

PLURALISM AND AMBIVALENCE IN THE EVOLUTION OF MORALITY

by Karl E. Peters

Abstract. Much good work has been done on the evolution of human morality by focusing on how “selfish genes” can give rise to altruistic human beings. A richer research program is needed, however, to take into account the ambivalence of naturally evolved biopsychological motivators and the historical pluralism of human morality in religious systems. Such a program is described here. A first step is to distinguish the ultimate cause of natural selection from proximate causes that are the results of natural selection. Next, some proximate causes are suggested as possible conditions of biological and emotional valuing as well as of customary social morality and individual rational ethical thought. Finally, different moral perspectives of Confucianism, Hinduism, Buddhism, and Christianity are briefly presented in order to illustrate how one might inquire about the selection of a variety of biopsychological and cultural proximate causes that enable the evolution of a plurality of religious moral systems.

Keywords: altruism; ambivalence; attachment; biological valuing; Buddhism; Christianity; Confucianism; customary morality; *dharma*; emotional valuing; ethics; evolution; harmony; Hinduism; William Irons; *jen*; *li*; morality; natural selection; pluralism; proximate causes; reflective morality; ultimate causes; valuing.

This essay suggests the need for a richer and wider research program in the evolution of morality. Such a research program should take into account the complexity of morality arising from the diversity of cultural moral systems—what I call moral pluralism. It also should take into account the

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human biological predispositions for both moral and immoral behavior—what I call moral ambivalence.

As I offer some ideas about the evolution of morality to show how we might account for moral pluralism and ambivalence, I will be engaged in what philosophers call descriptive morality. I will not be prescribing what I think moral behavior should be. Prescribing behavior is the task of moral systems, whether they are the customary morality of societies or the ethical systems of individual thinkers. My aim here is to explore how moral systems might have evolved and to suggest what needs to be done in order to have a fuller understanding of the evolution of morality.

In offering some thoughts regarding descriptive morality, I employ a working definition used by William Irons in his essay “Morality, Religion, and Human Evolution” (1996b, 1): “Morality refers to the human propensity to judge certain forms of behavior as good and deserving of admiration, encouragement, and reward, and to judge other forms of behavior as bad, not to be imitated, and worthy of punishment. Morality also includes systems of rules which particular societies develop to codify these judgments.” Such a definition will be helpful in setting human morality in a wider context of human and nonhuman valuing or decision making. It also allows for a variety of ways in which human behavior can be judged good and bad, and hence for a variety of moral systems. And it recognizes that the goodness or badness of behavior is a judgment humans make and not something inherent in the behavior itself. Thus, Irons’s definition allows for pluralism and ambivalence in human morality.

Before proceeding further, I want to make two caveats. First, this essay is programmatic. It suggests some future directions that scientific and historical research into the evolution of morality might take. My own thinking has been guided by the work of scientists, philosophers, and scholars in religious studies. I have come learn about this work largely through teaching for many years a variety of undergraduate courses in science and religion as well as introductory courses in Asian religions and Christianity. I have integrated what I’ve learned with my own philosophical analysis. To further develop the ideas I am suggesting will require more intentional collaborative effort from many disciplines in what I envision as a comprehensive and I expect fruitful research program in the evolution of morality in religious systems.

Second, many today are seeking a new global ethic that would allow a variety of religious traditions to come together in working on contemporary moral problems. I experienced such a coming together at the Parliament of the World’s Religions in Cape Town, South Africa, in December 1999. It was amazing how people from quite diverse religious belief systems could suggest similar ethical directions in addressing problems of human welfare, social justice, and environmental deterioration. It may well be that the development of a global ethic is the latest phase in the

human cultural evolution of morality.¹ Such a self-conscious development will be nourished, I think, if we recognize the historical variety of moral systems not as obstacles but as resources for contemporary reflection. Such reflection will also be enhanced if we take into account the rich array of biopsychological predispositions within each of us for moral and immoral behavior. I hope that my essay contributes to a consideration of how we can express a twenty-first century morality we all can affirm.

PLURALISM AND AMBIVALENCE IN HUMAN MORALITY

In the past few decades, especially since the publication of Edward O. Wilson's *Sociobiology: The New Synthesis* (1975), much good work has been done discussing and debating the biological and cultural roots of human morality. The usual approach has been to define morality as some form of altruistic behavior. An extreme form of altruism is a willingness to sacrifice one's own life for the sake of others before one has been able to reproduce. From the perspective of biological evolution, reproductive success of individuals is the name of the game. Any genes that contribute to features or activities that help an individual organism nourish and defend itself long enough to reproduce and that assist its offspring to reach their own reproductive age are selected. Those characteristics and behaviors that hinder reproductive success are not biologically reproduced and are therefore selected against. The question then becomes, How can self-sacrificial altruistic behavior be adaptive?

The notion of self-sacrificial altruism is part of a view of morality that is a major focus of one particular religion, namely Christianity. It is found in the love ethics of Jesus, especially in the "new commandment" he gives his disciples: "Love one another as I have loved you. No one has greater love than this, to lay down one's life for one's friends" (John 15:12–13 NRSV; cf. John 13:34–38). Of course, Christian morality includes more than this, but the self-sacrificial form of the love command is often regarded as the epitome of Christian morality. As such, it presents a significant problem for evolutionary theory. How could the idea of self-sacrificial love have evolved to be a central ideal in a moral system when it so obviously violates evolutionary biology's basic tenet of individual reproductive success? This creates what Ralph Wendell Burhoe has called "the paradox of human altruism for sociobiology," what E. O. Wilson has called the "culminating mystery of all biology" (Burhoe 1981, 205, citing Wilson 1975, 362).

The focus on the question of human altruism has guided much fruitful research regarding the biological evolution of human moral behavior. It has led to the use of kin selection and reciprocal altruism as effective explanations for cooperative human social behavior (Hamilton 1964; Trivers 1971). It also has led to the idea that human behavior is influenced not only by genes but also by memes (Dawkins 1989) and to theories of biocultural coevolution of human moral systems.

