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Evolution and Morality

Michael Ruse

The most incredible fact ever discovered about human beings is that our ancestors were the products of a long, slow, gradual process of evolution, fired by a causal mechanism known as "natural selection" (Darwin 1871; Ruse 1982a; Pilbeam 1984). In recent years, students of human evolution, so-called "paleoanthropologists", have brought home to us with great force just how incredible a fact this is (Johanson and Edey 1981; Isaac 1983). The earth is about four and a half billion years old. Life first appeared on earth at least three and a half billion years ago. Mammals, the class to which humans belong, first appeared in primitive form some 200 million years ago, but it was not until the death of the dinosaurs that the Age of mammals was able to get underway, about 60 million years ago.

Our ancestors, Australopithecenes, broke from the apes a mere six million years ago. This means that we share virtually all of our evolution with the animal world, particularly the higher apes, the chimpanzees, and the gorillas (Konigsson 1980). Moreover, this fact still remains with us. Biologically speaking, we are closer relatives of the chimpanzees than chimpanzees are of gorillas. Although through self-importance and ignorance, humans are in fact classified quite separately, under normal circumstances we would be members of the same genus as chimpanzees and gorillas. This is how close we are to the animal world (Ayala and Valentine 1979).

And yet, the average member of the philosophical community ignores these startling facts. It is not too much of an exaggeration to say that as far as the average philosopher is concerned, it makes little difference whether we are modified monkeys or created some 6000 years ago on the final day of Creation, miraculously, by a supernatural being, as is supposed by today's so-called "Scientific Creationists" (Morris 1974). I do not, of course, imply that the average philosopher is not an evolutionist (although apparently at least one of the most influential philosophers of the twentieth century had doubts about the truth of evolution), but rather that evolution is taken to be totally irrelevant to the basic inquiries of the philosopher, both in the realm of epistemology and in the realm of ethics. (Putnam 1981 tells us that Wittgenstein had doubts about the truth of evolution.)

It is this pre-nineteenth-century attitude towards the major problems of philosophy that I intend to challenge in this paper. Specifically, I intend to concentrate on the problems of moral philosophy, ethics, and to argue that you simply must take evolutionary ideas seriously, if you are to have hope of an adequate approach to moral-

ity. I shall argue that our knowledge of evolution, and of the mechanism by which it came about, throw light on the foundations of ethics, that is to say, that they are pertinent to meta-ethical questions. Furthermore, I argue that evolution tells us something about the nature of the specific ethical principles to which human beings are committed, that is, evolution tells us something about substantive ethical questions. It is now over a century since Charles Darwin first published the modern theory of evolution through natural selection in his *Origin of Species* (1859). The time has surely come for moral philosophers to start taking Darwin's message seriously.

Traditional evolutionary ethics.

Already, philosophical readers will be feeling somewhat depressed, because the history of attempts to show evolution relevant to philosophy, particularly to moral philosophy, hardly inspires confidence (Flew 1967). On the one hand, so-called "evolutionary ethics" have tended to be little more than thinly-veiled apologia for reactionary social positions (Ruse 1982b; Russett 1976). All too often, it is argued that the key to evolution is some form of bloody struggle for existence, leading to the survival of the fittest. Consequently, an ethic based on the evolutionary process supposedly must emulate and indeed encourage the struggle. Thus, it is concluded that one ought to allow all kinds of conflict, personal and social, welcoming the success of the few winners.

This so-called philosophy is often labelled "Social Darwinism", although it owes at least as much in its genesis to the nineteenth-century thinker, Herbert Spencer, as it does to Charles Darwin. It reached its ridiculous extreme in the mind of John D. Rockefeller, the founder of Standard Oil, who solemnly assured a Sunday school class that the law of big business is the law of nature: it was right and proper that Standard Oil push all its competitors to the wall, because this is what evolution demands. Thankfully, most philosophers, and indeed most right-thinking folk, conclude rapidly that this kind of evolutionary moralizing is about as far from true morality as it is possible to get. Morality means helping the weak and defenceless, not stamping on them, literally and metaphorically (Quinton 1966; Himmelfarb 1968).

On the other hand, with reason, evolutionary ethics has been condemned by philosophers for committing very serious logical errors. As David Hume pointed out in the eighteenth century, there is a drastic difference between claims about matters of fact and claims about morality (Hume 1978). To put it in modern terms, there is a difference between "is" statements and "ought" statements (Hudson

1970). Thus, if, for instance, I say that I hate killing, that is one thing. In particular, it is a factual claim about my emotions. However, if I say that killing is wrong, that is quite another thing. That is a statement about an apparently objective matter of moral fact. It has nothing to do directly with my feelings. What Hume pointed out is that you cannot properly go straight from factual statements, from "is" statements, to value statements, that is, to "ought" statements. To do so is to violate what has properly become known as "Hume's Law". In this century, Hume's Law was revived strongly by the writings of G.E. Moore, when he argued that it is a fallacy to try to define the good in terms of natural, that is to say, factual, properties. Moore's description of such incorrect moves was that they commit the "naturalistic fallacy" (Moore 1903).

