative and traditional view that we have defended here is that the human being is something more than a mere collection of physical particles, a being with higher aims and purposes; to understand us, we need to go beyond the naturalistic assumptions of the scientific method. The debate is in large part about whether the natural sciences can provide a complete explanation of the world, and in particular of human nature. Are the humanities a legitimate field of study, or merely the equivalent of astrology? Does religion, with its fundamental commitment to the existence of a higher order of reality and of values that transcend the material world, still have a place in this debate?

The questions are so momentous that it is difficult to know where to start in trying to answer them. The strategy of this book has been to focus on one particular aspect of the problem where we can test the two competing theories against the available evidence. Thus we have evaluated

the two leading theories of human nature: the naturalist/Darwinist versus the traditionalist, (leaving aside the Blank Slate theory, an implausible in-between view that essentially adopts the existentialist position, that there are no transcendental objective values but that we can somehow create our own values that go beyond the impulses given to us by nature). One of the principal aims of this study is to call attention to the false dichotomy, that the study of humans must be based either on the naturalist or the Blank Slate approach. But it is also to argue that the third option, the traditional view, is in fact a viable account of human nature. We have argued that the traditionalist theory of human nature provides a far more plausible explanation of human behavior in each of the three areas we have examined: science, morality, and art. In none of these areas, we have argued, do the naturalists have a credible account of the way we act and think, while the traditionalist idea of the human being as being guided by transcendental values in addition to his biological needs has shown to account for human behavior far more convincingly.

It goes without saying that there cannot be a definitive test on a question as profound and important as this. There is no end of new theories in evolutionary psychology to explain a given human behavior, and there are always clever ways to tweak existing theories to make them more comprehensive. And of course it is always possible that we are massively deluded in our belief in ultimate values: perhaps evolution has made us deeply self-deceived, for some as yet unknown purpose. There is no way to prove that transcendent ideals really exist. Perhaps our ultimate motivation, though fully unconscious, is simply reproductive success. However, the most rationally plausible account of human behavior on the present evidence is that human behavior can only be explained as guided by the pursuit of objective values, in addition to our biological impulses. Moreover, as we have seen, even the staunchest naturalists have without exception themselves been unwilling to adopt the logical implications of their own position: that we should, for example, reject morality as an objective human end, and accept who we really are: beings programmed for one goal, out-reproducing others by any means necessary.

An important element of this argument is the *tu quoque* or “you too” challenge aimed at naturalism: that the practice of science itself, with its commitment to the pursuit of objective truth as an ultimate end, is itself not reducible to a naturalist, Darwinian causal explanation. To the contrary, science is a powerful exemplification of the traditionalist position: that the highest and best of human behavior is our capacity to follow

disinterested reason in pursuit of ultimate ends. A few brave souls have made an effort to argue that science itself is no exception to the naturalist reduction. Michael Ruse, for example, has claimed that there is not merely a biologically adaptive origin but an actual *justification* for science itself: “the principles of scientific reasoning...have their being and only justification in their Darwinian value, that is in their adaptive worth to us humans.”¹ Further, he thinks that any principle of reasoning “exists purely because it has proven its worth in the struggle for existence. We should not look for some deep meaning beyond this.”² Unfortunately, Ruse does not pursue this point, or explain just how a causal origin in evolution could ever, even in principle, provide “justification” for a practice (murder and rape, for example, may be a product of evolution, but that certainly does not justify them). Dishonesty and the spreading of falsehoods are just as biologically “justified,” so long as they promote one’s own success. Nor does Ruse explain how his book can be understood as motivated by biological ends rather than the pursuit of objective truth—indeed to all appearances it is just as committed to the ideal of scientific truth as any traditionalist would accept.

Biologist Jerry Coyne also flirts with adopting the logical implications of a Darwinian reduction of science. In attempting to draw a hard line between science and religion, he concedes that there can be no ultimate justification for the pursuit of truth as a good in itself: “The notion that knowledge is better than ignorance is not a quasi-religious faith but a *preference*: we prefer to know the truth because accepting what is false doesn’t give us useful answers about the universe.”³ But the implications of this position are ones that Coyne or other scientists are unlikely to accept. For if the pursuit of science is merely a preference, then it has no more normative value than does any other preference, including the preference for religion (and the preference of school boards for teaching Creationism, something Coyne himself has vigorously resisted). Nor is it clear just what Coyne means by “useful”: many people find religion “useful” to their lives, if not in the sense Coyne means. Indeed, Coyne is not even consistent in his position. Elsewhere in the same book he defends science as making minimal but genuine normative claims: “the discipline contains nothing prescriptive (save ‘find the truth’ and ‘don’t cheat’).”⁴ But that concession is not, as Coyne seems to think, a minimal one; it is to accept that science has an objective normative foundation based on truth-seeking and even the moral value of honesty; it is no mere preference.⁵ Where these normative claims could come from, since they do not have an

evolutionary or scientific foundation, is left unaddressed. Coyne is correct that the institution of science would be unrecognizable without at least these norms—but that is a reason to believe that even science requires transcendent norms.

Thus the practice of science is itself as powerful an illustration of the traditionalist view of human nature as any human institution. For science exemplifies the ideal of the disinterested pursuit of an ultimate end—truth—that is independent of any practical, let alone Darwinian, ulterior ends (this is not to deny the practical value of applied science, but only to say that the pursuit of truth in science is not reducible to material aims). Moreover, this ideal of disinterested truth has, as with any transcendental aim, an overriding normative weight, an obligatory status that is taken for granted. One does not have to look far in the writings of scientist and naturalists to see that this is the basic unstated assumption that dominates the practice of science. Steven Weinberg describes the scientific method as a “commitment to reason,” and holds it as a “point of honor” to judge matters by the scientific method.⁶ Dennett describes his philosophical approach as “relying on the respect for truth.”⁷ Jerry Coyne declares that science is a “commitment to the use of reason” and that is the “only way to gain *objective* knowledge” about the world.⁸ Roger Newton writes that “The ethos of objectivity that every proper scientist subscribes to requires that the search for truth about Nature be disinterested.”⁹ Dawkins insists on the radical distinction between the religious fundamentalist and the “true scientist’s equally passionate commitment to evidence,” and defines science as the “honest and systematic endeavor to find out the truth about the world.”¹⁰ Owen Flanagan’s naturalism has “one norm that I avow”: that “we ought to seek to flourish with the truth by our side.”¹¹ Steven Pinker insists that we need a “notion of objective truth,” without which “intellectual life degenerates into a struggle of who can best exercise the raw force to ‘control the past’”¹²—that is, he expressly distinguishes science from the Darwinian struggle for success. Even the arch-reductionist Alex Rosenberg, who insists that nihilism “undermines all values,” nonetheless inconsistently draws normative conclusions from science, as for instance when he declares that science requires us to ignore the illusion of introspection: “No matter how hard it is to deny, we have to do so.”¹³