Yet, this is only part of the story. One must also ask what theorizing about the evolution of human morality would look like if we began with a different system of morality that did not have the notion of self-sacrificial altruism at its core. Of course, self-sacrificial altruistic behavior can be found in a variety of cultures. Any society in which people go to war before they reproduce provides an example of Burhoe's paradox. Further, there may be specific values and rules of conduct that are nearly universal. One rule (although I am not sure how far it has actually been shown to be universal) is the Confucian virtue of *shu*, or reciprocity: "What you do not want done to yourself, do not do to others" (*Analects* 15:23, in Van Voorst 2000, 150). However, single rules or values do not make up a moral system, which consists of values, duties, and virtues along with a belief system about the nature of the world and human beings. When one looks at moral systems, one finds considerable diversity. Instead of a single, universal human morality, we find a plurality of moral systems, each with a variety of morally relevant concepts and each not static but historically evolving. In light of this pluralism, we might wonder how the investigation into the evolution of human morality would proceed if one began with core ideas in the moral systems of other cultures, such as the moral/religious traditions in India or China. I return to this in the concluding section of this essay.

Besides the problem of moral pluralism, there is the issue of moral ambivalence. How is it that human beings seem to have the capabilities to be both moral and immoral, depending on the understanding of morality in any given culture? Some thinking about the evolution of morality has assumed a dichotomy between biology and culture, so that it is often claimed that biology when judged from a moral perspective needs to be constrained. In my judgment, a richer research program would develop if we affirmed the ambivalence of our human biology, if we started with the notion that biology can support as well as present obstacles to the moral development of human beings.

That human behavior is ambivalent (literally ambi-valent) when judged by moral standards is nothing new. Morality itself implies such ambivalence. We would not need morality to guide human behavior unless people were capable of being both immoral and moral. If humans were not capable of behavior that for some reason was problematic for a society, we would not need moral guidance. And if humans were not capable of following moral guidance, there would be no point in offering it. Further, one can probably detect what the particular problems of moral ambivalence are by reading back through moral injunctions to imagine the kind of behavior they are trying to correct. Moral commands to tell the truth make little sense unless some people are not telling the truth. Moral commands not to harm others likewise suggest that some people are causing harm to others, which a society is judging to be inappropriate. The fact

that cultures have moral systems implies that behavior other than what is regarded as moral is taking place.

One example of moral ambivalence is found with the rise of Christianity. It is likely that some followers of Jesus were not always behaving the way they should. Why else would Paul stress, for example in his letter to the Galatians, that they should follow the way of the spirit and not of the flesh, and give a list of vices to be avoided and virtues to be encouraged? “The works of the flesh are obvious: fornication, impurity, licentiousness, idolatry, sorcery, enmities, strife, jealousy, anger, quarrels, dissensions, factions, envy, drunkenness, carousing, and things like these. . . . By contrast, the fruit of the Spirit is love, joy, peace, patience, kindness, generosity, faithfulness, gentleness, and self-control” (Galatians 5:19–23 NRSV).

Flesh and spirit here clearly do not mean that the physical body is bad and the nonphysical is good. What Paul lists are two sets of emotions and behaviors. Some of them remind me of human emotions and behaviors portrayed by some sociobiologists and evolutionary psychologists as the results of evolution. In his book *The Moral Animal* (1994), Robert Wright describes how humans might have evolved to have such ambivalent emotions and behaviors. Wright shows that humans have evolved with the capacities to be both moral and immoral. Emotions such as anger, jealousy, and envy, along with behaviors like promiscuity and quarreling, have evolved because they offer some adaptive advantage, some increased chance for relative reproductive success. So too have inclinations for love, patience, faithfulness, and peacemaking. Such a view of moral ambivalence is supported by studies of our closest biological kin. Franz de Waal’s *Good Natured* (1996) and Richard Wrangham and Dale Peterson’s *Demonic Males* (1996), when taken together, suggest that our moral ambivalence is rooted in a biological heritage that is also present to some extent in other primates. Wrangham and Peterson highlight chimpanzee lethal aggression and bonobo sexual liberality; de Waal makes a case for the evolution of primate tendencies for sympathy, reciprocity, and peacemaking. Depending on circumstances, all of these morally ambivalent behaviors are biologically adaptive.

How do we account for moral pluralism and moral ambivalence, for a variety of moral systems and the human tendencies to behave both morally and immorally, recognizing that what is moral and immoral depends in part on the moral system of a particular society? I suggest that we need a richer and more comprehensive understanding of the evolution of morality. The rest of this essay suggests some things that such a richer and wider research program might consider.

ULTIMATE AND PROXIMATE CAUSES

Much of the discussion of the biological basis of human morality seems to leap from the idea of the natural selection of genes to human behavior

without examining the intermediate level of how the human brain, both its cognitive and emotional systems, functions to bring about human moral or immoral behavior. In other words, the search for the origin of human morality is often framed as the search for what evolutionary biologists call ultimate causes rather than for proximate causes. I suggest that the extent to which and how natural selection favors and does not favor human morality cannot be answered until proximate causes are brought into the picture as links between genes and human behavior.

The distinction between ultimate and proximate causes has been made by Ernst Mayr in his discussion of the kinds of explanations sought by evolutionary biologists in contrast to those sought by other branches of biology, for example molecular biology (Mayr [1961] 1988, 24–29; 1997, 67). To seek a proximate cause is to seek to account for how a cell or an organism functions in terms of immediate internal and environmental conditions. To seek an ultimate cause, according to Mayr, is to seek for a historical account as to why the cell or organism came to be the way it is in terms of natural selection. An evolutionary or natural-selection account may help us understand how particular proximate causes or conditions were established.