Critics argue, with good reason, that all attempts at evolutionary ethics violate Hume's Law. What happens is that people try to deduce the way that things ought to be from the way that things are. They point to the fact that there is an ongoing struggle for existence occurring in nature. Even between humans, this struggle supposedly occurs. Thus, it is concluded that this is the way that things *ought* to be. Hence, humans have an obligation to allow a struggle to proceed without letup or hinderance. And we should cherish as morally worthwhile the ultimate products of evolution, namely human beings. But, unfortunately, as critics point out, this is to go from fact to value. Such a move is without warrant. Why should the process and product of evolution in themselves be morally good? To argue this way is to make unjustified inferences. Fallacies are being committed. In short, there can be no warrant for an evolutionary ethics (Ruse 1979a).

Let me say right at once, that I am aware of and sensitive to such criticisms as these. I believe nevertheless that one can formulate a sound evolutionary ethics: an ethics which is, on the one hand, not a thinly disguised excuse for fascist ideology, and which is, on the other hand, quite innocent of fallacious moves from "is" to "ought". Indeed, what I shall argue is that Hume and Moore and followers were quite right in drawing attention to the distinction between fact and value, and that a true evolutionary ethics not only acknowledges this fact, but makes use of it. Thus, whatever the faults of a revised evolutionary ethics, they are not the traditional ones.

The evolution of morality.

To start making my case, let me begin by discussing contemporary thinking about the evolution of morality. This will show that the idea of evolution necessarily implying a literal bloody struggle for existence

is simply bad biology. When this part of the discussion is over, it will be possible for us to turn to questions about the status of moral claims and put to rest fears that any evolutionarily inspired moral philosophy must necessarily commit serious logical blunders.

As has been said, humans evolved through the process of natural selection. Natural selection is a consequence of several clearly defined and well established facts about the organic world (Ruse 1973; 1979b; 1982a). In particular, more organisms are constantly being born than can possibly survive and reproduce. This leads to what is known, technically, as a "struggle for existence". However, it must be emphasized right at the start that this struggle does not necessarily involve bloody, hand-to-hand combat between organisms. A struggle could as well involve a difference in relative rates of reproduction, or some other non-violent process.

Because there is a population pressure brought about by limitations in space and size, not all organisms that are born can possibly survive and reproduce. It is the claim of the evolutionist that the ensuing differential reproduction is a function, not merely of chance factors, but also of the distinctive characters that organisms themselves have. Some organisms will survive and reproduce because of their peculiar characteristics. These characteristics are known as "adaptations" (Lewontin 1978).

Following Charles Darwin, it is argued that, given enough time, the ongoing process of differential reproduction of distinctive organisms adds up to an evolutionary effect. This is known as "natural selection". The important point to note here is not simply that organisms evolve, but they evolve with characteristics which aid their possessors in the on-going struggle for reproduction. Thus we have the adaptations of hands and ears and eyes, and so forth. Darwinism (that is to say, Darwin's theory of evolution) provides a natural explanation for these characteristics which, in pre-evolutionary times were taken as paradigmatic evidence for God's creative design.

Do note, however, that the "raw stuff" of evolution — the peculiarities of organisms which eventually add up to full-blown adaptations — is not teleologically put in place, as pre-Darwinian theists supposed. Darwinians believe that new variations appear constantly, but that their nature is "random". They do not appear according to the needs of organisms. Selection has to make do with what it gets, and thus must cobble together an answer somehow. For this reason, the course of evolution is fundamentally non-progressive (Dobzhansky *et al* 1977; Mayr 1982). Humans came about through natural selection, thereby showing adaptations. However, at this point, we must recognize what this means, particularly in modern terms. Humans have taken the path of sociality. In this, they are unlike most mammals, where males tend to live separately from females, and where there is

often a separation between the generations. Humans live together in packs or bands, like dogs and baboons. There are advantages to doing this, particularly if you do not have strong weapons of attack or defense (Alexander 1971; 1979). (Fairly obviously, sociality and the lack of strong weapons were things which co-evolved.) But if you are to live communally, then you must have various social facilitating mechanisms to allow you to live with your fellows. Otherwise, you will simply have ongoing battles and fights within the group, as well as between groups.

Modern evolutionists claim that the social relations which have evolved between humans are a direct function of natural selection (Wilson 1975; 1978). There are two major mechanisms which are presumed to have brought about such cooperative-type living. The first is known as "kin selection" (Hamilton 1964a; b; Ruse 1979a). In evolution, what counts is passing on your units of heredity, the so-called "genes". But, fairly obviously what you pass on are not the actual genes of your body. Rather, you pass on copies. This means that in theory, and indeed it turns out in practice, there is no reason why you should not reproduce, as it were, by proxy. Your close relatives, like siblings, share some of the copies of the genes that you have. Therefore, inasmuch as close relatives reproduce, you reproduce yourself vicariously. Kin selection is the mechanism which captures this reproduction-at-a-distance. Inasmuch as one human helps another, that helper indirectly helps its own reproduction. Hence, cooperation serves one's own individual reproductive interests (Maynard Smith 1978; Dawkins 1976).

The second mechanism which is presumed to have brought about sociality is so-called "reciprocal altruism" (Trivers; 1971). This is a mechanism which can even bring about cooperation between non-relatives. Basically, it is all a matter of enlightened self-interest. If I help you, then you will be more ready to help me in return. And the amount of effort it costs me to help you is probably going to be much compensated by the return help that I will get. If, for instance, I help you when I am fit and healthy, it will cost me little. But then, perhaps, at some point, say, when I am sick, your return help, which costs you little, will be of immeasurable value to me. Through the mechanism of reciprocal altruism, help can spread through a group. Obviously, it is not necessary for immediate help to be received or even expected for reciprocal altruism to occur. It could well be, and indeed probably is, that one individual pours its help into the pool, which is then drawn upon by others as needed, rather like an insurance policy (Alexander 1979).