Thus the naturalist is led at one and the same time to insist on an entirely mechanistic, causal worldview, yet also to assume the existence of at least one objective guiding value, truth. Dawkins declares that we should “interpret all of animal communications as manipulation of signal-receiver

by signal-sender,” rather than as altruistic sharing of information.¹⁴ Yet Dawkins himself quite clearly thinks of his own book as an example of the disinterested sharing of truth, despite the fact that it is itself an example of “animal communication” and so should make us suspicious of his motives in writing it. Indeed, elsewhere Dawkins expressed moral outrage at the “dishonesty” of scientists who add their names to “publications in whose composition they have played no part”¹⁵—despite the fact that the very nature of communication, in Dawkins’ own theory, is that it is intrinsically manipulative, and it is unclear where Dawkins gets the moral principles with which to denounce such behavior. Similarly, Dawkins claims the existence of a “physical, materialistic basis for all our actions”¹⁶—yet at the same time holds that science is “special,” for it has a “higher aesthetic” and can even be “spiritual.”¹⁷

At times the incongruity between the mechanistic model of human nature being assumed versus the rationalist ideal that the author applies to his own behavior borders on the comical. Robert Wright’s influential book *The Moral Animal* deconstructs the idea of “objective truth,” declaring that such conceptions are merely ways in which evolution gets us to do “what is in our genes’ interests.”¹⁸ Yet Wright assumes that his own book is exempt from this discovery, and that he can help us obtain a “surer grasp of human nature” and a “rediscovery of truths about human nature.”¹⁹ Jonathan Haidt insists that reasoning is not aimed at “truth” but at manipulating people to serve our “socially strategic goals,” yet he quickly exempts his own work, and the practice of science in general, from this otherwise universal truth about reason.²⁰ Matt Ridley’s book *The Red Queen* announces at the very beginning of his book that “reproduction is the sole goal for which human beings are designed; everything else is a means to that end.” Yet the last page of his book assures us that the scientific quest for truth, that is, the author’s own motive, provides us with a “noble purpose” for human life, something more than mere reproductive success.²¹

To adopt even a single transcendent ideal—truth—is already to concede the inadequacy of naturalism. In fact, however, the naturalist’s embrace of the normative ideal of truth is not the only transcendent end that they adopt, for truth is for them inevitably closely intertwined with morality—as it must be, for to choose the goal of truth as an overriding end is to make a moral choice. Thus Jerry Coyne declares that “scientism is a virtue—the virtue of holding convictions with a tenacity proportional to the evidence supporting them.”²² Steven Weinberg concedes that the commitment to

rationality in the end can be justified only as a “moral imperative,” and that as to matters of fact, it is a “moral rather than a logical necessity to judge matters by the methods of science.”²³ E.O. Wilson is even more explicit about science being based on the values of the Enlightenment and hence inseparable from ethics: “The legacy of the Enlightenment is the belief that entirely on our own we can know, and in knowing, understand, and in understanding, choose wisely,” as we come to recognize the “fundamental principle that ethics is everything.”²⁴ It has even become a commonplace among naturalists that the scientific method is closely connected with the values of democracy. Dennis Overbye has argued that science teaches the values of “honesty, doubt, respect for evidence, openness, accountability and tolerance” and that “these are the same qualities that make for democracy.”²⁵

Nor is the transcendental element in naturalism limited to truth and morality. Surprisingly, even the third transcendental, the aesthetic, has been offered as providing a form of justification for science. Darwin’s famous ending to *On the Origin of Species* declares: “There is grandeur in this view of life” in which “from so simple a beginning endless forms most beautiful and wonderful have been, and are being, evolved.” E.O. Wilson carries on this tradition, holding that humans need a “sense of larger purpose,” a transcendental goal, and that if religion is abandoned, science will be able to fill the void: “material reality discovered by science already possesses more content and grandeur than all religious cosmologies combined.”²⁶ Dawkins writes that the “feeling of awed wonder that science can give us is one of the highest experiences of which the human psyche is capable. It is a deep aesthetic passion to rank with the finest that music and poetry can deliver.”²⁷ Indeed, the role of aesthetic values in guiding scientists in their work has become widely acknowledged. Hermann Weyl wrote: “My work has always tried to unite the true with the beautiful and when I had to choose one or the other, I usually chose the beautiful.”²⁸ Heisenberg also endorsed “aesthetic criteria of truth,” such that simplicity, elegance, and beauty are guides to truth.²⁹

Thus the relentless materialism espoused by naturalists is belied by their adoption of the very same transcendental triad endorsed by the traditional view, a view that is inconsistent with materialism. Indeed, it is not uncommon to see naturalists adopting the language of religion and spirituality in explaining the wonders of science. Dawkins praises Darwin’s theory for its “power to uplift the human spirit,” and science in general for its “liberating benefactions...to the human spirit.”³⁰ Jerry Coyne describes the transition

from “faith to rationality” as an “awakening” that brings a “sense of freedom and self-determination.”³¹ Peter Atkins insists that science can provide “deep joy” every bit as much as religion can.³² E.O. Wilson holds that the “spirit of science” will “liberate man by giving him knowledge and some measure of dominion over the physical environment.”³³ Wilson, like many naturalists, sees the current great societal challenge as learning how to overcome the natural “imperatives of selfishness and tribalism” given us by evolution so that we may create more just societies.³⁴ That is, it reflects the same pattern seen in universal religion, in which the central human task is overcoming egoism and selfishness.

The point is not that naturalism and Darwinism simply are new forms of religion. Rather, it is that the naturalist’s insistence that what divides science from religion is the former’s espousal of a relentless materialism does not convince. Despite the repeated avowals of materialism, we have repeatedly seen that materialists are inevitably moralists as well, and in practice adopt the traditional model of human nature rather than the naturalist one. To be sure, one might respond that naturalists are simply failing to be consistent in their own materialist beliefs, and that they ought to abandon the idea of transcendental ends such as truth, beauty, or morality. But the pursuit of disinterested truth, guided always by ethical ends, has been essential to the scientific project from the beginning, and it is not clear what science would look like without it.

Hence even naturalists embrace the traditional theory of human nature, at least when it comes to their own values and behavior. But this is only part of the larger argument, that on objective, empirical grounds, the traditional theory of human nature provides a far more plausible explanation of human behavior—including the behavior of naturalists themselves—than does the naturalist or Darwinist theory. As Steven Pinker explains the problem:

Man does not live by bread alone, not by know-how, safety, children, or sex. People everywhere spend as much time as they can afford on activities that, in the struggle to survive and reproduce, seem pointless. In all cultures, people tell stories and recite poetry. They joke, laugh, and tease. They sing and dance. They decorate surfaces. They perform rituals. They wonder about the causes of fortune and misfortune, and hold beliefs about the supernatural that contradict everything else they know about the world. They concoct theories of the universe and their place within it. As if that were not enough of a puzzle, the more biologically frivolous and vain the

activity, the more people exalt it. Art, literature, music, wit, religion, and philosophy are thought to be not just pleasurable but noble. They are the mind's best work, what makes life worth living. Why do we pursue the trivial and futile and experience them as sublime?³⁵

