



# SOCIOBIOLOGY

Why  
Do  
Humans  
Behave  
as  
They  
Do?

**“For what I do is not the good I want to do; no, the evil I do not want to do—this I keep on doing” (Romans 7:19, NIV).<sup>1</sup> Why do humans behave**

**this way? The Bible gives us an answer to this question; evolutionary biology gives a different one. Sociobiology is a theory, developed in the 1970s, based on the assumption that all behavior can be explained as the result of evolution.**

For a large part of the 20th century, there was much discussion about evolution’s difficulty in explaining altruism. This was an important, unsolved problem. An altruistic act is any behavior that benefits another animal or person at the expense of or risk to the one performing the act. A personal example occurred a few years ago when the 11-year-old nephew of one of the authors jumped between a vicious attacking dog and his little sister. He saved his sister but received some nasty bites. If he had died from this heroic act, he would never have produced any offspring to carry his genes to the next generation. In evolutionary terms, he would have been a failure. Success according to the evolutionary definition results from behavior focused on producing one’s own successful offspring instead of doing things that put oneself at risk by helping someone else. In other words, evolution is expected to encourage selfish behavior, and reduce or eliminate altruistic behavior.

This seems at odds with many observations of both human and animal behavior. For example, the ground squirrel that gives an alarm call when a hawk appears thereby warns others to hide, but it also draws attention to itself and thus increases the chances that it will be caught by the hawk. Can evolutionary theory explain this altruistic act, which may decrease the probability that the calling squirrel will survive to reproduce? A squirrel whose genes predispose it to cheat, by benefiting from the alarm calls of others but not giving calls itself, would appear to be the animal with the best chances of survival and reproductive success.

In 1975, Harvard professor Edward O. Wilson published *Sociobiology: The New Synthesis*.<sup>2</sup> In this book, he claimed to have solved the problem of altruism and offered an explanation for its origin in human and animal behavior. Before pursuing that topic, we need to back up a little and explore the background for the theory of sociobiology.

Natural selection produces small changes in animals. For example, faster rabbits can outrun more coyotes and thus produce more offspring than slower rabbits. This is natural selection. Can this process also influence behavior? We can understand natural selection favoring faster rabbits, but can it explain changes in more complex behavior?

Sociobiology attempts to account for adaptations in behavior. It even claims to explain behavior that appears altruistic. To understand this theory, we need to discuss a few simple concepts.

The ability of an organism to reproduce successfully and to pass on its genes through its offspring is described as *personal fitness*. Faster rabbits have higher levels of personal fitness because they produce more offspring. Logically speaking, a ground squirrel that gives alarm

calls or any species that engages in altruistic behavior would have lower fitness—a reduced likelihood of producing offspring or at least producing fewer offspring to perpetuate its genes.

When there appears to be exceptions, sociobiology theory explains these through the concept of *inclusive fitness*. For instance, two sisters will have many genes that are the same. On the average, 50 percent of their genes will be identical. If one sister helps the other to successfully raise her offspring to reproductive age, she assists in the passing on of many genes that are the same as those in her nephews and nieces. *Inclusive fitness* includes both the genes that an individual passes on to his or her own children, as well as the indirect passing on of identical genes by a relative.

Sociobiological theory predicts that altruistic behavior should exist only if it is not truly altruistic; that is, if it increases the inclusive fitness of the animal. Biologist J. B. S. Haldane is reputed to have once said that he would lay down his life for two brothers or eight cousins. The reason for this choice was that, on the average, half of a man’s genes will be identical to his brother’s genes, while first cousins will have one-eighth of their genes identical. If Haldane died for one brother, thus eliminating his own chance to reproduce, his brother could pass on only half as many of J. B. S. Haldane’s genes as he himself could have done. However, if Haldane died to save two brothers, he would, statistically speaking, at least come out even.<sup>3</sup>

This kind of evolution is called *kin selection*. Favorable traits are often shared by close relatives, and a family that helps its members survive will have more reproductive success than other families. Their behavioral traits will thus become more common.

The processes of *mutation* and *kin selection* and their effects on *inclusive fitness* are parts of the mechanism by which sociobiology proposes to explain the origin of apparent altruism and

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all other unselfish social behaviors. Sociobiology theory asserts that there is no such thing as truly altruistic behavior. Some apparent exceptions, in which unrelated animals help each other, are explained as *reciprocal altruism*—you scratch my back, and I'll scratch yours.

