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Book Review

# How Did Morality Originate?

A review of Christopher Boehm, *Moral Origins: The Evolution of Virtue, Altruism, and Shame*. Basic Books: New York, 2010, 403 pp., US$20.99, ISBN # 978-0-465-02048-5

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The main thing that prospective readers of a book want to know is whether the book is any good. Christopher Boehm's book, *Moral Origins: The Evolution of Virtue, Altruism, and Shame*, is definitely a good read. It is interesting, informative, insightful, full of compelling examples, well-documented, and well-written, though somewhat repetitive in places. We recommend it to anyone interested in moral origins. That said, we would not earn our stripes as reviewers if we did not question some aspects of Boehm's account of the origins of morality.

## Backdrop and Overview of Boehm's Evolutionary Account

The overriding question that Boehm addresses is how did humans acquire a capacity for morality? Before offering his answer to this question, Boehm briefly reviews a popular account. According to the bible, which guides the beliefs of a substantial portion of the world's population, God endowed humans with morality—or at least with innocence—when he created them. God asked only one thing of the first humans he created—that that they resist the temptation to eat fruit from the Tree of Knowledge. Well, as we all know, when tempted by a serpent to take a nibble, Eve succumbs, which brings a quick end to the natural, god-like goodness of the human species. Adam and Eve, and all of their offspring and offspring's offspring, become inflicted with Original Sin—bad by nature. Harsh price for us to pay for a curious moment in one of our original ancestors.

Boehm's account of the origins of morality could not be more different from the Judeo-Christian account. It bites deeply into the fruit of the Tree of Knowledge, and derives its hypotheses and conclusions from scientific theory and research. It is based on the assumption that the human species was not created in one fell swoop a few thousand years ago by a creator, but rather took form slowly over hundreds of thousands of years as humans branched off from other primate species. It posits that the original state of early humans was primarily immoral, and that a sense of morality emerged gradually, over tens of thousands of generations when genes

that disposed archaic humans to exert self-control, to help others, to cooperate with, and to suppress the selfishness of members of their groups were selected at greater rates than competing alleles that disposed them to behave in uncooperative, selfish, and aggressive ways. The primary force at work in Boehm's account—the ultimate source of human morality—is not god, but evolution. Stark contrast between Boehm's account and the accounts of such fundamentalist Christians as 10th Congressional District Republican candidate Paul Braun who asserted that "all that stuff I was taught about evolution and embryology and Big Bang theory…is lies straight from the pit of hell…to keep me and all the folks who are taught that from understanding they need a savior."

**Accounting for the Origins of Morality: A Daunting Task**

In the first instance, Boehm is to be congratulated for broaching the daunting task of offering an historical account of the origins and evolution of morality. Scholars who take on this task face several significant challenges. First, they must define morality, stating clearly what phenomenon's origins they seek to explain. Second, they must find ways to deduce what kinds of traits ancestors to contemporary humans possessed—ancestors who roamed the earth eons ago, leaving preciously little evidence of their behavior behind for us to observe. And finally, they must develop plausible hypotheses and reasonable explanations for how such traits originated and evolved—hypotheses that cannot be tested directly, but can be evaluated in terms of their ability to account for relevant evidence in empirically valid and logically consistent ways.

**Boehm's Methodology: Drawing Inferences about Origins**

Boehm seeks to trace the origins of morality in the human species back to the very beginning. He begins by identifying traits shared by chimpanzees, bonobos, and humans (and going back further, by gorillas) under the assumption that these species probably inherited such shared traits from a common ancestor. He goes on to employ findings from archeological research and from ethnographic accounts of contemporary hunters and gatherers to draw inferences about culturally-universal aspects of the social behavior of early humans who lived in the late Pleistocene era, about 45,000 years ago. Then, moving to an explanatory level of analysis, Boehm uses evolutionary theory to develop "working hypotheses" that account for the differences between archaic humans and humans who lived in the Pleistocene era. Finally, Boehm notes differences between the social behaviors of modern humans and the social behaviors of hunters and gatherers, and offers a brief explanation for these differences. Boehm is well-qualified to accomplish these tasks, not only because of his theoretical background, but also because of his hands-on experiences observing chimpanzees (early in his career, under the tutelage of Jane Goodall) and conducting ethnographic research himself.

