SOCIOBIOLOGY AND OUR SENSE OF RIGHT AND WRONG

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In nearly all philosophical discussions of ethics, and in particular the ethics of the role of the government, an appeal is made to our desire for consistency and also to our sense of right and wrong. The appeal of a consistent argument over an inconsistent one, given the enormous success and prestige of science, is easy to understand. (Actually, it is a fetish -- more on this later.) The origins of our sense of right and wrong are, however, not so obvious.

An example of such a philosophical argument is Nozick's discussion of the morality of eating meat. As Nozick points out, most of the animals we eat would never have been born but for the practice of eating meat. Therefore, it might appear, whether eating meat is wrong reduces to whether, from the point of view of the steer, it is better to have lived and been eaten than never to have lived at all. This seems a somehow more comfortable way to view a steak. But then Nozick asks whether the same argument can be applied to humans -- is it acceptable to sacrifice a human child merely because you intend to replace him with another, or to make room for another? Here our sense of right and wrong makes us balk at the prospect of killing children for any reason, and our taste for consistency may make us wonder about eating meat.

Most individuals, virtually all save those extensively tutored in philosophy, will, when provoked, display moral judgments that are not in fact consistent. Rather than claim that these individuals are merely untutored, I will argue here that our sense of right and wrong is a product of our evolutionary environment. The singular goal of genetic survival is served by a number of competing means. Survival requires food, shelter, and

reproductive effort and we must make choices in allocating resources to these various means. Similarly, we must make choices in abiding by various rules of behavior. What appear to be inconsistencies in our moral rules may be no more than our seeming inconsistencies when we vary our choices of consumption bundles in response to different prices. Moral rules, like strawberries, are not always in season. When the price is high, we buy less. And it is not clear that this is evil.

THE EVOLUTIONARY FOUNDATION OF SOCIAL BEHAVIOR

We are the offspring of survivors. There were, of course, many non-survivors. What made the difference in who survived? What is our genetic -- physical and attitudinal -- legacy? Some survival traits are obvious and desirable characteristics -- cleverness, strength, resistance to disease, sex appeal, effectiveness in raising offspring or recruiting others to do it, good eyesight and hearing, ability to identify poisonous plants. But there are some which though good for their bearers, are bad for the rest of us -- success at waging wars, discerning as to when the weak are sufficiently weak as to be worth attacking, subtle in deceit, or more generally speaking, effective in selfish calculations.

All of these characteristics plus many more comprise what we call human nature. Of some features of human nature we are quite proud, and of others we are very disapproving. What determines which are which?

I will start with the basic premise of E. O. Wilson, perhaps the most controversial entomologist of all time, that Darwinian principles apply to a great deal of social behavior just as well as to physical characteristics. From here I will address the following set of questions:

A priori, what should sociobiological principles make us expect that we would

desire most? The answer is survival, genetic survival. Given this ultimate goal, what higher principles would we expect our moral principles to serve? Again, genetic survival. Does this lead to a high degree of social cooperation? Given creatures that can distinguish one another and remember, yes, at least sometimes.

Does it lead to a consistent set of moral principles? Consistent with survival, yes. Consistent with each other, no. In particular it will be advantageous for many to advocate (for example) inviolable property rights, but in practice to violate others' rights when circumstances permit.

To introduce sociobiological analysis and suggest its nature and potency, consider why self-sacrifice on behalf of (certain) others would be selected for by evolutionary processes. The fundamental reason is that, from the point of view of the gene, it pays. In mammalian species, offspring share half of their genes with each parent, and half of their genes with each of their full siblings. Thus, any given gene in an individual has a probability of one-half of having a duplicate of itself in that individual's offspring or siblings. Some degree of altruistic behavior on the part of an individual towards his offspring or siblings will clearly increase the probability that his genes will survive into the next generation. The concrete and interesting prediction of sociobiology is that altruistic behavior displayed should be a function of genetic similarity, and that the degree of altruistic behavior should maximize the likelihood of survival. The altruism displayed towards children should be double that displayed toward grandchildren, other things being equal. Similarly, the altruism displayed toward siblings should be double that displayed toward half-siblings.

Lest it be thought that only unselfishness is at issue, the argument also explains differential selfishness. An organism would not take resources from

his brother or sister unless he could use them at least half as effectively himself. In genetic terms, the "cost" of the taking is the reduced survival prospects of the similar genes, which are half of the sibling's genes. Similarly, he would not take resources from a half-sibling unless he could use them at least one-quarter as effectively. (The natural way in which these allocation problems can be discussed in terms benefits and costs should immediately suggest its appeal for economists.) Genetic sharing also explains some fundamental disputes of life. One's siblings, who are the closest relatives possible, are also one's closest competitors for the resources of one's parents. Based on the rule of genetic similarity, parents would allocate resources (food, instruction, protection) equally. But each child, from his selfish point of view, would give double the share to himself that he would give to each of his siblings.