This distinction is applied by Randolph Nesse and George Williams in their analysis of modern medicine in *Why We Get Sick: The New Science of Darwinian Medicine* (1996). Nesse and Williams point out that most of the medical explanations for disease rely on proximate causes such as viruses, bacteria, genetic defects, autoimmune responses, poor sanitation, and mosquito bites. They then state that medicine would be helped if it also took into account ultimate causes. For example, if we had recognized that throughout history the human immune system has been involved in an “arms race” with bacteria, each in response to selection pressures from the other, we might have foreseen that the use of antibiotics would help select for more effective bacteria. Or, if we took into account that human emotions such as fear and even some forms of depression may be adaptive responses to dangerous or stressful environmental conditions, we might respond to them differently and not treat fear and depression as something always to be avoided. Nesse and Williams make the case that what seem to be instances of human malfunctioning when only proximate causes are sought sometimes turn out to be compromises, by-products, or even beneficial adaptations when the ultimate cause, reproductive success, is considered. They therefore urge more exploration into the evolutionary origins of what human beings call disease as a way of offering a more complete account of disease with the possibility of more effective treatment.

The same search for a more complete account may apply in the area of evolution and ethics, except in reverse. Some of the most interesting work that has been done involves the search for ultimate causes of such behaviors as kin and reciprocal altruism. Robert Trivers (1971) and William

Hamilton (1964) have helped us understand how kin and reciprocal altruism, which contribute to the good of others, might also contribute to the reproductive success of individuals and therefore be advantageous to so-called selfish genes. However, such activities as calculating the degree of familial relationships or employing tit-for-tat strategies in game theory models only give a general sense of how altruistic behavior fits into the general evolutionary history of the human species. They do not tell us how human individuals are actually motivated in concrete situations. For this we need to understand more clearly the proximate causes of altruistic behavior. Just as Nesse and Williams point out the need for more complete explanations of disease in medicine by incorporating proximate causes of disease into a more comprehensive evolutionary framework, I suggest that in exploring the evolution of morality more needs to be done to elaborate how proximate causes of human behavior have been selected for.

WHAT ARE WE SEEKING TO UNDERSTAND WHEN WE EXPLORE THE EVOLUTION OF MORALITY?

In order to develop a richer picture of the evolution of morality, we need to ask in more detail what it is that we are actually seeking to understand. One way to do this is to ask what we mean by the word *morality* and to recognize that it suggests a wide array of phenomena to be explored. Irons's definition quoted earlier says that morality "refers to the human propensity to judge certain forms of behavior as good and deserving of admiration, encouragement, and reward, and to judge other forms of behavior as bad, not to be imitated, and worthy of punishment." I suggest that this definition places morality in a more general class of decision-making behavior that we might call *valuing*. It will help us understand the evolution of human morality if we place it in the more general context of valuing that includes not only human valuing but also valuing by other sentient creatures and even by nonsentient life forms such as plants. Such a view of valuing is developed by Holmes Rolston in his *Environmental Ethics* (1988). If we supplement Rolston's position with a distinction made by John Dewey between human *customary morality* and human *reflective morality* (Dewey and Tufts 1932, 175–76), we can speak of the evolution of four levels of valuing: biological valuing by all life forms, emotional valuing by sentient life, human cognitive valuing grounded in customary morality, and human reflective morality in which an individual examines the other levels of valuing in deciding rationally what to do. The last two levels of valuing fit Irons's definition of morality. Let us look at these levels of valuing and see how they employ proximate causes established by the ultimate cause of natural selection.

Biological Valuing. *Valuing* may be defined as selecting one thing or group of things rather than another. Whatever is selected is valued more

than what is not selected or rejected. Following Rolston, all living things select this rather than that biologically. Plants are able to select certain minerals from the soil that are necessary for nourishment. One-celled organisms, amoebae and paramecia, are able to distinguish nutritious from noxious substances. The human immune system is able to detect cells that are foreign to the human body and reject them. The molecular mechanisms for this kind of valuing have been naturally selected. A molecular mechanism that enables an organic system or subsystem to nourish, defend, and reproduce the DNA recipe of that organism will be transmitted to future generations. In terms of ultimate and proximate causes, such mechanisms are proximate causes of the organism's behavior, created by the ultimate cause of natural selection.

Emotional Valuing. All sentient creatures value emotionally on the basis of feelings—feelings of fear or attraction, those associated with fleeing or fighting, those that are pleasurable or painful. Scientists who study animal behavior are able to discern such feelings. Neurophysiologists and endocrinologists have determined that various parts of the brain and body are associated with feelings. These brain-body structures, interconnections, and functions have been naturally selected according to ultimate-cause evolutionary theory. They are proximate causes of behavior. Among sentient creatures such as primates, some scientists discern humanlike sentiments including empathy, guilt, shame, anger, desire for revenge, and desire for peacemaking (de Waal 1996, 211).

Victor Johnston has developed a theory of the origin of human feelings and their role in human decision making. He suggests that primary feelings, called emotions, along with their hedonic tones of being pleasant or unpleasant, were naturally selected for reproductive success. Reproductive success “is a product of survival to reproductive age, reproduction, and care for offspring, plus the additional contributions that can result from reciprocal and kin altruism” (Johnston 1999, 86). Emotions have degrees of intensity and hedonic tone, pleasantness and unpleasantness. “Happiness, for example, runs from contentment to joy to ecstasy, while degrees of sadness may be described as discontentment, unhappiness, grief, or even depression. We may report intense disgust as loathing, revulsion, or contempt, and we may describe fear as ranging from apprehension or anxiety to intense panic or terror. Amazement and excitement depict degrees of surprise, and anger may vary from mild irritation to full-blown rage” (pp. 86–87). Depending on the circumstances, emotions provide “the necessary value system for learning to adapt to rapidly changing aspects of the environment” (p. 86).