I must point out here, to quell any possible doubts, that there is strong evidence both for kin selection and for reciprocal altruism through the animal world (Wilson 1975; Barash 1982). These are not

figments of some biologist's frenzied imagination. These are well established models. Furthermore, there is growing evidence that such mechanisms were extremely important in human evolution. Therefore, I do want to emphasize at this point that I am not wildly speculating about how evolution might have brought about morality. I am talking now about a level of fairly well established fact.

But, with good reason, you might object that, although this points to the evolution of cooperation between humans, this tells us nothing about true morality (Flanagan 1981). True morality demands giving because it is right, not because one hopes for reward. Indeed, generally, hope of reward is taken to be inconsistent with a true moral sense. This is all true, but the claim of today's evolutionists, particularly of those who concern themselves with the evolution of social behaviour (so-called "sociobiologists"), is that the way that cooperation has evolved between humans does indeed involve a true moral sense (Lumsden and Wilson 1973). We could, as it were, calculate every time we give help or receive help, what would be our best biological interests. I help you; but, as I do, I mentally note down the amount of help I've received from you, the probability of receiving help from you, and so on and so forth, very much as though I were an insurance actuary. The trouble with this is that such a process is highly inefficient. Every time I interact with you or with another human being, I have to stop and think about what the payoff is for me. This requires time, and, moreover, requires a fairly complex mathematical ability. Presumably, for something like this to work my brain is going to have to be very much more powerful than it is at the moment.

The alternative strategy, one which modern evolutionists believe to have occurred, is to short-cut the calculation process by supposing that there is some objective set of standards which we all ought to obey. Then, when I help you, I help you not because I have calculated the payoff for me, but because I think it is right for me to help you. Conversely, when you help me, you help me and I expect help, not because of payoffs, but because we think that it is right. In other words, what is claimed by sociobiologists is that morality has evolved as a kind of social facilitating mechanism, which will enable all of us to play the social game. In a way, therefore, objective morality is a kind of collective illusion that we all believe in, in order to function socially together. If we did not have such a belief in objective morality, then no one would help anyone else, and our social structure would collapse. "Do this because it is right" has an effect on you, which "Do this because I want you to" could never have.

How is this all supposed to come about? It could be that humans have completely blank minds at birth, *tabula rasa*, which then, as it were, get filled up with moral thinking. However, there are good

evolutionary reasons to suppose that this is not so. Rather, what is believed now is that the human mind at birth is already biased in certain predisposed ways. These biases are known technically as “epigenetic rules”. They have been developed most thoroughly by the sociobiologists, Charles Lumsden and Edward O. Wilson (1981; 1983). According to modern theory, what happens is that the human mind, as it grows, develops in certain preset ways so that it is disposed to think along certain channels.

In the realm of epistemology, for instance, we have a predisposition to think in certain logical and mathematical ways. We are inclined to believe that $2+2=4$ rather than 5. And, the reason why we have this inclination, an inclination brought about by an epigenetic rule, is quite simple. Those of our would-be ancestors who believed that $2+2=4$ tended to survive and reproduce a lot more efficiently than those of our would-be ancestors who believed that $2+2=5$. Similarly, we are predisposed to think about certain things in a causal fashion. Those of our would-be ancestors who were predisposed to believe that fire causes burning tended to out-reproduce those of our would-be ancestors who happily, at least at first, drew no connections between the fire and the consequent pain brought about by the burning.

In the realm of moral behaviour, one of the best-worked-out epigenetic rules is that which lies behind incest barriers (van de Berghe 1979; 1983). Virtually every human society has barriers, often made explicit as taboos, against sibling intercourse. Brothers and sisters simply may not, or rather should not, sleep together, at least not during their reproductive years. (I’m sure that many siblings have experienced some sort of pre-adolescent sex play.) There are very good biological reasons why humans are biased against sibling intercourse. Such close inbreeding has horrific biological effects. Children of siblings stand a very high chance of having genetic ailments of one sort or another (Adams and Neel 1967). Consequently, there is and has been strong selective pressure against such sexual relationships. Sociobiologists argue that the human mind is biased or influenced against such relationships by one or more epigenetic rules. We have revulsion at the thought of sibling incestual relationships, and we elevate them into explicit moral prohibitions.

More generally, it is argued by sociobiologists that kin selection and reciprocal altruism, and possibly other like mechanisms, have brought about sociality and cooperation between humans (Alexander 1979; Wilson 1978; Lumsden and Wilson 1981). This cooperation is caused proximately by epigenetic rules, which themselves have their roots in natural selection, brought about by the struggle for existence. Thus, the epigenetic rules incline us to think that we ought to behave morally towards our fellow humans, particularly those in our pack or

society. Morality, therefore, rests ultimately on the innate biases of the human mind, these biases being an adaptive function of the evolutionary process. This is all there is to the evolution of morality.

At least, let me not overexaggerate. This is all there is to the biological story of the evolution of human morality. No one, least of all an evolutionary biologist, wants to deny that the human cultural dimension takes off, and leads to effects which do not tie in directly to biological advantage. This cultural divergence and evolution is responsible for the differences between moral codes that one notes from country to country. However, it is the claim of the biological evolutionist, the modern-day Darwinian, that underlying any cultural differences, there is a common foundation of biological influence. This influence is brought about by the epigenetic rules which are themselves rooted in the evolutionary process, no less than our human hands and eyes and other anatomical adaptive features.