**A Sentimental Journey**

At a descriptive level of analysis, Boehm deduces that archaic humans lived in relatively small xenophobic groups that competed against one another, with some intergroup exchange of members. He infers that even though ancestral humans may have been fundamentally selfish, aggressive, and nepotistic, like contemporary primate species, their social behavior was governed by implicit rules and norms such as who has priority in access to food and mates and who should

subordinate himself or herself to whom. Such rules contain the potential to benefit all members of groups because they instil social order and prevent chaos, but they are impotent without means of enforcing them.

Central in Boehm's analysis is the inference that the social order of archaic human groups was hierarchical, dominated by Alpha males. Dominant members of groups are relatively well-equipped to induce subordinate members to obey the rules, but this method of social control inevitably gives rise to a significant social problem, namely, how to induce the dominant members of groups to resist the temptation to bully subordinate members of the group and to hog all the resources for themselves. Boehm suggests that in response to this problem, mechanisms evolved in subordinate members of groups to constrain the domineering behavior of Alpha males. Power comes from numbers. As in living primate groups, subordinate members of archaic human groups formed coalitions that enabled them to gang up on Alpha males to reduce their power and access to resources.

Although Boehm emphasizes the significance of relations between dominant and subordinate members of groups, he does not ignore the role of family relations. He notes that although chimpanzee and bonobos have many mates, and although males from these species do not show much interest in their mates or offspring, humans pair bond. Based on this evidence, Boehm concludes that familial organization goes back to our Common Ancestor, but the 2-parent system evolved more recently.

Relations between primate infants and their parents, especially their mothers, are significant in the evolution of morality for two reasons. First, mothers (and in some species, fathers) engage in unequivocally generous and self-sacrificial behaviors toward their offspring. Precursors of such good behaviors go back a very long way in our evolutionary history. Although such behaviors may not qualify as moral because they are nepotistic, the neurological and psychological mechanisms that dispose individuals to behave in kind and nurturing ways are deeply rooted. To support these behavioral tendencies, early humans may well have possessed precursors of such "moral emotions" as love, sympathy, and empathy, which have been observed by primatologists such as Frans de Waal and his colleagues in contemporary primate species (de Waal, 1996). An important source of human morality—acknowledged by Boehm—is the potential for such nepotistic social support to be activated by individuals other than kin, thus expanding people's capacity for prosocial behavior.

Family relations also are important in the evolution of morality because primate parents—mothers at least—play an important role in the socialization of their offspring. Who told you not to fight, to boast, or to stick lollipops in other people's hair? Your mother. However, suggests Boehm, the socialization of children is not restricted to parental induction. Older members of groups play a role in socializing children by reinforcing the implicit rules and social norms of their groups. Boehm points out that cultural transmission of social behaviours and boundaries has been observed in all ape species.

To summarize, Boehm's inferences about archaic humans suggest that although our ancestors engaged in plenty of selfish and aggressive behavior, there were significant constraints on such behaviors within groups. Within groups, dominant members constrained the selfishness of subordinate members, and subordinate members joined forces to constrain the selfishness of dominant members. Mothers sacrificed their interests for the sake of their offspring, and family members also may have helped one another in times of need. In addition, archaic humans probably engaged in primitive forms of reciprocity and mutualism, with some cooperation among members of groups for mutual defense.

Boehm does not believe that the evolved dispositions that he attributes to archaic humans and contemporary apes render them moral. He reviews evidence indicating that although chimpanzees are able to comprehend such concepts as 'good,' 'bad,' and 'sorry,' as revealed by sign language, they do not really feel that their behaviors are *morally* wrong. 'Sorry' is signed to avoid trouble rather than to assuage a guilty conscience. Like humans, chimpanzees (and by inference, archaic humans) have a sense of "self"—they recognize themselves in mirrors—and are able to engage in enough perspective-taking to outwit and deceive others in intelligent ways. But they do not blush with shame, as humans from all cultures do, nor do they seem to have a sense of regret. Although chimpanzees can *understand* right and wrong, they do not *identify* with it. Although they constrain their antisocial behaviors due to fear of punishment, they do not possess an inner sense of right and wrong that induces them to regulate their behavior in accordance with internalized rules and values when no one is watching. Boehm concludes that, like other contemporary apes, archaic humans possessed the building blocks of morality, which through various processes were refined into a conscience in humans.