For example, olive baboon males solicit help from an unrelated male in an aggressive interaction against a third male. Often, the roles are later reversed, and the original solicitor helps the same male, who is now the solicitor.<sup>4</sup>

Research under the guidance of sociobiology theory has led ethologists (scientists who study the natural behavior of animals) to recognize the role of some animal behaviors previously thought to be only bizarre abnormalities. For instance, a male African lion sometimes kills all the cubs in his pride. This happens during a battle between males when the current patriarch of the pride is deposed. The new dominant male generally kills all of the young that are still suckling from their mothers and are the genetic offspring of his rival. Within a short time, the mother lions come back into heat. Consequently, he is able to mate and produce his own offspring much more quickly than if the females were occupied with caring for offspring of his former rival.<sup>5</sup> Such infanticide is also known to occur in Hanaman langurs, mountain gorillas, chimpanzees, African wild dogs, and rodents.<sup>6</sup> This illustrates why sociobiology theory claims that the entire focus of life is reproductive success.

### Implications for Human Behavior

Sociobiology has provided the prevailing synthesis in the study of the natural behavior of living creatures and has been very successful in understanding and predicting animal sociality. Frequently, sociobiological reasoning provides useful and testable scientific predictions in animal behavior studies.<sup>7</sup> What are its implications for human behavior?

Recently, psychologists have begun to apply the ideas of sociobiology to their own species. They call this new discipline “Evolutionary Psychology.” An example of their thinking that draws on the sociobiology of lion infanticide mentioned above is the observation that the homicide rate of young children is 70 times greater in living arrangements where the male is not the biological father of the child. Specifically, live-in boyfriends are dangerous to the safety of children.<sup>8</sup>

Most Christians believe that humankind was given a set of moral rules for behavior. These rules tell us what is right and what is wrong, and what should be avoided because it is damaging to human relationships and/or harmful to ourselves or others. However, in some extreme situations, a commitment to the values and moral rules of the Bible can result in persecution or even death.

Sociobiology posits that there are no morally right or wrong

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behaviors; behavior is the result of the selection pressures that have created human beings. Anderson summarized the concept this way: “The type of man who leaves the most descendants is the one who cuts his reproductive costs on all sides, by keeping a close watch on his mate and making sure he has no rivals; supporting his mate, if it seems that all her children were sired by him; and mating with other females—additional wives, single women, other men's wives—whenever a safe opportunity arises.”<sup>9</sup>

Some researchers have even suggested that evolution has programmed humans so that babies don't look too much like their fathers in order to make adultery more difficult to detect.<sup>10</sup> Other researchers claim that women are naturally more likely to have multiple sexual partners during the times in their menstrual cycle when they are fertile, so that sperm from different men will compete and the most viable will succeed in conception.<sup>11</sup>

Certain sociobiologists suggest that morally offensive behaviors like rape are not really immoral, but are simply alternate reproductive strategies that are adopted by some individuals who have been unsuccessful in producing offspring in more traditional ways. Interestingly, it has been shown that the pregnancy rate as a result of rape is more than twice as high as that of consensual intercourse (6.4 percent vs. 3.1 percent).<sup>12</sup> Nevertheless, sociobiologists continue to offer conflicting reasons for this offensive behavior.

What happens in nature and in human relationships is not necessarily morally right. But then, if human behavior is the result of evolution, who gets to say what is right or wrong?

### Sociobiology: An Alternative to Religion

In sociobiology theory, right or wrong behavior doesn't exist in a moral sense, only behavioral strategies with differing effects on inclusive fitness. Sociobiology can thus be considered a Darwinian alternative to a Christian value system.<sup>13</sup>

Wilson does not deny that religion and moralism have value. He believes they can encourage reciprocally altruistic behavior by discouraging cheating. But he maintains that the origin of moral values should be determined by science, which offers the “possibility of explaining traditional religion by the mechanistic models of evolutionary biology. . . . If religion, including the dogmatic secular ideologies, 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.”<sup>14</sup>

Wilson feels human concepts of sexual morality should be more liberal. He bases this conclusion on a survey of the behavior of humankind's presumed nonhuman ancestors and on his conviction that Christianity's moral laws did not come from God. These opinions apparently are based on his conclusion



that with continuing research, “we will see with increasing clarity that the biological god does not exist and scientific materialism provides the more nearly correct perception of the human condition.”<sup>15</sup>

## Is Sociobiology Theory True?

### *Assumed Evolution of Humans, Apes, and Salamanders From Common Ancestors*

Sociobiological theory, as proposed by Wilson, is built on the assumption of the naturalistic evolutionary descent of all organisms from a common ancestor, including the evolution of human beings. Does sociobiology provide evidence for that type of evolution?