The state of morality.

Let me emphasize that, thus far, my discussion has been at the empirical level. Everything that I have said is part of the modern scientific theory of evolution. I do not pretend that it is all absolutely correct in every detail. Indeed, we are pushing at the frontiers of science. Moreover, there are well-known arguments about the ultimately unprovable status of any scientific claim (Popper 1959). But, what I do argue is that what has been presented so far is to be taken as science and not as ethereal armchair philosophizing. It is the basic background against which any philosophical discussion must be cast.

But what kind of philosophical discussion is appropriate here? Are we any further down the line with the kinds of inquiries which concern philosophers? Or, is what we have covered thus far no doubt interesting, but irrelevant to our main inquiry? Many philosophers would argue that it is as irrelevant as it is interesting (Hampshire 1978). This is the conclusion I want to dispute strongly now. I shall argue in this section that what we have learnt has profound implications for the status of ethics. In particular, I want to argue that, meta-ethically, one ought, as a Darwinian evolutionist, adopt a positive of "ethical scepticism". By this, I mean (as is typically meant) not that there is no such thing as ethics: but, rather, there is no such thing as an objective foundation to ethics (Mackie 1977).

In fact, I would argue this conclusion about the lack of objective foundation to ethics ought to be apparent to you already. As we have seen, what the evolutionist claims is that morality exists as a collective illusion, in order to facilitate cooperation amongst humans. It is an adaptation, brought about by natural selection, to help us survive and

reproduce that much better. It has no further or ultimate end. It is as much a chimera as the voices that the schizophrenic "hears", or the messages which come from beyond at the spiritualist's seance. What makes ethics different from the schizophrenic's voices and the spiritualist's messages is that it is an illusion shared by us all. Hence, linguistically, one can properly point out that ethics is not that which we mean by "illusion", if illusion applies to something possessed only by an aberrant few. The whole point of ethics is that everybody, or at least, almost everybody, shares in the belief that there is some sort of objective compulsive morality. But it does not exist all the same.

At least, when I say ethics does not exist, of course it exists for us, but it does not exist as some kind of objective phenomenon irrespective of human beings. Let me put matters this way; perhaps when no one is around in the forest, a tree falls, and makes a noise. However, if no one is around in the forest, then there is no moral obligation to tell people to get out of the way!

You might be tempted to agree with my premises, but deny my conclusions. You might feel inclined to agree with me that our ethical sense or capacity, or whatever you want to call it, is indeed a product of evolution through natural selection — that that which makes us moral beings is as much part of our biology as is that which makes us seeing or even thinking beings. However, you might then go on to argue that, just as the fact that we see through evolutionarily acquired abilities does not deny the objectivity of material objects, so the fact that we become aware of ethics through evolutionarily acquired capacities does not deny the reality and independent objectivity of morality. (I myself argued precisely this in Ruse 1979a!).

Unfortunately, this argument does not stand up, if you look at the full implications of Darwinian evolutionary theory. Let us grant for the sake of this discussion that there is, in fact, a real material world, and that we humans can obtain some knowledge of it or at least some reasonable approximation to such knowledge. This means that we are accepting the approximate truth of Darwinian evolutionary theory. (If you are prepared to grant this much and argue that our knowledge of the external world is subject to a fairly radical scepticism, then, for obvious reasons, the claims that I am making about ethics follow even more readily than otherwise.)

The point which we must now go on to accept, as Darwinians, is that ethics could have been quite other than it is. Therefore, there is absolutely no necessity to ethics, a quality that an independent objective ethics is always thought to have. (Remember how Immanuel Kant (1949), for instance, stresses the synthetic *a priori* nature of ethical claims.) What the Darwinian is committed to believing is that the way that we think ethically is a purely contingent fact, which could have been quite other had we not evolved from savannah-dwelling primates

some six or seven million years ago. Indeed, there is absolutely no reason why, for instance, our ethical code should not have included a moral prescription towards cannibalism or feces-eating or infanticide or any one of a number of other practices which, as it so contingently happens, we find not merely repulsive but positively immoral. The reason why this is so is that there are already organisms existing today — higher organisms existing today — which practice one or all of these — to us — revolting activities. Had we, for instance, evolved from cave dwellers or some such thing, then it is quite possible that we would feel a moral compulsion to eat our children or to dine on the feces of our fellows (Ruse 1984).

What these rather horrible examples show is that that which we take to be moral is a purely contingent facet of our evolution. Had things gone another way, which Darwinism insists that they might have done, then we would have a completely different moral code. This is a point which cannot be overemphasized. As noted earlier, the absolute essence of modern evolutionary theory is that there is no progression up towards some fixed point, remarkably like humans (Ruse 1979b). This is a remnant of pre-Darwinian Christian thought, most specifically the old “chain of being” hypothesis (Lovejoy 1936). It has no place whatsoever in the modern evolutionary world. Evolution goes with the most adaptively advantageous at the time, and is thus totally random from a long-term perspective. Ethics, in short, is contingent. It is a happenstance facet of our primate nature and, as such, can have no eternal underpinning. This denies it the special status that it is always accorded by those who argue for an objective ethics, with a reality in some way independent of, or transcending, human existence.¹

But, still you might persist, arguing that even though it so contingently happens to be our nature that we recognize such moral imperatives as “love your neighbour”, this is hardly to deny the existence of some kind of eternal objective reality to such a moral claim as “love your neighbour”. Perhaps it is part of our evolutionary nature that we believe such moral dictates. But this is not to deny that it is also (and more importantly) God’s desire that we love our neighbour, or that something akin to a Platonic world of eternal forms demands that we love our neighbour, or some other such thing which gives an extra human foundation to moral codes.