Johnston further suggests that such emotions are functions of different parts of the limbic system of the human brain (pp. 109–12). The work of Paul MacLean (1990) established three functional subdivisions of this old

mammalian brain and their interconnections in humans to the motor areas of the brain stem on the one hand and to the neocortex on the other. One functional subdivision of the limbic system regulates emotional reactions concerned with self-preservation such as fear and anger. Johnston suggests that these were probably naturally selected in animals in “response to predators or other dangers that were consistently present in our evolutionary past” (Johnston 1999, 91). This part of the limbic system is also the locus of behaviors and feelings associated with feeding. For example, the feeling of disgust may have evolved as a way of avoiding spoiled or rotten food or other decaying substances that we now know indicate the presence of microorganisms and possible disease. Another part of the limbic system contributes to survival because it regulates sexual functions conducive to mating and copulation. It is where one finds feelings of sexual passion. The third limbic-system subdivision is concerned with feelings and behaviors that regulate maternal behavior and play, such as love for one’s child and perhaps feelings of surprise at novel events.

The limbic system, linked to other parts of the brain, thus evolved to be a decision-making system employing human emotions and hedonic states. Naturally selected for aiding in reproductive success, it became in turn a network of proximate causes in the form of proximate selectors for human behavior.² George Pugh has called this an evolved “value-driven decision system” (Pugh 1977, 7). Thus we have the development of neural systems that are in other animals the precursors and in humans the proximate basis of what Irons views as human moral decision making. I suggest that the feelings of these brain subsystems become part of human decision making that is both moral and immoral, depending on the cultural criteria for judging behavior.

Cognitive Valuing in Customary Morality. A more comprehensive evolutionary understanding of human morality will consider the hypothesis that cultural criteria themselves are the products of evolution. They are another level of proximate causes providing the basis for human action. However, their development depends on the evolution of the neocortex, which gives humans the capability of using language to conceptually model our natural and social environments, to think of alternative courses of action, to project the consequences of alternative courses of action, and to evaluate those consequences. How the neocortex with these capabilities was naturally selected is also part of the complex picture of the evolution of morality. Its details are still being worked out by biologists, neural physiologists, and anthropologists.³

In terms of natural selection ultimate-cause theory, one can propose that these capabilities for modeling the world and for social communication facilitated reciprocal behavior in hunting-gathering societies, which

enabled more effective means of procuring food, defending against enemies, and thereby enhancing reproductive success. The brain systems that make thinking and communication possible are thus an additional level of proximate causes in the evolution of morality. So too are the models of the world and the values, rules, and virtues developed from remembering previously chosen courses of action and ways of being that proved to be successful in meeting basic human needs related to survival and in responding to various feelings that are psychological causes of human behavior.⁴

These models of the world, values, rules of behavior, and virtues become, I suggest, customary morality. They are the work of the human brain in response to particular environments, and the nature of the environments may help determine the nature of the models and codes. Because evolved feelings serve the individual and its reproductive success, they are not necessarily moral. When judged from any particular customary moral system after that system has arisen, some feelings are judged to be immoral and others moral.

If this is the case, how did customary moral systems arise to provide reference points for judging biologically evolved feelings and their related behaviors? Drawing on the work of Richard Alexander (1979; 1987) and Robert Frank (1988) and on anthropological data, Irons suggests that moral rules may have evolved out of neocortical reflection “as ways of resolving within-group conflicts of interest without doing too much damage to the interests of either party” (Irons 1996b, 13). They then become proximate causes in the form of rational motivations for behavior that support reciprocity within and beyond the family. Some of these rules support feelings such as empathy. Other rules may constrain feelings such as anger toward one’s own community. So rules of right and wrong, moral rules, add another level of causes for moral behavior.

If one asks why early human societies developed rules to resolve inner-group competition and facilitate cooperation, one reason is that human groups competed with one another. In such competition, “the advantage to larger and better united groups was especially important” (Irons 1996b, 19). Often this competition became violent. Following Alexander (1987), Irons considers that “the primary advantage to larger and better united groups was the creation of larger more united groups for the purpose of warfare” (Irons 1996b, 19). Evidence in support of Alexander’s warfare hypothesis includes the indication from several disciplines that there is (1) “a strong human propensity to identify with groups and enter into intergroup competition . . . and (2) the anthropological evidence that warfare is endemic in prestate societies” (Irons 1996b, 19).

In resolving inner-group conflict and enhancing effective intergroup competition, different societies develop different customary moralities. Irons points out that the basic way of making a living influences the rules

a society makes. Some hunting and gathering societies have elaborate rules governing the distribution of food as part of their moral code. In others such as the Yanomamo much social life “revolves around competition among men for wives, which fosters the development of rules as regarding who can marry whom and who can arrange marriages.” Further, among the Yanomamo, “the primary virtue for men is a commitment to defend kin in violent conflict,” which involves a readiness to threaten violence. This may be acted out in “ritualized club fights in which the opponents take turns standing still while the other fighter bashes his head with a club as hard as he can” (Irons 1996b, 14).

One begins to see, regarding tribal societies, how the resolution of conflict incorporates rules into the moral code that are related to behaviors and feelings associated with eating, defense, and sex. In contrast, today’s industrial societies develop copyright laws and patents to protect ideas and products, while food is distributed through a free market, with food-stamp laws as a partial safety net. Marriages are not arranged, but some states require blood tests for syphilis and rubella. And a virtue is not to threaten violence or be willing to be beaten over the head with a club but to be willing to do whatever it takes to get a job done in the corporate world. Irons writes, “There is an adaptive logic to the relationship between certain specific moral sentiments and the environments that evolve them. . . . The flexibility built into human nature is an adaptive flexibility. Within the range of conditions in which our ancestors evolved we tend to develop sentiments that are adaptive responses to the environments we experience” (Irons 1996b, 15).⁵

Depending on its natural and social environment, a society will enhance certain sentiments as moral while dampening and controlling others. Male aggression may be moral in some societies but not in others. In any society, it seems likely that biologically evolved feelings will be regarded as ambivalent. But what is good or bad depends in part on the customary morality that develops in order to manage inner-group conflict while at the same time allowing the group to be competitive in conflicts with other groups.