Now Pinker, of course, endorses the possibility, at least in the future, of a full biological explanation of these puzzles of human nature—unless, as he speculates, the human brain is simply not cognitively advanced enough to understand itself. Pinker's own solution is largely a “cheesecake” theory: Our biologically pointless cultural tendencies are evolutionary byproducts, a short-circuiting of our “pleasure centers,” so that art, philosophy, science are all “pleasure technologies” comparable to recreational drugs, pornography, and junk food.³⁶

As we have argued throughout this book, such an explanation is problematic from multiple standpoints. For one thing, it is largely untestable and unverifiable, coexisting with innumerable other conflicting theories of evolutionary psychology—and one might argue that to adopt a byproduct theory is essentially to give up on explaining these facts within an evolutionary framework. For another, it fails to explain why certain of these “pleasure technologies” are considered noble and meaningful ends—art, science, philosophy—while others—pornography, drugs, junk food, cheesecake itself—are treated as quite the opposite: degrading, a misuse of human faculties (albeit a forgivable indulgence, at least in the case of cheesecake). Indeed, Pinker's own behavior once again seems to belie this point, for he presumably views his scholarly activity as far more worthwhile than eating cheesecake or viewing pornography. The traditionalist account explains this normative preference, in that we perceive these higher activities as higher precisely because they are not simply “pleasure technologies,” but because they aim at something higher than mere pleasure: purpose and meaning. In contrast, it is unclear why evolution would give us a need for higher purpose and meaning in life. Nor yet does it explain the normative dimension to these higher activities—that is, they are more than pleasure, and more than satisfying a desire: they are perceived as obligatory, as demands on us in order to live a virtuous life. Equally important, to be normative is to be binding on other people: To believe in the value of truth is to see it as something others ought to accept. Pinker rightly wonders how it is possible to encompass normativity in a materialist, mechanistic explanation of the world: “How did *ought* emerge from a universe of particles and planets, genes and bodies?”³⁷ His

“pleasure center” theory fails to explain why higher activities are considered normatively valuable and even obligatory even when they are not pleasurable, in contrast to activities valued merely because of the pleasure they produce, like pornography. Nor can he explain why truth is a universal value, not merely a subjective pleasure.

In the traditional theory, the distinction between higher and lower values corresponds to the distinction between the lower, biological, material urges, and the higher, transcendental values of truth, beauty, and morality. The normativity of these higher values is inherent in their nature as genuine objective values independent of us. So whereas the Darwinist theory would predict, at least *prima facie*, that pornography would be the highest-valued form of art, the traditional theory predicts it would be the lowest. The Darwinian theory would predict that morality should not be seen as a normatively overriding end, but merely as a practical tool to serve the individual’s material goals, at least in the long run. The traditionalist theory predicts that morality is aimed at transcending one’s selfish natural tendencies. The Darwinian theory would predict that religious behavior, especially time-consuming, resource-intensive behavior, should quickly have been weeded out and humans would long ago have been atheistic materialists. The traditional theory would predict that religion, an institution grounded on the commitment to the existence of transcendental values, should be at the center of all human cultures. The Darwinian theory would predict that intelligent people would not waste their time in, as Pinker puts it, “concoct[ing] theories of the universe and their place within it,”³⁸ rather than pursuing practical ends, above all, successful reproduction. The traditional theory predicts that people—including Pinker himself—will treat the disinterested pursuit of truth as a central human goal. The traditional theory would predict that, as important as health and material security are, a person needs a sense of meaning and purpose to have a fully satisfying life. The Darwinist view prescribes Prozac.

The traditional theory also makes more specific predictions, as contrasted with those of the Darwinist, as we have detailed throughout this book. In the realm of literature, the Darwinian theory predicts that—and Pinker actually believes that—the Darwinian goals of survival and reproduction would be “precisely the goals that drive the human organisms in fiction.”³⁹ But as we showed in detail in Chap. 8, this is precisely the opposite of the truth. While such genres as pornography display the human being as being motivated entirely by sex, great literature is wholly

different in that it portrays the human being as existing in a creative tension between the lower, biological nature and the higher, spiritual one. Similarly, with respect to morality, the traditional theory predicts that the human being would see moral ideals as objective, independent of us, normatively binding, and as promoting disinterested impartiality—whereas as we saw in Chap. 5, the Darwinian theory is unable to convincingly explain any of these aspects of morality.

But the issue is not merely the superior predictive success of the traditional account. Equally significant is the normative dimension. The traditional theory entails that we should continue to view truth, beauty, and goodness as the highest ends of life, while seeing pleasure and selfishness as belonging among the lowest. But for the Darwinian, as we saw in the Pinker quotation above, art, religion, and philosophy (for some reason, he excludes science) are biologically speaking “trivial and futile” activities that we mistakenly take to be sublime. On this view, science has no more normative value than does pornography, and moreover, the very notion of objective value or normativity is itself suspect. For the naturalist, moral objectivity is an illusion, and moral preferences have no higher status than any other preferences, including food or sex preferences. However, as we have seen, even the staunchest naturalist is unwilling to give up the normative valuation of science—and even to apply it to public policy issues, for example, the opposition to teaching Creationism in public schools, a position which—as plausible as it is—depends on a normative notion of truth and value.

The attractions of the naturalist worldview are not to be denied. One issue is the understandable frustration with the recent direction of the humanities, with its insistence on the Blank Slate theory, social constructionism, and postmodernist theories of truth. However, this approach represents one relatively recent and misguided approach in the humanities, as we have argued. A second motivation is the attempt to bring the methods of the sciences to the humanities to see if they can make progress on areas where the humanities have not, for instance literary criticism. While this is an admirable goal, at the same time, one worries about the less admirable motivations of scientific imperialism that leads social scientists and biologists to think that they quickly revolutionize the backwards humanities. As biologist Allen Orr has warned, scientists have the unfortunate habit of thinking that philosophical problems are easy and the only reason they haven’t been solved yet is that philosophers are ignorant of the scientific method. In any case, the important point is that this goal must be

genuinely experimental, in the sense that it must be open to falsification. Perhaps the scientific framework, so effective for dealing with mindless mechanistic material entities such as particles or planets, is not helpful for understanding rational, intelligent, goal-directed agents. It may be, for example, that the standards of predictive success or experimental verification do not even make sense when it comes to fields that are essentially normative and action-guiding, such as ethics or rationality itself.

Naturalism is also no doubt motivated by the quest for a single, unified theory of everything: a materialist, mechanistic framework that covers all things in the universe, human beings included. But, as Einstein famously said, a theory should be as simple as possible, and no simpler. If the evidence indicates that teleology, normativity, and rationality are real aspects of the universe and irreducible to mechanism, then any plausible theory must take account of both, and hence adopt a pluralistic framework. The idea that everything in the world must be explained in material terms, if true, can only be the conclusion of the argument, not the starting assumption. And if the evidence shows that not everything can be reduced to mechanism, then our best account of the world must acknowledge that fact.