Fast forwarding up the evolutionary tree to about 45,000 years ago when anatomically modern humans roamed the earth, Boehm asserts that late Pleistocene forager societies were very different from both archaic human societies and contemporary chimpanzee societies, but very similar to contemporary hunter and gatherer societies. Boehm summarizes a wealth of data to support the contention that, in contrast to the hierarchical social structures of primate societies, hunter and gatherer societies are fundamentally egalitarian. Boehm also adduces a great deal of evidence showing that hunters and gatherers engage in such unselfish behaviors as meat-sharing, suppression of bullies, and punishment of free-riders and cheaters. They uphold equality and fairness through preaching and practice. Even simple boasting is not tolerated. They punish social deviants, bullies, and free-riders by scolding, shunning, ostracizing, and even killing them. Although archaic humans, like contemporary chimpanzees, may have reluctantly shared some meat with some members of their groups, foragers share meat with all members of the group without any apparent reluctance or desire for appreciation or compensation. What brought about these dramatic changes? What mediated the transition from hierarchically organized bands of archaic humans with little or no sense of morality to egalitarian bands of Pleistocene foragers with strong moral values?

## Accounting for the Differences between Archaic Humans and Hunters and Gatherers

Boehm begins by acknowledging that such familiar selection processes as kin selection (which may induce individuals to help non-kin who resemble kin), sexual selection, direct reciprocity, indirect reciprocity, mutualism, group selection, and cultural docility—all of which he reviews in his book—have played a role in the evolution of morality. However, argues Boehm, these processes are insufficient in themselves to account for the origins of morality. To fill this bill, we must attend to the prominent role played by social selection, including the "double whammy" of selection by reputation and group punishment of free-riders. Boehm proposes the following scenario.

Some 250,000 years ago, archaic humans with relatively large brains developed a form of subsistence in which they hunted large game and shared their kills with members of their groups. Because such sharing was so significant for the welfare of all members of groups, especially in harsh environments, it would have been in the interest of all members of groups to uphold the meat-sharing practice, which would have ushered in an egalitarian social order, with subordinate

members of groups and the group as a whole uniting to suppress the selfishness of more dominant members. Politically unified groups would have been equipped to punish those who threatened the sharing system by failing to contribute their share (i.e., by free-riding), or by attempting to take more than their share (i.e., by behaving dominantly, selfishly and unfairly). Boehm offers compelling data from ethnographic research to support his contention that hunters and gatherers (and by implication our Pleistocene ancestors) react strongly against free-riders, boasters, bullies, and thieves.

One of the most significant differences between chimpanzees (and archaic humans) and hunters and gatherers stems from the language abilities of the latter, which enable them to suppress selfishness and to reward altruism by diminishing and enhancing the reputations of members of their groups through gossip. Gossip renders private transgressions public and helps build consensus and incentives among gossipers to engage in reparative action. It helps build an in-group united against those who cheat and bully, and after the fact, it helps spread the word that crime does not pay.

At first, assumes Boehm, members of archaic human groups would have suppressed their selfish and dominant behaviors based on fear, in much the same way that dogs, wolves and chimpanzees do. However, given the premium on egalitarian behavior in hunter and gather groups and the strong tendency of members of these groups to punish cheaters and bullies, individuals who inherited the ability to internalize rules and exert self-control would have fared better biologically and genetically than those who did not, mediating the evolution of conscience. In addition, suggests Boehm, other evolutionary processes, such as group selection, sexual selection, indirect reciprocity, and return-benefit selection would have been given a boost by the forms of social selection he emphasizes because individuals (and groups) who shared food and punished bullies and cheaters would have fared better than individuals (and groups) who did not. Boehm's historical journey ends with modern humans. Boehm asserts that biologically-based moral evolution ended some 45,000 years ago with the advent of the first fully modern humans. "Today, even though we live in cities and write and read books about morality, our actual morals are little more than a continuation of theirs." (p. 17). However, Boehm acknowledges that contemporary urban human societies differ significantly from the societies formed by hunters and gatherers, and that members of modern societies behave in significantly different ways. To begin with, most modern societies are less egalitarian and more hierarchical than hunter and gatherer societies are. Second, modern humans do not share their food or resources equitably among members of their groups. Third, contemporary humans behave in significantly kinder and more generous ways than hunters and gatherers do with respect to members of out-groups and other animals. For example, modern humans invest in animal rights movements, donate to charity, and help strangers from distant parts of the world.

## Evaluation

As mentioned, Boehm's book is well-written and engaging. First hand observations of chimpanzees and case studies of hunters and gatherers illustrate Boehm's points well, and tables summarizing the findings of dozens of field studies are informative. Particularly impressive are the data he presents pertaining to the punishment of free-riders. The ideas in the book, many of which Boehm published in other sources, hang together well.