Valuing in Reflective Morality. When the leaders of a society and its members develop rules to resolve inner-group conflict and foster reciprocity so that the group becomes effective in competition with other groups, they are engaged in what Irons calls morality. They are evaluating and judging “certain forms of behavior as good and deserving of admiration, encouragement, and reward” and judging “other forms of behavior as bad, not to be imitated, and worthy of punishment.” This judging is a combination of rational thought processes and feelings or sentiments. When individuals in a society begin examining their own particular society’s customary morality, they engage in reflective morality, or what many

philosophers call ethics. The ability to do this sets humans apart from other creatures as “ethical animals.”

In judging for oneself the rules one has been taught, along with one’s own feelings and behaviors, one can decide that some aspects of customary morality are immoral. An individual may thus reflect on the moral ambivalence of morality. He or she may conclude that the societal moral code contains rules or values that are immoral or that some behavior judged by the code as wrong should be affirmed as right. The result in some cases may be acts of civil disobedience by an individual or a group within a larger society. The result may also be ongoing moral debates within the society regarding what is moral and what is not. Is war moral? Is capital punishment moral? Is abortion moral or immoral? Under what circumstances? Rational human beings disagree—often with much feeling.

The capacity for such reflection is the result of both biological evolution and the cultural evolution of human language and ways of thinking. The problems on which one morally reflects are the products of the evolution of customary morality, along with evolved feelings or sentiments. Further, the results of such reflection, the decisions that a particular individual reaches, are governed by proximate causes. The reasons may or may not be directly related to basic human activity geared to human nurturance, defense of life, or reproduction. Regardless, they are indirectly the result of a long history of such biological activity of animals and humans, and of humans in cultures, which has produced the customary morality in which an individual is raised. At the same time, the human individual has developed biologically with a capacity to think and act differently from the way he or she has been biologically and culturally conditioned. It is this capacity that makes moral responsibility possible.

I have outlined four ways of valuing, of deciding what to select and what not to select: nonsentient biological processes, sentient processes involving inner felt experience, social moral conventions, and self-conscious rational reflections. If one is trying to understand the evolution of morality, a complex research program should explore further how all these kinds of valuing arose. It seems likely that natural selection is the ultimate cause of biological and psychological processes in some very specific ways, which in turn become proximate conditions of human behavior. Further, it seems likely that natural selection is the ultimate cause of a nervous system capable of developing and transmitting moral rules, which become another set of proximate causes of behavior in customary morality. Finally, the biologically evolved human brain is capable of reflecting on culturally evolved customary morality, so that individuals can decide for themselves what is moral and what is immoral. All this contributes to what I have called moral ambivalence and moral pluralism.

MORAL PLURALISM: CULTURAL INFLUENCES ON EXPLORING
THE EVOLUTION OF MORALITY

This complexity is increased if we focus on customary morality and ask how any particular culture's morality has evolved. Following Irons, one answer is that it evolved in response to the wider natural and social environment in which a particular human society found itself at a particular time. Humans in the earliest hunting and gathering societies were naturally selected for a wide range of feelings or sentiments. Some were proximate causes of aggressive, violent behavior, and others were proximate causes of loving and caring behavior, depending on what particular circumstances called for. Further, humans evolved with a neocortex that allowed them to develop a variety of moral rules to enhance and dampen feelings or sentiments in order to promote cooperative behavior within the society, thus enabling the society to compete and even engage in warfare with other societies. Thus both biopsychologically and culturally humans have a wide repertoire of possible moral behavior. Because of this adaptive flexibility of human biology and culture, human morality is pluralistic. If we are to adequately understand the evolution of human morality, this pluralism needs to be taken into account.

I am concerned that much of the thinking so far has occurred within a particular framework that focuses on the problem of egoism and altruism. This is illustrated by Holmes Rolston's helpful and sophisticated discussion of the relation between genes and culture in various types of altruism in his Gifford lectures, *Genes, Genesis, and God* (1999, 212–91). Although Rolston effectively criticizes the notion of the "selfish gene," his discussion clearly reveals the common assumption that the central problem is how altruism can evolve in relation to individual self-interest. Much good work has been done on this problem. This work is consistent with a Western, even a Christian, view as to what constitutes the epitome of morality—namely, self-sacrificial altruism. However, it may not be as consistent with views of customary morality expressed in other cultures. An expanded research program should explore the evolution of morality in relation to the customary morality of other cultures, taking into account their particular circumstances.

In what follows I describe the differing general orientations of morality in Confucianism, Hinduism, Buddhism, and Christianity and briefly state the historical circumstances in which these moral perspectives arose. Of course, each moral system is much more complex than what is described here, and Confucianism and Hinduism as here presented are rooted in much older Chinese and Indian traditions.⁶ My purpose is only to suggest some possible directions for collaborative efforts in the study of the evolution of morality by scholars from diverse fields. I begin with the long-standing Confucian tradition of China. From this general perspective,

rather than being interested in the evolution of altruism, one might be more interested in how harmony is achieved and maintained.

Confucianism is rooted in the traditions of ancient China. According to Alan Miller, the leading motif of these traditions was the idea of harmony, and this remained a leading motif through subsequent history after Confucius. "The goal of life, according to Chinese religions, is the establishment, maintenance, and enjoyment of harmony in the world. . . . All things, natural as well as human, must have a proper place and function within the whole" (Fenton et al. 1993, 162).