Production of scientific theories always involves a mix of data, hypotheses, and worldviews. Data almost never directly dictate how to interpret or explain them, but must be interpreted.<sup>16</sup> For instance, humans and chimpanzees both smile in similar contexts. Which hypothesis is the correct explanation of this similarity in behavior—it evolved from a common ancestor, or chimpanzees and humans were both genetically programmed with that behavior by the same Creator God? How we answer questions like that is influenced by our worldview.<sup>17</sup> The Christian’s scripturally based worldview is based on the conviction that God is real, He has communicated with human beings through the Bible, and He created the different groups of animals separately. The evolutionary worldview, which is dominant in modern science, assumes that the Bible must be interpreted in light of modern scientific understandings, that all life evolved from a common ancestor, and that religion gives us only subjective values, not facts. The worldview we adopt is of critical importance.

### *Kin Selection and Microevolution of Behavior*

Is kin selection and the evolution of behavior, at the level of species or genera of animals, contrary to a creationist worldview? The alarm-calling female ground squirrels and a host of other examples certainly fit very well into sociobiology theory.<sup>18</sup> Whether future research will continue to support its explanatory power remains to be seen. But since mutations cause random change to the genes that influence behavior, it does seem likely that behaviors could change, just as fur thickness can alter in response to climate change. It also seems that behaviors like altruism could be weakened or eliminated in a sinful world if they are not favored by natural selection. The Bible doesn’t contradict this level of change within created groups of animals.

### *Kin Selection and Its Genetic Influence on Human Behavior*

Even those who believe humans evolved from other primates need to answer another question—is most human behavior (1) controlled by genes, as claimed by sociobiology; (2) determined mostly by culture (i.e., learned, rather than inherited); or (3) shaped by a combination of the two? This debate has raged ever since (and even before) sociobiology was introduced. Wilson recognized that culture was an important component of human behavior, but maintained that other important themes of primate behavior also occur in humans through inheritance.<sup>19</sup> Others disagree. This group includes scientists

who believe Wilson’s sociobiology theory goes too far in presuming biological determinism. They argue that there is no evidence for specific genes that determine human behavior and believe Wilson’s theory is not testable.<sup>20</sup> However, some other scientists carry the concept of genetic control of human behavior even farther than Wilson does.<sup>21</sup>

Clearly, evidence does exist for genetic control of behavior in non-human animals.<sup>22</sup> For example, some bird calls and songs—and the behavior that goes with those songs—don’t have to be learned; they are genetically determined.<sup>23</sup> This suggests that even though most of human behavior seems to be modifiable by culture, there is the possibility that some behavioral tendencies in humans are genetically controlled (such as sucking behavior by infants). If so, there is a strong possibility that mutations could alter that behavior. Since random genetic damage to genes occurs over time, it would be difficult not to conclude that some human behaviors can be altered or eliminated by mutations and would thus be subject to the processes of natural selection, including kin selection. Does that mean sociobiological explanations of human behavior are correct? What does that say about morality? We will now give further attention to that topic.

### *Does Sociobiology Really Explain Human Behavior?*

Some sociobiologists emphasize that their theories don’t try to indicate what human behavior “ought to be,” but instead what people “should do in order to be reproductively successful.”<sup>24</sup> Psychologist Robert Plutchik asserts that human emotions are best understood in the context of the history of their evolution from other animals, and that this view of emotions will benefit clinical practice in psychology.<sup>25</sup>

Some ethics textbooks explicitly base their system of ethics on the principles of sociobiology.<sup>26</sup> Alexander concluded that conscience is “the still small voice that tells us how far we can go without incurring intolerable risks. It tells us not to avoid cheating but how we can cheat socially without being caught.”<sup>27</sup>

In contrast, right and wrong for Christians are understood as elements of an eternal moral code given to humanity. The Ten Commandments and the teachings of Christ provide a standard for human behavior. Clearly, humans do not follow these principles very well. Perhaps we have fallen so far from our original created condition partly because mutations have affected our behavior. It may be that both humans and non-human animals were created with well-balanced behaviors as well as morphologies that since have undergone generations of change driven by mutations and natural selection. If that is true, then perhaps certain aspects of human character reflect this unfortunate change, which has strengthened and emphasized the selfish side of human nature.

The influence of worldviews must also be considered in evaluating sociobiological claims for human behavior. Earlier, we described claims that, for example, humans are designed to be adulterous and that rape can be considered a normal alternative reproductive behavior. How are these conclusions reached? The evidence doesn’t demand these conclusions; the evidence can be interpreted in more than one way. The philosophy of these authors begins with a commitment to an evolutionary worldview, which is the basis for their chosen interpretations.