Unfortunately, however, you are now stuck with the consequence that objective morality is redundant. Consider two possible universes: one with objective morality and the other with no such morality. And suppose them to be identical otherwise, and of such a nature that human beings evolve. (In speaking of Darwinian evolution as being random, I am not denying that it is causal. Nor am I pretending that, were the world

exactly as it was in the beginning, it would not produce organisms just as they have evolved.) What you have then is two sets of humans, one in each imaginary universe. Both of them believe exactly the same things: both of them have the same moral code. Both of them, for instance, believe that a binding ethical dictate is "love your neighbour". The only difference is that, in the one universe, the human beliefs correspond to objective reality, and, in the other universe, there is no such objective morality for the beliefs to correspond to.

What this all means, obviously, is that the objective morality is totally redundant. The universe without the objective morality functions just as well as the universe with it. But surely, this is a contradiction, at least as the notion of objective morality is commonly understood. If there's one thing an objective morality cannot be, it is redundant. If it is God's will that we should love our neighbour, it cannot be immaterial to us humans that it is indeed God's will that we should love our neighbour. This is what makes it right and proper for us to love our neighbour. What I argue, therefore, is that even if one supposes an objective morality, it is going to be redundant, given a Darwinian background, and that this is a *reductio ad absurdum* of the very notion of objective morality. If you are a Darwinian evolutionist, then you must be an ethical sceptic.

I would argue indeed that, given Darwinism, the situation is even worse for objective morality than that of redundancy. Given the randomness of Darwinian evolution and the fact that we could well have evolved into rational beings that think it morally obligatory to eat our fellows, then it could well be that we all share a collective delusion about eating our fellows, even though objective morality would have us love our fellows. In other words, given Darwinism, it is quite possible that we all believe one thing morally, although it is the rule of objective morality that we should believe something else quite different. In fact, as you might imagine, there is absolutely no reason why we in our present state should have actually arrived at objective morality. Perhaps indeed it is God's will that we should eat our fellows, but we poor deluded fools think otherwise.

The point which must be reiterated again and again is that Darwinian evolution has no place for progress (Midgley 1978). We are where we are because of random factors and the opportunistic effects of natural selection. It simply cannot be that we have evolved, as it were, towards an end which makes us aware of the way that we really ought to behave. The only sense that can be given to "ought" by a Darwinian evolutionist is a contingent sense, which is purely a function of our present social state. There is no correspondence to anything over and beyond us.²

Ethical norms: Socratic-Christian idealism.

We have seen how a Darwinian must answer the basic questions of ~~meta~~-ethics. When queried about the ultimate foundations of morality, the Darwinian evolutionist must argue that there are no such ultimate foundations. But I do want to emphasize that this does not mean that the Darwinian is totally amoral. Indeed, as was pointed out earlier, the whole point about Darwinian evolution is that one can explain the evolution of morality. One is not explaining away morality. What one is doing, at most, is explaining away the supposed objective foundation to morality. But what, then, is the morality of a Darwinian, you may ask. This is a fair question, and it is that which I shall attempt to answer in this section.

The easiest way to answer the question is to play off Darwinism against already-established traditional answers to the ultimate bases of moral behaviour. Let me pick out three well-known ones for purposes of discussion. The first is a kind of idealistic ethic, which is based on a combination of the view of Socrates in the first book of Plato's *Republic* and the views of Jesus in the Sermon on the Mount. The second position is one roughly associated with the name of Immanuel Kant (1949). It is a view which puts an emphasis on the individual as opposed to the group. Remember that Kant's supreme ethical norm, the Categorical Imperative, had, as one of its major forms, the exhortation to "treat others as ends in themselves, and not merely as means" (Kant 1959). A modern version of Kantianism is that of John Rawls (1971), who expects us to treat everyone fairly. The third well-known philosophical position specifying a basic ethical philosophy is utilitarianism. This is the view which demands that actions be judged in accordance with the happiness they cause and against the side consequences of unhappiness. Inasmuch as an action tends to promote happiness as opposed to unhappiness, it is to be judged good. As a corollary: the more happiness, the better (Mill 1863).

The Darwinian position certainly captures some of the basic tenets of the idealistic approach to morality. The whole force of the mechanisms of kin selection and reciprocal altruism is that we will have epigenetic rules demanding of us that we help others, and that, moreover, we do this because we think that it is right to help others. Nevertheless, if you push this idealism to an extreme, demanding with Jesus that you give not merely seven times but seven times seventy times, and even more, in other words, if you demand that you go on giving virtually without end, and that this should continue whether or not one gets any response, then I suspect that the evolutionist at some point will cry "stop". There has to be some sort of return, or at least a prospect of return for the mechanisms of evolution to function adequately (Wilson 1978).