At the time Confucius lived (551–470 B.C.E.) social-political harmony was disrupted. The unification that had been achieved in old feudal structures of the Shang and Zhou Dynasties (from the 1500s to 771 B.C.E.) had disintegrated into warfare between independent states. Confucianism, along with such alternatives as Daoism, Moism, and Legalism, developed as attempts to discover the causes of disharmony and to find solutions to the political and economic problems that were disrupting people's lives. The period of civil war finally ended in 221 B.C.E. when the Duke of Zheng defeated his rivals, unified China, and became the Emperor Shi Huang Di. Under his dictatorship, Confucianism and other non-Legalist philosophies were banned. However, after his death in 210 B.C.E., when the Han Dynasty came to power, Confucianism and its understanding of morality became the primary code of China.⁷

In response to the chaos of the warring-states period, Confucianism reemphasized the goal of harmony. Harmony underlies the Chinese notion of human perfection. John and Patricia Koller write,

Human perfection has a double aspect in Chinese thought. First of all, it involves an inner perfection that is reflected in the peace and contentment of the individual and in the harmony of his or her relationships with others and with nature. Second, it involves excellence in the external conduct of life, the ability to live well practically, dignifying the social context of one's ordinary day-to-day existence. (Koller and Koller 1998, 238)

How to live well practically with others is summed up in Confucius' idea of *li*. In ancient China *li* was the practice of hospitality in the ancestral rites and the offering of sacrifices to the gods. Confucius broadened its meaning to daily life, including what was supposed to be the exemplary life of the rulers. *Li* became the way of acting properly, of doing what was right in the proper manner and the proper time, so that people carried out their "separate roles within hierarchical, interlocking spheres of relationships" (Bowker 1997, 577). Yet *li* itself could become only formal, ritualized behavior. Confucius was critical of this and balanced it with *jen*: "If a man is without jen, what has he to do with li?" (quoted from the *Analects* in Bowker 1997, 577). *Jen* is translated as human heartedness, humanness, or benevolence. In some ways *jen*, *li*, and the ideal of harmony can be understood to be an expression of reciprocity, which in Chinese society is

the virtue *shu*, expressed as “do not do unto others what you would not want done to you” (*Analects* of Confucius 15). Yet, instead of thinking of benevolence as overcoming selfishness, as Western thought tends to do, *jen* and *li* involve the attitudes and actions that harmonize self and others in the hierarchical equilibriums of family, town, and national communities.

In light of the leading motif of Chinese religion being harmony and enabled by these concepts of Confucian morality, one can ask, How might the scientific and scholarly exploration of the evolution of morality take place? What evolved sentiments and higher cortical brain functions would one look for as the naturally selected proximate causes supporting this kind of moral system?

One might start with what 1930s Harvard physiologist Walter B. Cannon (1932) called the “wisdom of the body.” For example, one might explore how the human immune system maintains dynamic harmony within the human individual and between humans and microorganisms. Rather than thinking of “warfare” between humans and bacteria, for example, one might be interested in the evolution of the *yang* and *yin* of sickness and health. Similarly, one might study higher primates searching for behaviors and signs of feelings that maintain order and balance within the group. These would be some likely precursors of human morality in a Chinese perspective.

Further, when one moves into the area of human moral decision making, one might wonder if a Chinese exploration of the evolution of morality would focus as much on autonomy and individual responsibility as Western thinking does. Of course, the freedom of the individual to decide whether to conform to the morality of the society would still be present. But the focus might be more on how the human brain evolved proximate mechanisms that enable the individual to submit to requirements of the community, whether family, society, or cosmos, rather than on individual decision making, which is the hallmark of modern Western ethics. Rather than emphasizing reasoning and reasons in ethics, there might be more of an attempt to explore how neocortical functions are integrated with functions of older parts of the brain to lead to *jen*—benevolence, empathy, or human-heartedness. Of course, Western thought is also interested in these things, and much work has been done in the study of primates and humans that would shed light on the biological and cultural roots of *jen*.⁸ In some cases this work would only need to be reinterpreted: instead of illustrating processes of overcoming egoism with altruism, it could be used to show how a set of human dispositions emerged to support concern for others as a means of maintaining harmony in the social and natural world.

Another set of questions regarding the evolution of morality comes to light if we consider the rise of classical Hindu society. The context for the development of Hindu morality was the transformation that took place in the sixth century B.C.E. According to Norvin Hein, “tribal chieftains ruling

loosely over groups of herders were replaced by kings governing fortified cities. By the third century B.C.E., these regional kingdoms had given way to vast empires” (in Fenton et al. 1993, 40). The customary morality that developed was grounded in the law of *karma*, that in the multiple transmigrations of one’s soul one reaped the just desserts of one’s previous life, and in the central moral goal of *dharma*, of doing one’s duty in the position of life into which one was born. The verb root of the word *dharma* means “to hold steady, make firm, restrain, preserve” (Fenton et al. 1993, 41).⁹ The virtuous person is one who does his or her duty, which is related to the *varna* and caste into which one was born. This birth position depended on how well one performed one’s duties in the previous life, for according to the law of *karma* or action, one reaped what one sowed in previous lives by the position into which one was born and the duties one therefore assumed in the current life.

Among various specific duties is the idea of submissiveness to others. For example, a young man in the student stage of life is expected to heed the advice of his teacher: “Speak the truth. Do your duty [*dharma*]. Study the Vedas [Vedas]. Give what is fitting to the teacher; marry, continue the family. Neither neglect your spiritual nor your worldly welfare. Always learn and teach. Forget neither God nor ancestor. Your mother your goddess, your father your God, your guest your God, your teacher your God; copy our good deeds along, so escape blame” (*Taittiriya Upanishad* I.xi.1, in Swami and Yeats 1975, 68). A woman is enjoined to lead a life of dutiful submission: “In childhood a female must be subject to her father, in youth to her husband, and when her husband is dead to her sons. A woman must never be independent” (*Laws of Manu* 1886, 5.148, in Van Voorst 2000, 44).¹⁰

The restraint of *dharma* can be interpreted to mean that one should submit to *dharma* itself, to doing one’s duty. This becomes a central issue in the Hindu classic the *Bhagavad Gita*. As the story unfolds, the hero Arjuna is tempted not to do his duty as a warrior, a member of the *Kshatriya* class. As he is about to engage in battle against his relatives in a clan civil war, Arjuna reflects on how war will destroy the social fabric. He says to his charioteer, Krishna,