## Eschewing Either-or Dichotomies

Boehm is to be congratulated for eschewing black-white dichotomies such as moral vs. immoral, nature vs. nurture, biology vs. culture, and human vs. non-human animals. His characterization of humans as egoistic, nepotistic, *and* altruistic corresponds well to what we all experience in our everyday lives. People are not good or bad by nature; they are both. Although humans may be naturally-disposed to foster their selfish interests by cheating and free-riding, they also are naturally-disposed to constrain these urges when they expect them to produce undesirable outcomes, such as physical punishment and reputational damage. Positive and negative social behaviors are facultative. Boehm offers compelling data in support of the assertion that the quantity of generosity and selfishness in hunter-gatherer societies is highly correlated with the abundance of food and other resources. When food is plentiful, altruism abounds. In times of moderate scarcity, nepotism becomes prominent. And in conditions of starvation, behavior tends toward everyone for himself.

**Multiple Selection Processes**

Boehm also deserves props for acknowledging that a suite of selection processes has contributed to the evolution of morality and for singling out two forms of social selection (reputational selection and group punishment of free-riders) for special attention. Such processes as kin selection and sexual selection surely have mediated the evolution of altruistic dispositions, but by themselves they are not equipped to account for the evolution of conscience or the differences between humans and other animals. Although Boehm emphasizes the significance of group punishment of free-riders, good arguments could be advanced favoring the priority of good and bad reputations. In the first instance, members of groups gossip about the selfish and altruistic acts of their members, then they reward and punish them—not only through the negative group sanctions emphasized by Boehm, but also through preferential treatment in social exchanges and choices of mates.

**From Hierarchical Apes to Egalitarian Humans**

The central question raised by Boehm's account of the origin of morality is what factors mediated the transition from archaic human hierarchical social systems to Pleistocene hunter and gatherer egalitarian social systems with strong sanctions against selfish behavior? Subordinate coalitions ganging up against tyrannical leaders are not in themselves enough, because this would simply result in the replacement of the Alpha male with a tyrannical coalition, with no checks or balances on selfishness and free-riding within the coalition. As indicated by Boehm, the key determinants of egalitarianism must have been ecological conditions such as the presence of large game that rendered cooperation more beneficial than selfish individualism, and effective means of identifying, rewarding, and punishing those who upheld and exploited systems of cooperation. Humans differ from other primates in their capacity for language and their ability to reason and plan. Together, these abilities would have enabled early humans to form contracts, to establish and to preach functional group norms, to identify deviants, and to agree on ways of punishing them. Higher-order reasoning processes such as advanced perspective-taking abilities combined with a capacity for language would have enabled humans to, in effect, talk to themselves and judge themselves, which would have endowed them with a functional conscience and the ability to exert internalized control over their behavior.

Such positive points notwithstanding, we found several shortcoming in Boehm's book, most notably pertaining to his definition of morality, his account of the evolution of conscience, and his neglect of the significance of strategic social interactions and cultural evolution.

**Definition of Morality**

Boehm does not delve as deeply into the nature of morality as other theorists, such as Darwin, did. He does not offer a general definition of the phenomenon, alluding instead to such types of behavior as altruism, such personality or character traits as self-control, and such emotional states as sympathy, empathy and shame, contrasting them with selfishness, tyranny, and psychopathic self-indulgence and callousness. Although these types of behavior, traits, and emotional states will seem moral (or immoral) to most readers, Boehm does not explain what they have in common that renders them so.

In several places, Boehm appears to accept the Golden Rule as a criterion that one could invoke to evaluate the morality of moral traits such as altruism and self-control, but the Golden Rule is seriously flawed as a cardinal principle of morality. For example, it prescribes that people who want to be treated in immoral ways should treat others in immoral ways. Doing onto others as you would have them do unto you is moral only inasmuch as you want others to treat you in moral ways, which begs the question of what renders acts moral in the first place.

Other evolutionary theorists, such as Darwin, have taken the task of deriving ultimate or cardinal principles of morality more seriously. Darwin suggested that the morality of acts and traits can be evaluated in terms of the extent to which they advance the "general good or welfare of the community," defined in terms of "rearing the greatest number of individuals in full vigor and health with all their faculties perfect under the conditions to which they are subjugated" (Darwin, 1884, p. 117). Without an appropriate criterion of morality, it is not possible to take a position on an issue of interest to most people, namely how moral people (and other animals) are by nature.