In short, the evolutionary approach to ethics suggests that our moral capacities only go thus far, and if the people that we interact with give no response or return whatsoever, then we will shut off our feeling of moral obligation. We will regard such people as beyond the moral realm in some way — “pathological” or some such thing. Furthermore, my suspicion is that given the difference between kin selection and reciprocal altruism, as a Darwinian, you expect to find morality extending further if you are dealing with relatives rather than non-relatives. The evolutionist expects people to have a stronger feeling of moral obligation towards their own children than towards strangers. This, it seems to me, is incompatible with the way in which both Socrates and Jesus are usually read (Singer 1981). I would add, however, that this incompatibility may be a modern reading, because Socrates did not extend his views on morality to non-Athenians or to slaves, and there is some doubt about how far Jesus intended his views in the Sermon on the Mount to extend to non-Jews. (Remember, it was only after Jesus’ death that Christianity was broadened to the Gentile world.)

You may object that this is a serious limitation to morality as understood by the Darwinian. However, I would respond that it is merely a realistic appraisal of our moral feelings anyway. Most people certainly behave as though they have a far stronger obligation to their own children than to the children of others. Moreover, I suspect that most people would back this up if challenged, and feel morally nauseated by someone who was spending all his/her money on the children of strangers while his/her own family did without. There would be a feeling that such a person was trying to buy his/her way into the kingdom of heaven at his/her family’s expense, and that this was simply wrong. (Remember Dickens’ savage attack on such people in *Bleak House*.)

Moreover, the evolutionist would argue that when we look at people’s feelings of morality, generally, it is pretty clear that whatever we may say on a Sunday about the need to love everyone indifferently, in fact, few, if any of us, really believe this. We really believe that we should help those who are prepared to help us. Certainly, we should go that extra way with other people, but ultimately morality requires some sort of response. If no response is forthcoming, then (as noted) we tend to strike off people as moral agents, arguing that they are sick or monsters or some such thing. Or, effectively, we do the same thing. We take them out of society, by imprisoning or executing them. Note, however, that we usually demand response (or inflict punishment) not in the name of self calculation — “I help you, now you should help me” — but in the name of morality — “You have a moral obligation to help me, just as I had such an obligation to help you”.

But what about saints, you may ask (Singer 1981). What about Mother Teresa? Does she not confound your approach towards idealism? She gives unstintingly, without thought or hope of return. Well, the evolutionist is certainly not going to be bothered by one or two counter-examples. Natural selection, unlike a Christian god, never guarantees perfection or total harmony. At best, what one looks for is a rough and ready working, from an adaptive point of view. The fact that one or two people behave in maladaptive ways, in the name of idealistic morality, hardly disproves Darwinism. Moreover, perhaps somewhat cynically but not necessarily unfairly, the Darwinian would suspect that many so-called saints are in fact looking for rewards, if not in this world, then in the next. In other words, saints believe that there is some sort of payoff in the broad scheme of things. If they do not, why does the Church have to keep harping on the heresy of doing good for the wrong reasons?

Ethical norms: secular theories.

The Kantian view of substantive morality, particularly as offered in some of its more modern manifestations, for instance, by John Rawls (1971) in his theory of justice, fits very readily with an evolutionary backing. In fact, the Kantian emphasis on the individual seems almost like reciprocal altruism in action. What this biological mechanism leads to are epigenetic rules demanding that we help others, and that we individuals in turn have the right to expect help. In other words, it makes us think that everybody is entitled to some share of the pot and that this sharing should be done in the name of fairness, because, if this is thus performed, then we ourselves will benefit along with the rest. This sounds very close to the Kantian Categorical Imperative, as well as the claims of like philosophers. It is interesting to note, in fact, that John Rawls (1971, p. 503) does at one point speculate that the kind of neo-Kantian philosophy that he expounds, where the emphasis is on justice as fairness, might have an evolutionary background. Rawls does not follow this up in any great detail; but, I would suggest that he should, as should we (Gibbard 1982).

A utilitarian approach to ethics likewise strikes a happy response from biology. There are good biological reasons why a good meal or sexual intercourse or the love of our children makes us happy. But note that the Darwinian is not simply saying that we want happiness. That is no moral dictate at all. What the Darwinian says is that we want happiness for ourselves, because happiness is generally associated with those things which are biologically good for us — the causal connection being that biology promotes a sense of happiness about those things which we ought to have, biologically speaking. The

Darwinian then goes on to say that we are most likely to maximize those things which make us happy, if we share the sentiment that we ought to promote the happiness of others (Barash 1982). If we believe in this — that we ought to promote the maximum happiness — then this will rebound to our benefit, more than if we simply set out selfishly to promote our own happiness. Thus, the Darwinian is not simply arguing that we ought to look after ourselves, but that we ought to promote the general happiness. This, of course, is the basic proposition of the utilitarian.

I would not want to say that the Darwinian would go right down the line with every utilitarian. For instance, I could well imagine that situation, biologically speaking, where it might be better to do something which is not a very pleasurable thing to do. For instance, if you had some disease which you knew was going to make you progressively more unhappy, the biological urge to live might nevertheless outweigh the apparent minimizing of unhappiness by committing suicide (Wilson 1975). But subject to qualifications like these, which I suspect many utilitarians would admit and argue for anyway, the Darwinian evolutionist seems to embrace quite readily something like the Greatest Happiness Principle.

I argue, therefore, in conclusion, that although the evolutionist will subscribe to an ethics which will be somewhat more circumscribed than one would get from an idealistic position, that the Darwinian evolutionist would feel happy in arguing for moral philosophies along the lines of those sketched by the Kantians and by the utilitarians. We have epigenetic rules which lead us to think that such courses of action as endorsed by Kantians and utilitarians are those which we ought to promote.