I see omens of chaos, Krishna; I see no good in killing my kinsmen in battle. . . . How can we ignore the wisdom of turning from this evil when we see the sin of family destruction, Krishna? When the family is ruined the timeless laws of family duty perish; and when duty is lost, chaos overwhelms the family. In overwhelming chaos, Krishna, women of the family are corrupted; and when women are corrupted disorder is born in society. . . . Krishna, we have heard that a place in hell is reserved for men who undermine family duties.” (*Bhagavad-Gita* [1986] 2000, 1.31, 39–41, 44)

Arjuna gives a powerful argument against war. Yet his charioteer, actually an incarnation of the great deity Vishnu, upholds the duty of Arjuna

as warrior. First, he says that no one really kills or is killed, because the soul or *atman* of each individual is eternal and never perishes. It is only reborn according to one's *karma* in the next life. Second, Arjuna must do his caste duty or else suffer dishonor, which is worse than death. Further, not doing one's duty will lead to a worse birth in the next life. Finally, he must fight in a contemplative, detached manner, not attentive to consequences. "Impartial to joy and suffering, gain and loss, victory and defeat, arm yourself for the battle, lest you fall into evil" (*Bhagavad-Gita* [1986] 2000, 2.38).

This ethics of duty, involving the control of one's inclinations and a disregarding of the consequences of one's actions, brings to mind the German philosopher Immanuel Kant. However, while Kant's two-hundred-year-old ethics of duty was proposed by an individual and is debated by other philosophers who represent alternative ethical theories, the idea of *dharma* in ancient India was the basis of morality for an entire society. How could such a morality have evolved?

If we were thinking within the framework of Hindu culture, what would we look for in a search for proximate causes selected by the ultimate cause of human reproductive success? We might look for primate behavior and for human feelings and neural mechanisms that underlie submissiveness. Mary Maxwell has suggested that culture builds morality on a "biogram" of social feelings such as familial attachment, submissiveness to authority, and loyalty to the group, and also moral feelings such as a sense of duty, guilt and shame, and disgust toward persons who do the wrong thing. (Maxwell 1997). While many of these feelings can be related to the development of other moral systems, they certainly seem to fit with the development of the Hindu ethics of *dharma*.

Another set of concerns comes to light in regard to the evolution of morality if we consider Buddhism. The customary morality of Buddhism assumes the idea of karma and reincarnation, and many of its precepts also are consistent with those of the wider Indian society, but the primary concern of Buddhism is with attachment and desire as causes of human suffering. This raises some interesting questions regarding the evolution of the proximate causes of human morality. Western thinkers might look at bonding between parents and offspring in primate societies as an antecedent to bonding in humans, a possible proximate cause involved in kin selection. I wonder how Buddhist thinkers might look at bonding and familial love. Would they be concerned with bonding as a possible precursor to attachment? In a world where everything seems impermanent and changing in a web of ongoing interdependent origination, attachment to anything, even to a family member or a loved one, is likely to cause suffering. Would familial love be seen as more ambivalent than it would be in Western thought?

Looked at from another angle, the goal of Buddhism is liberation from attachment and desire, in much the same way as a goal of modern Western ethics is individual autonomy and moral freedom and responsibility. Buddhist liberation, at least in the Mahayana traditions that hold up the Bodhisattva ideal of compassion for all beings, would not seek individual freedom for its own sake as a primary value but only as an aspect of being enlightened. Being enlightened, or a Buddha, involves not only conceptually understanding the causes of suffering and the means of release. It involves becoming transformed through disciplined meditation into a state of clear, cool acceptance of and compassion for all humans and all creatures. Buddhists might, therefore, wonder how the human brain has evolved not only to become attached but also to be able to engage in those processes that lead to a transformation free from attachment. Therefore, it might be interested in the evolution of human neural capacities—both brain structure and chemistry—that are involved in unifying religious experiences (see d'Aquili and Newberg 1999; Houshmand, Livingston, and Wallace 1999). Did such capacities evolve as by-products of brain developments naturally selected for other proximate purposes? Or does the capacity for nonattachment and its underlying brain mechanisms provide humans with a more effective way of living, so that they may have been selected for their contribution to individual human survival and reproduction?

If one now returns to Western thought and particularly to Christianity, one might ask about the natural and social environment in which Christianity emerged, as we have considered the historical environment involved in the rise of other moral systems. One can see that the Christian idea of sacrificial altruism fits well with the circumstances two thousand years ago in which Christianity developed. First, the early Christian community consisted of people from different cultural traditions, some from Judaism and some from other communities in the Greco-Roman world. In this context, the teaching of Jesus that everyone was one's neighbor who should be loved as one loved oneself becomes an important cultural form of reciprocal altruism. Philip Hefner has described Christian reciprocal altruism as "solidarity-in-empathy-and-service," the "love-command" (Hefner 1999, 491). Further, in the context of persecution, in which many Christians were martyred, the particular command to lay down one's life for one's friends, given by a spiritual leader who was understood to have done just that, establishes the idea of sacrificial altruism as a way of affirming one's commitment in solidarity with others to the fledgling faith of the new religion. In the context of a nontraditional community in which individuals might have to sacrifice their lives for the sake of the faith, one can see how the love ethic of Christianity "stretches" (Hefner 1999, 490) feelings of familial empathy and commitment, which were established as proximate causes by natural selection. The love command stretches some bio-

psychological capacities beyond one's biological family to include all as brothers and sisters in Christ.