None of this is to deny the possibility that evolutionary psychology can make genuine and important contributions to our understanding of human nature. After all, even in the traditional theory we are biological beings in part, and there is every reason to explore and explain the animal side of us. It is thus crucial to distinguish what we might call the Strong Program in sociobiology from the Weak Program. The Weak Program modestly claims the potential to provide useful insights into evolved human nature that can be used to help guide our social policy decisions. The Weak Program fits quite nicely with the traditional theory of human nature: We have an animal, biological side on which science can inform us as we pursue our rational goals. The Strong Program, however, makes a far more radical claim. It aspires to a complete account of human nature derived from biology, one that encompasses our rational nature and our normative ideals. It claims a total monopoly on the explanation of human behavior, and the assimilation of the fields of the humanities and social sciences into biology. Though these two possibilities, the Strong and the Weak program, are often not clearly distinguished in sociobiological literature, there is all the world of difference between them. The Weak Program is wholly uncontroversial, indeed almost trivially true (though it remains an open question just how much useful insight can be provided

into human behavior through the application of evolutionary principles, given the well-known methodological difficulties of evolutionary psychology). Crucially, the Weak Program leaves untouched what is most distinctive about human nature, our rational capacities. In contrast, the Strong Program is revolutionary in its implications, for it claims to be able to reduce even our rational capacities to a biological basis.

Yet even among those who seem to espouse the Strong Program, there remains no little ambiguity. To return to the example of E.O. Wilson, dean of sociobiology, whose analysis can be taken as a summary of the entire sociobiological project and its dilemmas. Wilson insists that the “new naturalism” has as its leading principle that human beings, like all products of evolution, do not “possess[] a purpose beyond the imperatives created by its genetic history.”⁴⁰ This new materialistic worldview dictated by science entails the “rapid dissolution of transcendental goals,” all of which turn out to be mere “mirages.”⁴¹ Yet at the same time, Wilson admits that the human being to live a fulfilling life needs to go “beyond material needs” and needs to create a “new morality.”⁴² What we end up with, then, is a strange picture, which endorses a metaphysics of “scientific materialism,” while at the same time acknowledging that human nature needs more than mere material goals. Hence Wilson must adopt what we have described as the existentialist view, that we must “manufacture great goals from the sustained pursuit of pure knowledge.”⁴³ That is, we have a metaphysics that is relentlessly materialistic, even while it insists on the need for human beings to transcend their material, biological origin in pursuit of the ideals of truth, morality, and beauty. Wilson’s ambivalence is also captured in his insistence on calling these values “mirages,” while at the same time appearing to assume that truth is a real and objective value—the one exception to his existentialist account of values. So long as we remove the odd insistence on calling this a “materialistic” worldview and the arbitrary assumption that any higher values are mere illusions or human creations, what we end up with is the traditional position: The human being is an animal endowed with the unique capacity and obligation to pursue higher, transcendental ends.

A NEW SYNTHESIS?

What would it mean for sociobiology or the natural sciences in general to provide a new synthesis in which human nature is fully encompassed within the scientific, materialist paradigm? Of all the challenges to such a synthesis,

we have argued that by far the most difficult is to synthesize the normative with the descriptive: to incorporate a normative, teleological element into a mechanistic, materialistic causal approach. The problem, we have argued, is both empirical and conceptual. The empirical aspect is the problem of making sense of the fact that humans do rationally deliberate about their ends, and perceive certain ideal ends as universally normative binding, irrespective of present desires. The conceptual aspect is that the very project of science itself would appear to be irreducibly normative. That is, the project is to construct a theory of human nature that is true, and that ought to be believed by any rational person. Moreover, it entails certain normative ends that naturalists continually insist on—notably that religious beliefs ought to be rejected in favor of science, with substantial public policy implications. The problem is to explain how a merely descriptive science can generate any normative conclusion at all, as opposed to merely providing a causal explanation of the human attraction to creationist ideas.

We have argued that there are a limited number of possible strategies for making sense of the normative dimension of human life. One is to deny that there are any norms or values at all, and insist that all human behavior is fully reducible to causal principles. However, as we have seen, this is an extreme view that few are willing to accept, for it flies in the face of the evidence that humans do choose what ends to pursue. And moreover, humans will still need guidance as to what ends they ought to pursue, so if it doesn't come from scientists, it will have to come from humanities or religion, thus undermining the project to provide a complete synthesis. A second option is the attempt to derive norms from evolution itself—an option that is no more plausible, since evolution is a descriptive theory and gives us no normative guidance. A third possibility is the “existentialist” position that nature does not contain any values or purposes, so we are left to create our own. We criticized this position as incoherent: either there are objective values or there are not, and there is no third option. Moreover, this position gives up on the very possibility of a new synthesis, for it is unable to provide any guidance on what values we should create. The fourth and final possibility is the acceptance of the traditional view: that objective, transcendental norms really exist, and that we should pursue them. This is however to give up on the naturalist project of a complete scientific account of human nature.

We claimed earlier that the erection of an impassable barrier between Is and Ought, Fact and Value, is implausible. Humans are irreducibly normative beings, guided by values, and one's factual, empirical

account of human nature will imply certain normative goals. Hence if the goals implied are themselves implausible, that is a reason to call into question the factual account. Similarly, a normative account of human nature that has no plausible connection to real possibilities for us must be mistaken (this is the source of the idea that “ought implies can”). We have argued that the attempt to Darwinize human nature is a failure both on empirical and normative grounds. Empirically, it fails to account for the facts of human behavior, in particular the universal recognition of the primary importance of transcendental ideals to human life. The Darwinist is forced to insist that these ideals must be mirages or illusions, and that the only true “goal” of human life is the biological one. But any claim that something so fundamental to us is mere illusion requires overwhelming evidence, evidence the Darwinists have not come close to providing. Even worse are the normative implications of the Darwinist view: Just as we ought to reject the illusion that the earth is the center of the universe, we ought to reject the illusion that there are real objective values, Truth, Beauty, or Goodness. This would entail that, just as the naturalist opposes the teaching of Creationism in the schools, he should oppose the teaching of morality—that is, children should be taught the truth, that morality is merely an illusion, and that morality is not intrinsically better than pure self-interest. But even on the issue of truth, the Darwinist view ends in incoherence: Even to say that we ought to reject any illusion in favor of truth is to assert the reality of objective norms of truth, contradicting the Darwinian premise. The alternative is silence: There is nothing at all to recommend as an ideal, not even accepting the Darwinian theory or truth in general. All there is in the world is the satisfaction of desires and preferences, and there is no basis for any normative recommendations by anyone, scientist or otherwise. The naturalist is caught in a dilemma: to endorse or accept higher values than those dictated by evolution or materialism is to reject the basic naturalist premise. If the human can be, and ought to be, motivated by higher goals, then human nature is not reducible to naturalism.

The alternative is to turn to the traditional theory of human nature: We are animals, but also rational animals. There is nothing “supernatural” about this idea, unless one thing that the rational pursuit of truth as well as morality and aesthetics is supernatural. Nor is it a claim that we are a Blank Slate, such that it is up to culture to determine our behavior. Rather, it is that our true nature is to have, in addition to our biological side, a

genuine impulse toward meaning and ultimate values. We are blank slates in a restricted sense: Given that we have impulses both toward our animal and rational sides, we do have a choice which to pursue. Though we are a product of evolution, our nature is not reducible to biology. We are not just animals, we are Rational Animals—animals that recognize the higher goals of Truth, Beauty, and Goodness.