With respect to moral behavior, many scholars have argued that to qualify as moral, an act must stem from a moral source, such as moral reasoning or the intention to do good. (Darwin did not endorse this idea, arguing instead that impulsive acts that advanced the welfare of the community qualified as moral.) Boehm does not take a position on this issue, even though it is relevant to his analysis. We know that other primates behave in ways that advance the welfare of members of their groups, even though they do not appear to derive such behaviors from a sense of morality. At what point in evolution did humans acquire a sense of morality that they invoked to guide their behavior, and how did they acquire this sense? The closest Boehm comes to answering this question is to offer an account of the origin of conscience.

**The Evolution of Conscience**

With Darwin and most other English-speaking people, Boehm locates the internal, psychological source of morality in a mental structure or mechanism called conscience. According to Boehm, people's conscience endows them with a sense of shame, manifest in blushing, which was pivotal in the origin of morality. Humans became moral when they acquired a conscience, and humans who fail to develop a conscience, such as psychopaths, are immoral.

As a general point, Boehm's account of the origins of morality is short on psychology (and, as would be expected from his academic background, long on anthropology). Boehm's conception of conscience is a case in point. On the positive side of the ledger, it was insightful to

recognize that we would expect evolution to have endowed us with a flexible conscience that is strong when the behaviors it prescribes are not costly, and weak when they are. On the negative side, in emphasizing the role of self-control and shame, Boehm neglects the roles of reparative altruism (making amends) and guilt. When we think of conscience, we usually think of guilt (a "guilty conscience"), not shame. It would seem that concerns about reputation are associated with shame, and fear of punishment is associated with guilt.

Boehm neglects psychological theory and research on the development of conscience. Psychologists such as Aronfreed (1968) have offered accounts of the development of conscience that explain feelings of guilt and shame. Aronfreed argued that children acquire a conscience when they internalize the prohibitions of their parents and other socializing agents and anticipate punishment and disapproval for unacceptable behaviors. Fear of punishment morphs into guilt; disapproval into shame. Aronfreed and other psychologists account for the inner voice that people experience as encouraging them to do good and judging them when they misbehave. With respect to conscience, and more generally, Boehm neglects the role played by high-order, recently-evolved mental processes such as perspective-taking, rational thought, and moral argumentation in moral decision-making.

**Strategic Social Interaction**

Although Boehm attends to the significance of mutual choice, as manifest in human sexual selection, for example, his account could have been extended gainfully by attending more fully to the role played by strategic social interactions in the evolution of moral judgment. At some point in our evolutionary history, early human used moral words such as "good" and "bad" to control the behavior of members of their groups (including children and other family members). Equipped with language and a capacity for rational thought, early humans bent on inducing one another to behave in ways that benefitted them must have engaged in moral argumentation. When people engage in moral argumentation, they often get hoist on their own petards. Each party turns the principles asserted by the other back on him or her. Because it is often in the interest of both parties to resolve their differences in mutually-acceptable ways, moral argumentation tends to give rise to balanced solutions to moral problems such as those that prescribe sharing, taking turns, and reciprocity (see Krebs, 2011, for an elaboration of these and other arguments in this review).

**Cultural Evolution**

Boehm recognizes that human behavior is not determined by biology or by culture, but by interactions between these two factors. Although the emphasis in the book is strongly biological, Boehm recognizes that culturally instilled beliefs and attitudes support evolved dispositions, that evolved brain mechanisms affect the evolution of culture, and that cultural innovations affect biological evolution. For example, gossiping and preaching generosity tend to boost innate altruistic tendencies, inducing people to behave much more unselfishly than they otherwise would. This said, Boehm gives relatively short shrift to the dramatic changes in human societies and the dramatic expansion of altruistic behaviors during the past 12,000 years, and the role that cultural evolution has played in these changes. Although he makes passing references to anonymous altruism in modern societies, his account of the evolution of morality ends mainly with hunters and gatherers.

In summary, Boehm offers a coherent account of the origins of morality based on mainstream evolutionary theory and inferences about the social behavior of early humans drawn from field studies of apes and hunter-gatherers. It is not a radically different theory, as he asserts, but it does contain a different emphasis from other theories in the prominence accorded punitive social control. Boehm's book is strongest in its descriptions of the social behavior of apes and early humans, and weakest in his account of the origin of conscience and the unique forms of altruism displayed by contemporary humans in urban societies.

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