You might, perhaps, complain that this is all a little bit too catholic. After all, there are differences between Kantians and utilitarians (Taylor 1978). The Kantian puts an emphasis on the individual, whereas utilitarians tend to put an emphasis on the value of the group. Traditionally, also, there is a difference between Kantians and utilitarians in that, whereas the former find value in the intention and the act, the latter tend to judge morality in terms of consequences, Did your actions maximize happiness? Surely, the Darwinian ought to decide between one position or the other.

However, in response, I would point out that, in fact, usually Kantian and utilitarian and others who subscribe to variant or alternative moral philosophies, do not differ that greatly about the right course of action. Most of the time, the Kantian and the utilitarian would agree that certain things are right and that certain things are wrong. Raping small children, for instance, is unambiguously wrong, both because it violates the Categorical Imperative, and because it violates the Greatest Happiness Principle. Conversely, helping a widow in

distress is something which is good both for the Kantian and for the utilitarian. It should not be forgotten that the job of moral philosophers is to pick out counter-examples and awkward instances. That philosophers are very good at doing this, does not deny the fact that most of the time, what one ought to do is fairly unambiguously obvious, and that all of the major moral philosophies cohere. Thus, that the Darwinian would feel happy with both Kantianism and utilitarianism is not to say that Darwinism has no moral force at all. It is rather to say that, in the ninety or more percent of times when Kantian and utilitarian would agree on the right course of action, the Darwinian would likewise agree.

But what about the points where there are disagreements? Well, perhaps when there are genuine differences in moral insight, this is simply a point where evolution lets us down. Should you sacrifice the individual for the group? Should you value the well-intentioned bungler over the efficient cynic? Perhaps there is no ultimate answer. I keep emphasizing the fact that evolution is a rough and ready process, and does not guarantee perfection (Lewontin 1978). Certainly, evolution does not guarantee that there must always be an answer to every moral problem. This is the strong implication of such an empirical approach as I am advocating in this paper.

If there were an objective ethics, then presumably there would always be an ultimately right answer. God could not, for instance, leave us hanging about what we ought to do (or prefer) in some particular case — although, possibly, we might never realize fully what we ought to do, because of our personal limitations. But, if you take the naturalistic approach to ethics that I am advocating, then perhaps sometimes there simply are cases where there is no morally right or wrong answer. Fortunately, these are relatively rare, and so, from a biological point of view, they can be tolerated. I would argue, however, that this inability to yield answers to all moral queries is not a weakness of the Darwinian approach to ethics. It is rather a fact, just as it is a fact that quantum mechanics no longer subscribes to conventional notions of causality. This is no weakness in quantum mechanics. It is, if anything, a strength in that it acknowledges the way that the world really is.

Objections.

I do not expect that such a radically naturalistic philosophy as I promote in this discussion will find ready acceptance among philosophers. There will, no doubt, be many objections. I cannot hope to answer to all of them in this discussion; but, let me address three, which will almost certainly be made.

First, there will be the objection that what I am talking of is not true morality at all, but rather, some cynical self-directed set of emotions which portray humans as calculating, hypocritical, amoral, computer-like robots (Singer 1981; Trigg 1982). It will be argued that an approach which explicitly starts with the biological advantages to be accrued from cooperating can have little or nothing to do with the disinterested goodness which is at the heart of all true morality.

In response to this objection, let me simply say that if you think it has force, then either you have not followed what I've said or I have failed to make myself clear. The whole point is that we are talking of the evolution of genuine morality. Humans believe that there is some objective disinterested code of ethics, which they should obey. That is what morality is all about. What the evolutionary explanation does is show that this is illusory, in the sense that there is no such referent to morality. But, the explanation certainly does not deny that when we use moral claims, we mean something very different from that which we mean when we use factual claims.

The evolutionist, more than anyone, agrees that humans do not calculate self-interest when they cooperate. Morality is a more efficient way of achieving self-interest than conscious calculation. The fact that the evolutionist argues that there is a causal underpinning to morality no more denies the genuine nature of moral sentiments than, for instance, would it deny the genuineness of Mother Teresa's altruism, were one to point out that her behaviour had its origins in, say, a very strict upbringing (Ruse 1979a). Mother Teresa is a fine moral person, whatever her background. However, surely, no educator would want to argue that her background, or the background of anyone else, is totally irrelevant to his/her present behaviour, including his/her present moral behaviour.

For this reason, I would deny the surely-to-be-made charge that protestations aside, the evolutionary ethicist (as defended in this discussion) is violating Hume's law or committing the naturalistic fallacy. One is not attempting to deduce ought-statements from is-statements. A value claim, an ought-statement, means something quite different from an is-statement, a factual claim. What one is doing is using factual claims, is-statements, to explain away the supposed objective referent of value claims, ought-statements.

In a way, therefore, what one can say is not that the evolutionary ethicist is denying the is/ought distinction, or trying to bridge the is/ought distinction. Rather, to use a sporting metaphor, the evolutionist is doing an end run around the is/ought distinction. He or she is agreeing that the is/ought distinction is important, in the sense of meaning, but he/she denies that this implies that one cannot explain morality in terms of factual claims. There are no formal fallacies being committed in this brand of evolutionary ethics. No one is trying to deduce that which we ought to do from the way that things are.

Rather, the evolution of the moral capacity is being revealed; and, once this revelation has occurred, then, it is argued, we can draw important philosophical implications about that which the capacity supposedly deals with.