NOTES

1. Ruse, *Taking Darwin Seriously*, 155.
2. *Ibid.*, 173.
3. Coyne, *Faith Versus Fact*, 211.
4. *Ibid.*, 220.
5. One might also note that to speak of a “preference” for the pursuit of truth rather than falsehood is rather disingenuous, as the word “truth” already carries with it powerful normative force derived from the traditional conception of reality. It is somewhat like saying: “I like classic literature, you like trashy novels—it’s all a matter of taste.”
6. Weinberg, *Facing Up*, 43.
7. Dennett, *Breaking the Spell*, 378.
8. Coyne, *Faith Versus Fact*, 198.
9. Newton, *The Truth of Science*, 316.
10. Dawkins, *The God Delusion*, 19, 405.
11. Flanagan, *The Really Hard Problem*, 108.
12. Pinker, *The Blank Slate*, 427.
13. Rosenberg, *Atheist’s Guide*, 192.
14. Dawkins, *The Extended Phenotype*, 57.
15. Dawkins, *The Selfish Gene*, xi.
16. Dawkins, *The Extended Phenotype*, 11.
17. Dawkins, *A Devil’s Chaplain*, 31.
18. Wright, *The Moral Animal*, 324–5.
19. *Ibid.*, 13.
20. Haidt, *The Righteous Mind*, 74.
21. Ridley, *The Red Queen*, 4, 349.
22. Coyne, *Faith Versus Fact*, 198.
23. Weinberg, *Facing Up*, 43, 45.
24. Wilson, *Consilience*, 325.
25. Overbye, “Elevating Science, Elevating Democracy.”
26. Wilson, *Consilience*, 289. The gratuitous swipe at religion, typical of Darwinists, is indicative of an abiding sense of insecurity with respect to their discipline.

27. Dawkins, *Unweaving the Rainbow*, x. Note here that Dawkins even endorses a qualitative ranking of aesthetic values, such that science ranks among the “finest” of aesthetics. Dawkins does not however explain the basis for such normative judgments.
28. Quoted in Stewart, *Why Beauty is Truth*, 278.
29. Id.
30. Dawkins, *The God Delusion*, 411, 419.
31. Coyne, *Faith Versus Fact*, 262.
32. Atkins, *On Being*, 30.
33. Wilson, *On Human Nature*, 209.
34. Id., 197.
35. Pinker, *How the Mind Works*, 521.
36. Ibid., 524–5.
37. Ibid., 559.
38. Ibid., 521.
39. Ibid., 541.
40. Wilson, *On Human Nature*, 2.
41. Ibid., 4.
42. Ibid., 3–4.
43. Ibid., 207.

BIBLIOGRAPHY

- Albert, David. 2012. On the origin of everything (review of Krauss). *New York Times Book Review*, March 3.
- Alcock, John. 2001. *The triumph of sociobiology*. New York: Oxford University Press.
- Appleton, Jay. 1975. *The experience of landscape*. New York: Wiley.
- Aquinas, Thomas. *Summa Theologica*. Available at: www.newadvent.org
- Aristotle. 1980. *The Nichomachean ethics*. Trans. Ross. New York: Oxford University Press.
- Aristotle. 1984. *The Politics*. Trans. Carnes Lord. Chicago: University of Chicago Press.
- Atkins, P.W. 1981. *The creation*. San Francisco: W.H. Freeman.
- Atkins, P.W. 2011. *On being*. New York: Oxford University Press.
- Augustine. 1984. *The city of God*. Trans. Bettenson. New York: Penguin.
- Bacon, Francis. 1985. Of atheism. In *The essays*. New York: Penguin.
- Barash, David, and Nanelle Barash. 2005. *Madame Bovary's ovaries*. New York: Bantam.
- Bentham, Jeremy. 1948 [1780]. *The principles of morals and legislation*. New York: Hafner.
- Bentham, Jeremy. 1988 [1776]. *A fragment on government*. New York: Cambridge University Press.
- Boyer, Pascal. 2001. *Religion explained*. New York: Basic Books.
- Brockman, John (ed.). 2007. *What is your dangerous idea?* New York: Harper.
- Buss, David. 1994. *The evolution of desire*. New York: Basic Books.
- Buss, David. 2005. *The murderer next door: Why the mind is designed to kill*. New York: Penguin.

- Carroll, Joseph. 2011. *Reading human nature*. Albany: SUNY Press.
- Chatterjee, Anjan. 2014. *The aesthetic brain*. New York: Oxford University Press.
- Churchland, Patricia. 2011. *Braintrust*. Princeton: Princeton University Press.
- Clark, Stephen. 2009. *Understanding faith*. Charlottesville: Imprint Academic.
- Coyne, Jerry. 1999. Review of Blackmore, the meme machine. *Nature* 398: 768.
- Coyne, Jerry, Richard. 1999. Review of Susan Blackmore. *The Meme Machine*. *Nature* 398: 768.
- Coyne, Jerry. 2009. *Why evolution is true*. New York: Viking.
- Coyne, Jerry. 2012. Why you don't really have free will. *USA Today*, January.
- Coyne, Jerry. 2015. *Faith versus fact*. New York: Viking.
- Cziko, Gary. 1995. *Without miracles*. Cambridge: MIT Press.
- Daly, Martin, and Margo Wilson. 1988. *Homicide*. Hawthorne: Aldine de Gruyter.
- Darwin, Charles. 1871. *The descent of man*. Available at: <http://darwin-online.org.uk/contents.html#descent>
- Darwin, Charles. 1958. *Autobiography*. New York: Norton.
- Darwin, Charles. 1964. *On the origin of species*. Cambridge: Harvard University Press.
- Davies, Paul. 2008. *The Goldilocks enigma*. New York: Mariner.
- Davies, Stephen. 2012. *The artful species*. New York: Oxford University Press.
- Dawkins, Richard. *Let's all stop beating Basil's car*. www.edge.org. Accessed Dec 2015.
- Dawkins, Richard. 1982. *The extended phenotype*. New York: Oxford University Press.
- Dawkins, Richard. 1987. *The blind watchmaker*. New York: Norton.
- Dawkins, Richard. 1989. *The selfish gene*. New York: Oxford University Press.
- Dawkins, Richard. 1995. *River out of Eden*. New York: Basic Books.
- Dawkins, Richard. 2000. *Unweaving the rainbow*. Boston: Mariner.
- Dawkins, Richard. 2003. *A devil's chaplain*. London: Phoenix.
- Dawkins, Richard. 2008. *The God delusion*. New York: Mariner Books.
- Degler, Carl. 1991. *In search of human nature*. New York: Oxford University Press.
- Dennett, Daniel. 1995. *Darwin's dangerous idea*. New York: Touchstone.
- Dennett, Daniel. 2006. *Breaking the spell*. New York: Penguin.
- Dennett, Daniel, and Alvin Plantinga. 2011. *Science and religion: Are they compatible?* New York: Oxford University Press.
- Dewey, John. 1980. *Art as experience*. New York: Perigee.
- Dissanayake, Ellen. 1992. *Homo aestheticus*. New York: Free Press.
- Doran, Robert. 2015. *The theory of the sublime*. New York: Cambridge University Press.
- Dowden, Ken. 1992. *The uses of Greek mythology*. New York: Routledge.
- Dupre, John. 1993. *The disorder of things*. Cambridge: Harvard University Press.