Kinship helping reaches its extreme among the social insects. Due to details of the reproduction process of the social insects (which we need not discuss here) worker ants and bees share three-quarters of their genes with their worker sisters, but only half with their children. It therefore serves reproduction of the genes better if these workers invest their efforts in raising more sisters rather than in having their own offspring.

THE ROLE OF MORAL OUTRAGE

The next problem is to explain how altruism toward non-kin would be selected for by evolutionary processes. Altruism is, of course, costly. Time spent helping another could also be spent searching for food, eating, caring for offspring, copulating, or doing some other directly productive activity, even conserving calories for the next effort. For altruism among non-kin to pay, it must at some point be reciprocated. One way to assure this is for the

altruism to be simultaneous, as in the example of the cleaner fish. A cleaner fish nibbles parasites off larger species of fish. For the cleaner fish the parasites are simply a tasty meal. The larger species finds the services of the cleaner fish essential to avoid being consumed by the parasites. This kind of altruistic behavior is stable because it pays off selfishly to both parties and neither party is cheated in the transaction.

But what about an altruistic act that can only be returned at a later point in time? Here the game theory of social behavior becomes important. Consider the case of a bird species vulnerable to a parasite such as mites. Each bird can clean parasites off most of his body, but has difficulty cleaning the top of his own head. For this he requires the aid of a companion. Suppose we start out with two kinds of members in the group -- suckers, who will groom anyone who presents himself, and cheaters, who take advantage of the grooming services of others, but are never willing to groom anyone else. The suckers in this society will spend much more time grooming other members than the cheaters do, and on average reproduce less. The cheats will tend to outreproduce the suckers so long as there are any suckers left. It may well be that a society of suckers would be completely viable, whereas one entirely of cheats would succumb to the parasites. But a combination of the two tends to drive out the suckers.

What if we have a third type of member -- grudgers, who can remember a cheat whom he has groomed, and will refuse to groom anyone who has ever refused him grooming services. A society of suckers and grudgers would be stable. Likewise a society entirely of grudgers would be stable. A combination of all three would again tend to drive out the suckers, who would spend too much time grooming cheats and lose out in the competition to reproduce. A society of cheats and grudgers would be stable so long as the

cheats were not too numerous and as long as there was "another grudger born every day."

The possibility of a stable society of cheats and grudgers is an example of what the sociobiologists call an "evolutionarily stable strategy" (ESS). An ESS has been achieved in this case when, on average, the cheats do as well (in reproductive terms) as the grudgers. If the cheats are doing better, they will tend to outreproduce the grudgers. But of course, as they do, there are relatively fewer grudgers to groom cheats (once). The increase in the number of cheats drives down the advantage of being a cheat and not wasting time grooming others. The equilibrium will be such that the amount of time "wasted" by grudgers (on average) in grooming cheats (once each) is equal to the amount of time "wasted" by cheats searching for an ignorant grudger.

The temptation at this point is to make a "group selection" argument: a society entirely of grudgers, because it would waste no time searching or grooming unnecessarily, should do better than a mixed society. Indeed, this is true. But the society of all grudgers would be extremely vulnerable to the entry of a cheat. If the cheat mutation occurred only once, its advantage among the many grudgers would be enormous, and the cheats would tend to expand until the ESS was reached. While group selection ("for the good of the species") is not impossible, the forces selecting for individual rather than group advantage are in most cases much more powerful.

The viable number of cheaters in this equilibrium obviously depends upon the cost of cheating to the cheaters. If somehow additional costs could be imposed on cheaters, less cheating would occur. For example, if the grudgers would take time to punish cheaters each time they refused to groom one who had groomed them, cheating would be reduced. The problem is that it is not in the short-run interest of the grudger to take the time to penalize the cheater, as

this takes up scarce resources that could be used in other ways. Yet in the long run the grudger would be better off if he could deter the cheat. This provides a role for "irrational" emotions. If the grudger has a known tendency to become enraged when wronged, that he will go to extremes to retaliate, he will be wronged less frequently.