The creationist view presented here differs from conventional evolutionary thinking. We propose that the basic process of kin selection and its effect on inclusive fitness may operate within the human species and within other created “kinds” of organisms. However, it has not transmitted behaviors from one such group to another, since these groups have not evolved from a common ancestor. Christians also accept by faith (and by logical reasoning, even though not scientifically testable) that human behavior

is not biologically destined but has a measure of free will that enables people to seek empowerment from God to act in ways that are truly altruistic and not just the product of gene modification and biological determination. Observations of human behavior make it difficult to believe that some behavior is not genuinely altruistic because abundant examples of human altruism have been documented.<sup>28</sup> And, of course, many Christian martyrs stood up for truth, even though they were killed because of it, and perhaps did not leave offspring.

This highlights a very big difference between Christianity and sociobiology. The promise of eternal life with Jesus in the New Earth, when God makes all things right, eliminates the urgency of passing on one’s genes here on earth. For a Christian, the importance of obedience to God takes precedence over the survival instinct and reproduction.

### **The Value of Sociobiology in Scientific Inquiry**

Even though some biologists are raising questions about the validity of sociobiology theory, the discipline has, for a number of years, been very successful in suggesting productive areas for research. However, we must be careful to evaluate sociobiological ideas before uncritically applying them to humans. In some cases, morally reprehensible behaviors seem to be directly advantageous to the successful reproduction of a variety of species of animals. But that does not make such behavior morally right for humans. Promiscuity, rape, and infanticide are never right, even if there are scientifically logical reasons for their existence in animals. This line of reasoning (“Because it occurs in nature, it must be OK”) is often referred to as the “naturalistic fallacy.”

It is true that scientists have found a strong similarity between basic types of behavior in animals and humans (learning theory, some aspects of reproductive behavior, development of food preferences), as well as in basic body functions at the cellular and system levels. We appropriately require doctors and other health-care workers to learn a lot about animal physiology and anatomy before we let them care for our bodies. Research indicates that humans and other mammals were clearly designed on the same body framework. However, major differences exist in such areas as humans’ higher reasoning ability, spiritual sensitivity, and the

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moral system built into us by the Creator.

### **A Creationist View of Sociobiology**

Within a biblical creationist worldview, it is logical to assume that when life was created on earth, the original animals had the optimal level of unselfish cooperation in their behavior, and the interactions between organisms were finely tuned and harmonious. Potential conflicts between animals over the division of territory and other resources may have been

originally settled by non-damaging ritualistic displays like those still common in a number of creatures. Examples include male rattlesnake wrestling matches and lizard tail lashing or head-butting “battles.”<sup>29</sup> Such behavior settles disputes without anyone getting hurt. Truly altruistic behavior may have been much more common in both animals and humans at Creation.

We suggest that in God’s original plan, living creatures were somehow protected from the mutation-driven decay of unselfish behavioral tendencies. If so, then harmonious behaviors would not have been subject to unfavorable competition from mutated creatures that benefited from “cheating.” In a sinful, damaged world, these harmonious behavioral mechanisms began to break down because of mutations. Natural selection, including kin selection, has no power to invent new animals,<sup>30</sup> but these mechanisms could act as a brake to slow down the destructive effects of random mutations and in some situations even favor the retention of some altruistic behaviors, like alarm calls to warn one’s neighbors or little boys protecting their sisters.

God could choose to invent an ecological system whose natural balance is based on harmony rather than on competition and survival of the fittest. In contrast, mutation and natural selection cannot analyze the “big picture” to see what is best for overall ecological balance. Natural selection is very short-sighted—it favors any change that increases successful reproduction *right now*. The ultimate result of the rule of natural selection and kin selection is the triumph of the competitive, vicious side of nature.

We believe humans were created to be altruistic and responsible but fell into a sinful condition that has affected the rest of nature as well. “We know that the whole creation has been groaning as in the pains of childbirth right up to the present time” (Romans 8:22, NIV). In their fallen state, humans still can choose to seek the God who loves them and desires to empower them to be like Him, and to behave unselfishly and treat their fellow humans and animals as they wish to be treated. They can even choose to follow the example of Daniel and his three companions, John the Baptist, and many others who have risked their lives and their opportunity to produce children in order to be true to God. Because of their faith in God’s prom-

ises (John 14:1-3), they did not fear death or natural selection because they believed the principles embodied in Jesus' statement: "Do not be afraid of those who kill the body but cannot kill the soul. Rather, be afraid of the one who can destroy both soul and body in hell" (Matthew 10:28, NIV).

Humans can also choose to reach out and protect the environment in which they live, for the good of themselves and the plants and animals that share this earth and make up its life-sustaining ecosystem. ☞

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