- Dupre, John. 2003. *Darwin's legacy: What evolution means today*. New York: Oxford University Press.
- Dutton, Denis. 2010. *The art instinct*. New York: Bloomsbury Press.
- Farber, Paul. 1998. *The temptations of evolutionary ethics*. Berkeley: University of California Press.
- Flanagan, Owen. 2003. *The problem of the soul*. New York: Basic Books.
- Flanagan, Owen. 2007. *The really hard problem*. Cambridge: MIT Press.
- Frank, Robert. 1988. *Passions within reason*. New York: Norton.
- Gazzaniga, Michael. 1992. *Nature's mind*. New York: Basic Books.
- Gazzaniga, Michael. 2008. *Human*. New York: HarperCollins.
- Gilbert, Daniel. 2006. *Stumbling on happiness*. New York: Vintage.
- Gottschall, Jonathan. *The way we live our lives in stories*. http://edge.org/conversation/jonathan_gottschall-the-way-we-live-our-lives-in-stories. Accessed Jan 2016.
- Gottschall, Jonathan. 2008. *The rape of Troy*. New York: Cambridge University Press.
- Gottschall, Jonathan, and D.S. Wilson (eds.). 2005. *The literary animal*. Evanston: Northwestern University Press.
- Gould, Stephen Jay. 1977. *Ever since Darwin*. New York: Norton.
- Gould, Stephen Jay. 1985. *The Flamingo's smile*. New York: Norton.
- Gould, Stephen Jay. 2003. *The hedgehog, the fox, and the magister's pox*. New York: Harmony Books.
- Greene, Joshua. 2013. *Moral tribes*. New York: Penguin.
- Gregory, Michael, et al. (eds.). 1978. *Sociobiology and human nature*. San Francisco: Jossey Bass.
- Haidt, Jonathan. 2006. *The happiness hypothesis*. New York: Basic Books.
- Haidt, Jonathan. 2012. *The righteous mind*. New York: Pantheon.
- Harris, Sam. 2011. *The moral landscape*. New York: Free Press.
- Harris, Sam. 2012. *Free will*. New York: Free Press.
- Hauser, Marc. 2006. *Moral minds*. New York: Harper.
- Hawking, Stephen. 1988. *A brief history of time*. New York: Bantam.
- Horst, Steven. 2007. *Beyond reduction*. New York: Oxford University Press.
- Huemer, Michael. 2008. *Ethical intuitionism*. New York: Palgrave MacMillan.
- Humphrey, Nicholas. 1996. *Leaps of faith*. New York: Basic Books.
- Humphrey, Nicholas. 2011. *Soul dust*. Princeton: Princeton University Press.
- Jackson, Kenneth. 1985. *Crabgrass frontier*. New York: Oxford University Press.
- Jenkins, Virginia. 1994. *The lawn*. Washington, DC: Smithsonian Institution.
- Joyce, Richard. 2007. *The evolution of morality*. Cambridge: MIT Press.
- Kant, Immanuel. 1987. *Critique of judgment*. Trans. Pluhar. Indianapolis: Hackett.
- Kant, Immanuel. 1993. *Grounding for the metaphysics of morals*. Trans. Ellington. Indianapolis: Hackett.

- Kaufman, Whitley. 2009. *Justified killing: The paradox of self-defense*. New York: Lexington Books.
- Kaufman, Whitley. 2012. *Honor and revenge: A theory of punishment*. New York: Springer.
- Kaufman, Whitley. 2013. E.O. Wilson's evolutionary ethics. *The New Atlantis* 38 pp. 140–49.
- Kenrick, Douglas. 2011. *Sex, murder and the meaning of life*. New York: Basic Books.
- Kitcher, Phillip. 1985. *Vaulting ambition*. Cambridge: MIT Press.
- Kitcher, Phillip. 2006. Biology and ethics. In *Oxford handbook of ethical theory*, ed. Copp. New York: Oxford University Press.
- Krauss, Lawrence. 2012. A universe without purpose. *Los Angeles Times*, April 1.
- Laughlin, Robert. 2005. *A different universe*. New York: Basic Books.
- Layard, Richard. 2005. *Happiness: Lessons from a new science*. New York: Penguin.
- Ledoux, Joseph. 1996. *The emotional brain*. New York: Touchstone.
- Lemos, John. 2008. *Commonsense Darwinism*. Chicago: Open Court.
- Lovejoy, Arthur. 1964. *The great chain of being*. Cambridge: Harvard University Press.
- Mele, Alfred. 2009. *Effective intentions*. New York: Oxford University Press.
- Mele, Alfred. 2014. Free will and substance dualism: The real scientific threat to free will? In *Moral psychology vol. 4: Free will and moral responsibility*, ed. W. Sinnott-Armstrong, 195–207. Cambridge: MIT Press.
- Mill, John Stuart. 1979 [1861]. *Utilitarianism*. Indianapolis: Hackett.
- Miller, Geoffrey. 2000. *The mating mind*. New York: Doubleday.
- Morse, Stephen. 2007. The non-problem of free will in forensic psychiatry and psychology. *Behavioral Sciences and the Law* 25: 203–220.
- Muir, John. 1980. *Wilderness essays*. Hong Kong: Peregrine Smith.
- Murray, Gilbert. 1967. *The rise of the Greek epic*. New York: Oxford University Press.
- Nagy, Gregory. 1986. *The best of the Achaeans*. Baltimore: Johns Hopkins.
- Nagy, Gregory. 1990. *Greek mythology and poetics*. Ithaca: Cornell University Press.
- Nahmias, Eddy. 2014. Is free will an illusion? Confronting challenges from the modern mind sciences. In *Moral psychology volume 4: Free will and moral responsibility*, ed. Walter Sinnott-Armstrong. Cambridge: MIT Press.
- Newton, Roger. 1997. *The truth of science*. Cambridge: Harvard University Press.
- O'Hear, Anthony. 1997. *Beyond evolution*. New York: Oxford University Press.
- Orians, Gordon, and Judith Heerwagen. 1992. Evolved responses to landscapes. In *Adapted minds*, ed. Barkow, Cosmides, and Tooby. New York: Oxford University Press.
- Overbye, Dennis. 2009. Elevating science, elevating democracy. *New York Times*, January 27.