The capacity for rage has to be "hard-wired" since otherwise the grudger's calculations of advantage would induce him to simply walk away rather than retaliate. The emotions provide the grudger with the long-run commitment necessary to invest the effort that would deter cheating. If, in the long-run, the resources spend being enraged may save even more resources that would have been spent grooming cheaters, the capacity for rage will be selected for.

The existence of emotions is, like altruistic tendencies, a two-edged sword. Just as emotions of rage can reduce unwanted behavior, "irrational" emotions of love can encourage desired behavior. For example, because the parent is devoted to the child, the child finds it in his own selfish interest to cooperate with the parent. The parent selfishly gains from his "irrational" love for the child.

Once the possible role for emotions is understood, we can see mechanisms whereby group altruism can be supported. Trivers called attention to two important genetic tendencies. One is moralistic aggression, an innate tendency for rage and aggressive behavior when others behave in a way that violates group norms. The other is an innate predisposition towards the creation of reciprocal altruism contracts. Given these qualities no "hardwired" altruism on the part of any individual is necessary to support the group altruism. (No one is born a sucker.) But rather, each individual participates in keeping his fellows in line and they keep him in line. This

implies a double standard of sorts. Individuals refrain from behavior that would anger their fellows not because of internal motivations (like the suckers) but because of the threat of retaliation. What each individual would like to do himself and what he wishes his fellows to do are not the same. This is one of the many sociobiologically based ambivalences of life.

Perhaps it is by forces such as these that man domesticated man. The willingness of humans to execute or imprison very uncooperative group members is an obvious force leading to greater cooperation, not merely by deterrence but by disallowing reproductive opportunities to the flagrantly offensive. But perhaps more powerfully, by each of us consistently making small efforts to restrict the reproductive opportunities of socially non-cooperative individuals the tendency of group members to behave in non-cooperative ways is weeded out.

In the context of social control through moral aggression, what do we mean by right and wrong?

To say "X is wrong" can mean

1) I would never do X because I believe it is wrong.

2) You should never do X.

3) If I do X, God will punish me.

I know this group is very enthusiastic about property rights, so let's take an example from property rights. Suppose a mother steals to feed her starving children. Very few persons with whom I am acquainted say they would refrain from this behavior if in the same situation. So what can it mean to say this is wrong? Certainly the second meaning applies. Possibly the third also. But not the first. So here we have two moral rules — "Do not violate the property rights of others" and "Feed your children" — which at times are incompatible. Most of the actions that would fall into the "I would never do

X" category are actions which it is not necessary to forbid, because they are in no one's interest anyway.

(Note here the potential power of the idea of God. The retribution man would like to undertake but is cannot he ascribes to God the power to do.)

Another possible meaning suggested for "X is wrong" is that one would be willing to accept society's punishment after doing X. But what does sociobiology predict society's punishment will be? We could have:

1) Make the victim whole,

2) Make the offender whole (take away what he gained), or

3) Impose sufficient punishment to deter future offenses.

The role of moralistic aggression and emotion is, of course, not the first or the second of these but the third.

Does the existence of moralistic aggression and emotion suggest that we shall end up a group of Christianlike cooperators? No, but rather that our cheating should take on more subtle forms. The society of suckers and grudgers remains ever vulnerable to cheats, although the cheating must be of a higher order.

The ambivalence of each individual towards his own and other's social behavior is not the only ambivalence arising from man's biological origins. Consider the ambivalence in parent/child relations. The parent likely has or will have many children over whom to allocate the lifetime efforts of parenting. But it is in the interest of each child to attempt to monopolize more of the parents resources than the parent would choose to give him. For example, a female offspring that can persuade her mother to nurse her past the time she would ordinarily be ready to produce another infant will have a better chance of surviving. But when she has her own child, her interests with respect to it are exactly the same as her mother's were with respect to

her. How parents "ought" to behave and how children "ought" to behave are incompatible.

Equally schizophrenic are male/female relations. Females increase their fitness (genetic survival possibilities) by recruiting males to help them raise their offspring. But once a female has or is on the way to having an offspring which is his, he increases his fitness by searching for reproductive opportunities elsewhere. (Unless two parents are necessary to raise the offspring, as in some bird species and possibly in humans after the agrarian revolution.) The paradox deepens when we realize that all individuals, male and female, increase fitness both by having their female offspring able to recruit mates to help them and also by having male offspring who manage to leave a trail of females raising their (the male's) children. Females do better when they have loyal mates, but when their sons are not loyal mates. Even females support the double standard.

What strategies does God reward with progeny? Clearly, it depends on whether one is male or female, parent or child, and on which side of what contracts one finds oneself. If God wishes us to behave according to the incentives of the environment with which he provided us, the moral standards for individuals are inconsistent.