These examples from Confucianism, Hinduism, Buddhism, and Christianity indicate the variety in basic orientations of customary moral systems. No doubt one can find many similarities in the details of these moral systems. However, the basic differences among moral perspectives contribute to what I call moral pluralism. There is a need for a richer research program in the study of the evolution of morality. The evolution of morality is the evolution of all morality in all cultures around the world, and this must be recognized if the scientific study of the origins of human morality is to be adequate. Such study must account for not only the uniformity of moral teachings but also the diversity of moral systems. More important, the basic orientations regarding what morality is, which vary from culture to culture, may help shape the kind of research undertaken, the questions it asks, and the interpretations of the results. A research program that takes into account cultural diversity would provide us with a more complete and accurate picture of the evolution of morality.

NOTES

1. Hans Kung is a leader in developing the outlines of an ethic that can be affirmed by persons from a variety of religious perspectives (Kung 1991; Kuschel and Kung 2000). When I say that the development of a global ethic may be the latest phase in the human cultural evolution of morality, I do not mean to imply any teleology or historical progress in human morality. The evolution of a global ethic, should it occur, would be a cultural adaptation to the current historical situation. This is analogous to the Darwinian idea of biological adaptation by variation and selection, which is the only understanding of evolution I am using in this essay.

2. Donald T. Campbell referred to such proximate causes as "vicarious selectors" (Campbell 1977). Johnston develops the same idea with the metaphor of "Russian Dolls" (1999, 61–78). The outer doll, natural selection by reproductive success, creates within it other dolls, or proximate mechanisms of selection that are interior to organisms. He suggests that these also operate in a Darwinian manner, generating alternative behaviors that are selected by the internal constraints, whether molecular or biopsychological—the two kinds of valuing I have described so far. Cultural instruction and pressures to follow that instruction in customary morality and the internal constraints of human reason in reflective morality are further vicarious selectors, further dolls within dolls.

3. For some elements of how this evolution might have occurred, see Peters 1997, 472–79, in which I draw on thinking of Daniel Dennett (1991, 171–226), William Calvin (1988; 1990; 1994), Paul MacLean (1985), Terrence Deacon (1990a, b), Harry Jerison (1976), and Ward Goodenough (1990).

4. In contemporary normative ethics worldviews, along with values specifying goods to be sought, rules or duties regarding how one ought to act, and virtues or moral excellences regarding the kind of person one should be, form the basic elements of a moral system. Depending on which of these elements is considered primary, various approaches to ethics are developed: consequentialist ethics such as utilitarianism, the ethics of duty or deontological ethics, and virtue ethics. Some suggest that feminist relational ethics is a subtype of virtue ethics. However, relational ethics might be another type of system altogether. Later in the paper I suggest how theorizing about the evolution of morality may focus on different things depending on the religious tradition in a particular culture. Likewise, one might ask how humans have evolved with capacities to engage in a variety of normative ethics. What proximate causes have been selected by the ultimate cause of natural selection to enable utilitarian, deontological, virtue, and relational care types of reflective morality?

5. Irons (1996c) presents an abbreviated version of some of these ideas. See also Irons 1996a; 2001a, b.

6. Confucius lived from 551–470 B.C.E. But many of his ideas are grounded in traditions that go back a thousand years or more. The most ancient artifacts we have of Chinese culture date from the Shan dynasty of the 1500s to the 1100s B.C.E. In India, the moral ideas of the classical period, beginning about 600 B.C.E., are rooted in older Vedic religion that seems to have begun with the Aryan invasion about 1600 B.C.E. They also may be in part rooted in the Indus Valley civilization that goes back to about 2700 B.C.E. In this essay I focus on Confucianism and classical Hinduism because they arise out of important crisis periods in Chinese and Indian culture, what many call the axial period of human religious history. A more complete treatment of the evolution of morality in these cultures would consider the earlier periods as much as the data we have allow. See Alan L. Miller on Chinese religious culture and Norvin Hein on Hinduism in Fenton et al. 1993, 162–69, 20–41.

7. Even though Confucianism was the primary moral philosophy during the Han Dynasty, it did not eclipse the other alternatives that arose during the warring-states period and later and that were critical of Confucianism. Daoism and Buddhism (when it came to China at the beginning of the C.E.) sometimes replaced Confucianism among the ruling elite in later history. The Legalist view of governing was sometimes included in an expanded notion of Confucianism. Mo Tzu's ideas of pacifism and universal love, although never embraced by the ruling class, continued as a critical counterpoint to the Confucian hierarchical understanding of harmony.

8. In the context of the Chinese goal of harmony, one might say that Confucius developed a form of virtue ethics of which *jen* is a key virtue. In Western philosophy during the past few decades there has been renewed interest in virtue ethics and in the recovery of Greek, especially Aristotelian, virtue ethics. One scholar who has written about both Confucian and Greek virtue ethics is Paul Woodruff (2001). For an important article relating virtue ethics to the naturalistic worldview of contemporary science see Goodenough and Woodruff 2001.

9. This is in contrast to the older Vedic moral idea of *rita*. "*Rita* comes from the verbal root that means 'to run, go rightly, fit in.' To follow rita is to run with the harmonious flow of things in the world that forever changes" (Fenton et al. 1993, 41).

10. Many cultures have moral injunctions about the obedience or submissiveness of women and children. This is not unique to Hinduism. For example, traditional Judaism has a morality of duty that commands children to honor their parents (Exodus 20:12; Deuteronomy 5:16) and prescribes the death penalty for striking and cursing parents and for disobedience and defiance of parental authority (Exodus 21:15, 17; Leviticus 20:9; Deuteronomy 21:18–21). The Christian New Testament enjoins wives to be submissive to the authority of their husbands, as was typical in patriarchal Greco-Roman culture (Ephesians 5:22–24; Colossians 3:18; Titus 2:5; 1 Peter 3:1). In attempting to describe the evolution of morality in different cultures, one can ask what evolved biopsychological presuppositions support such moral codes. Further, if one today advocates a morality of equality between women and men, and if one advocates the rights of children, it is important to understand all aspects of evolved human nature as it is controlled and built upon in diverse human cultures. Only if we understand in terms of descriptive morality our biological and cultural roots can we realistically and effectively prescribe new forms of morality for our own times and places.

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