- Pascal, Blaise. 1966. *Pensees*. Trans. Krailsheimer. New York: Penguin.
- Penrose, Roger. 1997. *The large, the small, and the human mind*. New York: Cambridge University Press.
- Peterson, Dale, and Richard Wrangham. 1977. *Demonic males*. New York: Mariner.
- Pico della Mirandola. 1486. *Oration on the dignity of man*. Available at: http://www.brown.edu/Departments/Italian_Studies/pico/text/ov.html
- Pinker, Steven. 1997. *How the mind works*. New York: Norton.
- Pinker, Steven. 2002. *The blank slate*. New York: Penguin.
- Pinker, Steven. 2011. *The better angels of our nature*. New York: Viking.
- Plantinga, Alvin. 2011. *Where the conflict really lies*. New York: Oxford University Press.
- Plato. 1961. In *The collected dialogues*, ed. Hamilton and Cairns. Princeton: Bollingen.
- Plato. 1993. *Symposium and Phaedrus*. Trans. Jowett. New York: Dover.
- Plotinus. 1991. *Enneads*. Trans. MacKenna. New York: Penguin.
- Pope, Essay on Man: accessed at: <http://www.gutenberg.org/files/2428/2428-h/2428-h.htm>
- Provine, William. 1990. Response to Philip Johnson. *First Things*. Accessed at: <http://www.firstthings.com/article/1990/10/002-evolution-as-dogma-the-establishment-of-naturalism>
- Putnam, Hilary. 2004. *Ethics without ontology*. Cambridge: Harvard University Press.
- Rachels, James. 1990. *Created from animals*. New York: Oxford University Press.
- Raine, Adrian. 2013. *The anatomy of violence*. New York: Pantheon.
- Ridley, Matt. 2003. *The red queen: Sex and the evolution of human nature*. New York: Harper.
- Rosenberg, Alex. 2011. *The atheist's guide to reality*. New York: Norton.
- Rosenberg, Alex, and Tammler Sommers. 2003. *Biology and Philosophy* 18(5):653–668.
- Ruse, Michael. 1986. *Taking Darwin seriously*. New York: Basil Blackwell.
- Ruse, Michael. 2015. Why God is a moral issue. *The Opinionator*, March 23. www.nytimes.com
- Sapolsky, Robert. *Does science make belief in God obsolete?* Available at: www.templeton.org. Accessed Dec 2015.
- Scharfstein, Ben-Ami. 1973. *Mystical experience*. New York: Basil Blackwell.
- Scharfstein, Ben-Ami. 2009. *Art without borders*. Chicago: University of Chicago Press.
- Scheffler, Samuel (ed.). 1988. *Consequentialism and its critics*. New York: Oxford University Press.
- Schein, Seth. 2004. *The mortal hero*. Berkeley: University of California.
- Scruton, Roger. 2009. *Beauty*. New York: Oxford University Press.
- Segerstrale, Ullica. 2000. *Defenders of the truth*. New York: Oxford University Press.

- Seligman, Martin. 2011. *Flourish*. New York: Atria.
- Singer, Jonathan. 2001. *The splendid feast of reason*. Berkeley: University of California Press.
- Sinnott-Armstrong, Walter. 2009. *Morality without God?* New York: Oxford University Press.
- Sinnott-Armstrong, Walter (ed.). 2014. *Moral psychology volume 4: Free will and moral responsibility*. Cambridge: MIT Press.
- Smart, J.J.C., and Bernard Williams. 1973. *Utilitarianism for and against*. New York: Cambridge University Press.
- Sober, Elliot. 1993. *Philosophy of biology*. Colorado: Westview Press.
- Sterelny, Kim, and Paul Griffiths. 1999. *Sex and death*. Chicago: University of Chicago.
- Stewart, Ian. 2007. *Why beauty is truth*. New York: Perseus.
- Stewart-Williams, Steve. 2010. *Darwin, God, and the meaning of life*. New York: Cambridge University Press.
- Street, Sharon. 2006. A Darwinist dilemma for realist theories of value. *Philosophical Studies* 127(1): 109–166.
- Weinberg, Steven. 2001. *Facing up*. Cambridge: Harvard University Press.
- Westen, Drew. 2007. *The political brain*. New York: Public Affairs.
- Whitehead, Alfred. 1967. *The function of reason*. Boston: Beacon Press.
- Whitman, Cedric. 1965. *Homer and the heroic tradition*. New York: Norton.
- Wilber, Ken (ed.). 1984. *Quantum questions*. Boston: New Science Library.
- Wilde, Oscar. 1950. *Essays by Oscar Wilde*. London: Methuen.
- Wilson, Edward O. 1975. *Sociobiology: The new synthesis*. Cambridge: Harvard University Press.
- Wilson, Edward O. 1978. *On human nature*. Cambridge: Harvard University Press.
- Wilson, Edward O. 1984. *Biophilia*. Cambridge: Harvard University Press.
- Wilson, Edward O. 1998. *Consilience: The unity of knowledge*. New York: Vintage.
- Wilson, Edward O. 2006. *The creation*. New York: Norton.
- Wilson, David Sloan. 2007. *Evolution for everyone*. New York: Bantam Dell.
- Wilson, Edward O. 2012. *The social conquest of Earth*. New York: Liveright Publishing.
- Wilson, Edward O. 2014. *The meaning of human existence*. New York: Norton.
- Wolpert, Lewis. 2008. *Six impossible things before breakfast*. New York: Norton.
- Wright, Robert. 1995. *The moral animal*. New York: Vintage.
- Zahavi, Amotz, and Avishag Zahavi. 1997. *The handicap principle*. New York: Oxford University Press.

INDEX

A

Adultery, evolutionary psychology
and, 153–4
Albert, David, 176
Aquinas, Thomas, 188, 192, 193
Aristotle, 25, 28, 29, 152, 193
Art and Darwinism, 129–51
 cheesecake theory of, 138, 204
 evolutionary theories of, 136–9
 and transcendent values, 133–6
Augustine, 31, 57, 182, 188

B

Bacon, Francis, 31, 136
Beauty, 17, 19, 38, 129–36, 193, 202,
203, 205
 vs. sublime, 135–6
Bentham, Jeremy, 111, 112, 117, 118,
123, 124, 186, 188
Bipartite Theory of human nature,
26–9, 168
 science and bipartite theory, 84
 vs. tripartite theory, 31

Blank Slate, 15–17, 20, 25, 26, 64,
198, 206, 210, 211
Buss, David, 18–19, 146, 149, 158

C

Carroll, Joseph, 12, 151, 157–9,
171
Commitment Theory of morality,
102–3, 108
Consilience, 20
Contemplative *vs.* active life, 192–3
Coyne, Jerry, 3, 49–51, 64, 69, 80,
82, 177–84, 199–202
Culture *vs.* human nature, 1, 15–16,
20, 26, 64, 77–8, 210–11
Cziko, Gary, 69, 75–8

D

Darwin, Charles, 6, 8, 68, 101, 107,
112–13, 187
Darwinism *vs.* naturalism and
sociobiology, 23

Darwin, Charles (*cont.*)
 Second Darwinian Revolution,
 11–14, 75
 Universal Darwinism, 12, 75, 80–2
 Darwin's Doubt, 68–75
 Dawkins, Richard, 35, 50, 51, 54, 69,
 78–83, 95, 100, 104, 108, 174,
 179–82, 187, 200–2, 212
 and Memes, 78–82
 and Nihilism, 179–82
 Dennett, Daniel, 12, 67–8
 Dewey, John, 148
 Divine Command theory of ethics, 103
 Dualism, mind/body, 15, 18, 27,
 55–8
 free will and, 55–8
 Plato and, 37
 Dutton, Denis, 138–40, 146, 147,
 149