The second objection is that since the evolutionary approach makes morality dependent upon human beings, then all becomes relative. If I feel like doing one thing, I can, and if you feel like doing another thing, you can, and there is ultimately no way of deciding between us. Thus, supposedly, morality collapses into a morass of different wishes and desires. This again, however, is to misunderstand radically the force of the evolutionary argument. The evolutionist claims not simply that we have certain desires, but that we have moral inclinations, brought about (via the epigenetic rules) by natural selection. I do not simply hate killing; I think that killing is wrong. Likewise, you think that killing is wrong. And, I think you ought not kill, just as you think I ought not kill. The point is that we humans are all members of the same biological species, with the same evolutionary past. Morality may be relative to the human species, or to species like us; but, within the species, morality is a shared phenomenon. Indeed, the whole point about morality is that it will not work unless it is shared. If only a few of us held the illusion of morality, then we would be suckers to be wiped out in the course of evolution by natural selection very rapidly (Murphy 1982).

Thus, it can be seen that any relativism is of a kind which leaves morality untouched. The evolutionist indeed affirms the universality of moral sentiments within our species. What he or she does is deny their ultimate objectivity; but, this is quite another thing. We all know that there are certain rules of baseball, that you cannot, or at least should not, break. If you do break them, you will be penalized, and ultimately thrown out of the game. Obviously, no one pretends that baseball is other than a human invention. Morality is not in this sense an invention. It is something which has been conferred on us by our past. However, it is just as human as baseball. It too has its rules that you must not break. Otherwise, you too will be penalized or thrown out of the game.

The third objection is perhaps not so much an objection, but more a query. How is it that philosophers can have been so blind to the true nature of morality as the evolutionist claims? Does this mean that 2500 years of philosophizing about morality is virtually worthless, little more than an academic exercise in moral logic-chopping? The answer to this query is that, in a sense, one would expect much moral philosophizing which occurred before Darwin to be redundant or radically incomplete. The evolutionist and here I would include myself, is quite serious when he or she argues that the coming of evolutionary theory must necessarily make a radical difference to our conceptions of ourselves, calling for fundamental reevaluations.

Thus, in a way, I welcome a break with the past, feeling that it strengthens the case that I am making, rather than weakening it. However, having said this, I do not pretend that no one before the publication of Darwin's *Origin* had any inkling of the way in which morality occurs or functions. To assume this would be presumptuous indeed. In fact, one vigorous well-known approach to moral thought, namely that of the British empiricists, is a natural forerunner to the evolutionary approach (Mackie 1979). Historically, you would expect this, since the great British evolutionists of the nineteenth century were themselves well-steeped in empiricist thought. And in fact, you can see conceptually that suspicions based on history do have a strong claim to being correct.

Most particularly, if you look at the work of David Hume (1778), you see that he is the complete forerunner of the evolutionary ethical position sketched in this paper. Hume argued that morality is not some objective phenomenon, but a question of feeling or sentiment which works between people in order to facilitate social mechanisms. This is entirely the position of the evolutionist. Moreover, one can trace Hume's ideas back at least to the position of Thomas Hobbes, who started with the supposition that humans are naturally opposed to each other, and that morality must in some way come out as a compromise or result of individual self interests. This, obviously, is the starting point of the Darwinian evolutionist.

Hence, I argue that evolutionary ethics is not some completely new phenomenon. It is the natural continuation of an approach to moral philosophy started by Hobbes, which found its pre-evolutionary flowering in the work of David Hume (Murphy 1982). Now, at last, we are in a position to carry forward the work of the empiricists. We can make clear and complete that which they could not, because we (unlike them) are no longer ignorant of the fact and process of evolution.

Conclusion.

This discussion has been part empirical and part philosophical. I argue that we are now at last in a position to grasp the essential outlines of the biological evolution of human morality. When one does this, one sees that morality has no objective existence of its own. It is purely an adaptive mechanism for facilitating cooperation between humans. As such, it is a collective illusion. But to argue this is neither to pitch oneself into a crypto-fascist view of human nature, nor is it to commit appalling conceptual fallacies. It is, rather, to grasp the essential humanness of our nature. Moral philosophy can grow out of its Creationist Christian antecedents. At last, it can grapple realistically with

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the fact that we humans, like the rest of organic nature, are the end products of a long slow process of evolution through natural selection. For myself, I find this a liberating and exhilarating beginning, not a morbid conclusion to all that I have hitherto held dear. To paraphrase St. Paul, the time has come to stop looking through a glass darkly, and to grow up.

Notes

- ¹ No doubt, the Kantian and others would deny that we could have morality without human existence. However, as soon as we do have existent human beings, the claim is that morality is 'laid upon' them. Without right-angled triangles, you have no Pythagorean theorem. But, when you have such triangles, the theorem is not one option among many. This necessity is what Darwinism denies in the realm of morality. You could have rational beings, who thought pure hate the highest moral imperative. More on this point in a moment.
- ² I suspect the Kantian will object that the two-worlds hypothesis affects his/her position not at all. He/she believes morality is a necessary relationship arising when (and only when) you have rational beings. There is no objective morality external to humans, but, when humans have evolved, there is morality. However, the possibility of rational beings guided by pure hate does confound the Kantian. I see Darwinism allowing the evolution of social beings whose interactions are governed by such hate. "Hate everyone! Look after yourself! But remember, the other fellow is out to get you too, so most of the time, you'll simply have to cooperate. But you owe it to yourself, *morally*, to loathe your fellow man."

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