Moreover, if we must keep with the first two possibilities for the meaning of "X is wrong" (I wouldn't do X, You shouldn't do X) it is not possible to come up with a set of moral rules that can be followed by everyone simultaneously, i.e., that adhere to the Kantian imperative. It will always be the case that the behavior we admonish in others is something we would undertake ourselves, and for which we are rewarded handsomely in terms of fitness. It is not possible to derive a consistent set of ethics from Nature.

FETISHES

Yet one other possibility to consider as a source of moral (and political) beliefs is the fetish. In DESCENT OF MAN, Darwin commented extensively on the ability to condition fetishes in human species, and marveled at the secondary sexual characteristics that individuals display in the various corners of the world. It seems that a vulnerability to fetishes is a necessary concomitant of facility in learning. Conditioning to a fetish is merely having concluded that an association (between, say, hair on the chest and healthy offspring) is meaningful when in fact it is not. If the more successful members of a group take up the display, this confirms to the others that in fact it is genuinely important. While in some species secondary sexual characteristics are physical (the peacock's tail) in humans they are mostly behavioral.

Fetishes and superstitions are closely related. A superstition refers to action based on mistaken beliefs, and a fetish is a taste that is conditioned on false beliefs. Unlike most superstitions, the mere existence of a fetish confirms its importance. If the female peahens like fancy tails, then in fact the fancy tails will be a considerable aid to males in obtaining mates. Moreover, if each peahen merely believes that other peahens like the fancy tails (even though she has no particular taste for them herself) and that her sons will do better in the reproductive competition if they have fancy tails, she will search for a mate with a fancy tail. The fetish is self-fulfilling.

Plato divided all human behavior into three categories: (1) plain purpose — that which directly contributes to survival, that is growing corn, eating, raising offspring, etc.; (2) play — rehearsal for activities which contributed directly to survival; and (3) "mere" display — attempts to gain status through competition for its own sake or superficial decoration. In

terms of the sociobiological imperatives, the status competition is just as important to one's fitness as the other two more "direct" categories of activity. Not only must you be fit, but you must give the proper signals to alert potential mates that you are fit. And if you are not so fit, the ability merely to give the signals may get you through a generation or two. We must not underestimate the importance of purposeful superficiality. And so we say with Oscar Wilde: "Only shallow and ignorant people do not judge by appearances."

It is easy to imagine how a set of moral beliefs or political beliefs could as easily become part of a person's sexual and other signalling, like other cultural traits such as religion, accent, and willingness to wear a tie. This need not cast doubt on the sincerity of such beliefs; the most convincing act is the one which is not an act.

In the long run the persistence of fetishes is constrained by necessity of them not being counterproductive to survival. But just as many mutations survive for awhile and die out, so fetishes may survive a while before crashing. (Darwin emphasized that even secondary sexual characteristics such as the peacock's tail were highly subject to crashes.) This suggests the possibility that the admonitions of the day may be in fact quite temporary. Even the desire for consistent moral standards may simply reflect the great increase in our standard of living resulting from science, the practitioners of which are worshippers of consistency.

This suspicion of consistency is an idea which is both Hayekian and conservative (in Hayek's sense of conservative). Hayek was quick to emphasize that economies generally make use of more information than is available to any individual. So it must also be, in the grand economy of Nature, that evolution has shaped us in many ways useful to us yet of which we are

unaware. (Adam Smith would say that it is because of the weakness of reason that Nature has instilled in us certain instincts.) The conservatism of this view lies in its admonitions that when intuition and consistency are in conflict, think twice, think more than twice, before opting for consistency.

The Greeks posed the question whether there was more to the notion of right and wrong than mere selfish interest. I have made explicit here what the evoltuionary forces shaping "selfish interest" are, and have shown how emotions (senses, feelings) about what is right and wrong could evolve along with selfish interest. It is not sufficient, then, for the moral philosophers to justify ethics by appealing to a natural human sense of right and wrong, because these feelings are part of the equipment for survival. The ethical sense selected by evolution is flexible, both with regard to the situation in which on finds oneself (parent, child, male, female, rich, poor) and with regard to learning (changes in the environment, real or merely perceived). The principles we internalize as the result of moral aggression on the part of our fellows may be part of the ESS of our species at this time, or may be no more than a mere fetish. The possible temporariness of the prevailing admonitions does not reduce the necessity of acknowledging and perhaps heeding them, but it should make us think twice about whether they constitute right and wrong, and whether there is anything to right and wrong besides survival.

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