E

Essay on Man, 33–4
 Eugenics, 7, 10–11
 E.O. Wilson and, 10–11
 Euthyphro Argument, 103, 115
 Evolutionary Psychology, 12, 22, 44,
 107, 119, 122, 139, 159, 165,
 167, 184, 198, 204, 207, 208
vs. sociobiology, 22
 Existentialist Theory of values,
 179–81, 208–9

F

Fact/Value Distinction. *See* Is/ought
 problem
 Fine-Tuning Argument, 176
 Flanagan, Owen, 12, 116, 174, 182,
 192, 200
 Flaubert, Gustave, 152–6
 Free Will, 17, 30–1, 49–66

definition of, 59
 Determinist Argument against, 50–1
 Reductionist Argument against,
 51–5
 rejection of as self-defeating, 62–5
 Voluntarist *vs.* Rationalist
 conception of, 59
 Freud, Sigmund, 2, 13, 39, 41, 104,
 151
 Function, biological idea of, 5–6, 21,
 120

G

Genetic Fallacy, 6, 45
 Gilbert, Daniel, 186, 189
 Gottschall, Jonathan, 13, 151, 159–66
 on Homer's Iliad, 159–66
 Gould, Steven Jay, 14–15, 46, 100
 Great Chain of Being, 29–35, 46
 Christianity and, 31
 Creationism and, 35
 moral theory depends upon, 35–7
 Group selection, 97, 107, 137, 147,
 190, 191

H

Haidt, Jonathan, 72–5, 83, 86, 108,
 174, 191–2, 201
 Handicap Principle, 98–9, 108, 137
 Happiness
 hedonic *vs.* eudaimonistic, 188
 as meaning of life, 186–91
 utilitarianism and, 111–25
 Hauser, Marc, 100
 Humanities, Darwinism and the, 1–20
 Hume, David, 61, 72, 85, 129
 Humility in science and religion, 29,
 177, 182
 Hybrid Theory of human nature. *See*
 Bipartite Theory

I

Iliad, 159–66
 Is/Ought Problem, 5, 10, 17–18, 94

K

Kant, Immanuel, 168, 187, 189
 Kenrick, Douglas, 173, 174, 184–5,
 190
 Kin selection, 96
 Kitcher, Phillip, 103, 106
 Krauss, Lawrence, 174–6, 179

L

Lawns
 historical origins of, 142
 as Intermediate landscape, 145
 Savanna Hypothesis, 139–44
 Layard, Richard, 186–7, 189, 191, 195
 Lovejoy, Arthur, 79

M

Machiavellian Theory of intelligence, 72
 Madame Bovary, 152–9, 166–7
 Maslow's Pyramid, 184, 190
 Meaning or purpose in the universe,
 173–9, 191–3
 existentialist theory of, 179–81
 happiness as secular purpose,
 186–91
 Memes, 78–82
 Miller, Geoffrey, 1, 12, 69, 70, 72,
 103
 Mill, John Stuart, 46, 111, 124
 Morality
 evolutionary theories of, 96–9
 Moral Nihilism, 104–5, 108, 121–4
 Objectivist theory of, 89–93
 Redundancy Argument against,
 89–91, 100, 105–7
 Muir, John, 144

N

Naturalism, 10, 11, 67, 69, 86, 105,
 181–2, 198, 200–3, 207–11
 Neoplatonism, 28, 34
 Nihilism, 174–185
 Moral Nihilism, 104–5, 108, 121–4

O

Ockham's Razor, 176
 Orians, Gordon, 139–43, 148

P

Paradox of Rationalism, 82
 Pascal, Blaise, 31, 83
 Pico della Mirandola, 32–5
 Picture of Dorian Gray, The, 156–9
 Pinker, Steven, 1–3, 13, 15, 20,
 34, 38, 39, 68, 70, 131,
 138–40, 142, 152, 167, 168,
 200, 203–5
 and Darwinist theory of fiction, 168
 Plato, 10, 25, 27–9, 35, 37, 40, 57,
 103, 115, 193
 and dualism, 27–8, 37
 Phaedo, 27, 37
 Phaedrus, 27–8
 Symposium, 38, 40, 193
 Plotinus, 28–30, 37
 Pope, Alexander, 33–4
 Punishment, evolutionary function of,
 119

R

Raine, Adrian, 49, 52, 53
 Rape of Troy, The, 159–66
 Rawls, John, 9
 Reason, naturalist *vs.* traditional theory
 of, 85–6
 evolutionary theory of, 72–5
 Reciprocal altruism, 96

Redundancy Argument against moral realism, 89–91, 100, 105–7
 Religion, 1, 2, 8, 13, 22, 34–5, 56, 77, 177, 181–5, 197, 199, 202–3, 205–6, 211
 art and religion, 134–5
 Greek Religion and Homer, 162–3
 and meme theory, 79–82
 and traditional theory of human nature, 42–3
 utilitarianism and religion-based ethics, 115–16
 Rosenberg, Alexander, 3, 83, 102, 104–5, 108, 174, 178–83, 200
 and Prozac, 183
 Ruse, Michael, 69, 104, 107, 181

S

Savanna Hypothesis, 139–45
 lawns and, 139–44
 national park and, 142–4
 Scharfstein, Ben-Ami, 131–3
 Scientism, 71, 175, 177, 201
 Seligman, Martin, 189–92
 Sexual selection, 69, 70, 98, 146, 147
 Simpson, G.G., 16
 Snow, C.P., 2
 Social Darwinism, 7, 19
 Sociobiology
 Evolutionary Psychology *vs.*, 22
 Strong *vs.* Weak Program, 207
 theory of ethics, 8–11
 Wilson, E.O. and, 6–8
 Standard Social Science Model. *See*
 Blank Slate
 Sublime, 135–6, 144–5, 148

T

Teleology, 4–6, 42, 50, 56, 58, 62, 75–8, 80, 169, 173, 175, 177–8, 207, 209
 Tragedy, Homer and, 164

Transcendentals, 37–45, 60, 71, 75, 101, 114, 123–5, 130, 133–4, 186, 192, 198, 202–2, 205, 208–10
vs. Darwinist idea of human aims, 38–45
 religion and the, 42–3
 Unity of the Transcendentals, 38
Tu quoque challenge to naturalism, 198
 Two Cultures, 1–7

U

Universal Acid, Darwinism as, 67–8, 80, 82
 Utilitarianism, 46, 111–27, 186

V

Values, scientific study of, 20, 43–5, 116–17, 157, 169

W

Weinberg, Steven, 63, 174, 179–82, 200
 Westen, Drew, 72–4, 83
 Whitehead, Alfred, 177
 Wilde, Oscar, 130
 The Picture of Dorian Gray, 156–9
 Wilson, D.S., 12, 23, 82, 104, 107, 151
 Wilson, E.O., 7–12, 20, 22, 49, 78, 82, 85, 97, 139–45, 148, 174, 182, 202
 and Is/Ought problem, 10
 and Landscape Hypothesis, 139–45, 148
 and New Synthesis, 7, 208–11

Z

Zahavi, Amotz and Avishag, 98, 99