Article

Precís of a natural history of human morality

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Abstract

Here I summarize the main points in my 2016 book, A Natural History of Human Morality. Taking an evolutionary point of view, I characterize human morality as a special form of cooperation. In particular, human morality represents a kind of we > me orientation and valuation that emanates from the logic of social interdependence, both at the level of individual collaboration and at the level of the cultural group. Human morality emanates from psychological processes of shared intentionality evolved to enable individuals to function effectively in ever more cooperative lifeways.

1. Introduction

I did not start out to look at morality, “only” at cooperation. But when one starts looking at which psychological processes – cognitive, motivational, and self-regulatory processes – make human cooperation different from that of other primates, one ends up with things like: humans make commitments to cooperate, they feel an obligation to fulfill their commitments, they respect individuals who cooperate, they blame individuals who defect on cooperation, they feel guilty if they themselves fail to cooperate (especially if they have committed), they feel obligated to be fair in the division of spoils (especially with co-equal cooperators), they are more cooperative with in-group than out-group individuals, and on and on. Others had previously made connections between primate cooperation and morality – mostly in terms of sympathy and reciprocity – but I attempted to begin with more articulated philosophical accounts of morality.

Cooperation and morality both refer to intentional actions in which the agent is not just pursuing its own self-interested motives, but is also concerned with the well-being of others. As a further similarity, there is also an analogy between, on the one hand, the classical distinction in philosophy between the morality of sympathy and the morality of fairness, and, on the other hand, the modern distinction in biology between altruism and...
mutualism. The first member of each pair represents cases in which the agent puts the interests of others ahead of its own interests, and the second represents cases in which the agent attempts to balance the competing interests of all participating parties, including the self. Sympathy/altruism represents fairly straightforward cases in which the agent’s benevolent motives outweigh its selfish motives. But mutualism/fairness is more complex. Here we are typically in potentially competitive situations – for example, involving the acquisition and distribution of resources – in which there is a kind of “cooperativization of competition,” such that the agent feels obligated to take into account the welfare of all participating individuals in a fair manner, and, moreover, resents being treated unfairly by others. Fairness is thus a much more complex psychological phenomenon and may be uniquely human.

From a Darwinian perspective, the puzzle is that individuals who must be concerned with their own survival and reproduction care about the fate of others at all. But the key insight, curiously neglected in most analyses, is that in social species individuals depend on groupmates for their survival, at the very least for protection from predation, and this means they must care about what happens to them. The individuals of many primate species are interdependent in many and varied ways. Thus, chimpanzee coalition partners depend on one another for success in dominance contests. Mating partners depend on one another for their reproductive success, obviously, so that if they approach food at the same time, it is in both of their interests to make sure that both of them get food. The point is that to account for cooperation, and so morality, we need a psychology that recognizes individuals’ interdependence with one another that makes it rational for each individual to be concerned that their groupmates survive and thrive, and that those groupmates reciprocate this concern.

My account of the evolution of human morality takes the form of an evolutionary story not focused on the details of human evolution using fossil evidence and the like, but rather on two major transitions in the way early humans cooperated that almost everyone agrees occurred: a first step in which humans began foraging cooperatively (interdependently) in some new ways and a second step in which they began forming large-scale cooperative (interdependent) groups known as cultures (comprising not only familiar individuals, but also in-group strangers). At each step there was a change in the ways that human individuals were interdependent with one another and so related to one another. At each step individuals were naturally selected not so much by the physical environment as by the social environment, in which each of them was seeking good cooperative partners and those who were excluded could not survive on their own.
2. First transition: From apes to collaboration and second-personal morality

Humans’ closest living relatives, chimpanzees and bonobos, may be taken as a starting point, as the closest thing we have to models of humans’ last common ancestor with other primates. Chimpanzees and bonobos forage for food in small parties, but when they find it each individual scrambles to obtain food on its own. If there is a conflict, it is solved by dominance (basically, fighting ability). In the closest thing to collaborative foraging, small parties of male chimpanzees surround a monkey and capture it, but this is arguably more similar to what lions and wolves do than human collaborative foraging. Each individual maximizes its own chances in the situation by trying to block one possible avenue of escape. If the captor can, he will consume the whole carcass himself, but normally he cannot, and all the individuals in the area converge on the captured prey and begin grabbing at it. The captor must allow this to happen or else fight all the aspirants, which would likely mean losing the food in the melee.

Like chimpanzees and bonobos, humans’ last common ancestors with other primates presumably had more or less long-lasting social relationships with selected groupmates. These were based mainly on (i) competition and dominance and (ii) cooperation and “friendship.” Like many primates, they combined these two types of relationship into one interaction as they cooperated with a partner to fight for dominance with a competitor. To cultivate good partners for these conflicts, they did various things, such as groom and share food, to make friends. They also helped one another when not in food competition situations. In general, the last common ancestor very likely had a special sympathy for friends, but friends mostly meant those who supported them in competitive interactions. Their cooperation was grounded in competition for dominance.

Overall, as paradoxical as it may sound, our best guess is that the last common ancestors had rich social lives with long-lasting relationships, but – as compared with humans – their sociality was still somewhat individualistic. When hunting, they could not put their heads together with others to form a shared goal of working together, and they had no tendency to share resources fairly among all relevant parties. Chimpanzees and bonobos, and so the last common ancestor, are and were very social, but only in a kind of individualistic way.

Humans diverged from other great apes around 6 million years ago. For the next 4 million years they were basically bipedal apes with ape-sized brains. Then, around 2 million years ago, there emerged the genus *Homo*, with larger brains and new skills in making stone tools. Soon after, a global cooling and drying period led to a radiation of terrestrial monkeys (e.g., baboons), who outcompeted *Homo* for many resources. New options were needed. A
transitional option was scavenging carcasses killed by other animals, but then some early humans (the best guess is *Homo heidelbergensis* some 400,000 years ago) began obtaining the majority of their food through more active collaboration; indeed, the collaboration became obligate. This meant that individuals were interdependent with one another in much more immediate and urgent ways than before.

An essential part of the process of obligate collaborative foraging was partner choice. Individuals who were cognitively or otherwise incompetent at collaboration— for example, those incapable of forming a joint goal or communicating effectively with others— were not chosen as partners, and this meant no food. Likewise, individuals who were uncooperative in their collaborative interactions with others— for example, those who tried to hog all the spoils— were also avoided as regular partners and so doomed. The upshot was that there was strong and active social selection (West-Eberhardt, 1979) for cooperatively competent and motivated individuals.

The radically new psychological process that emerged at this time was what we may call *joint intentionality based on joint agency*. A joint agent comprises two individuals who have a joint goal, structured by joint attention, each of whom has, at the same time, her own individual role and perspective. This may be called the dual-level structure of joint intentionality: simultaneous sharedness and individuality. The partners to a joint agency relate to one another dyadically, second-personally, in face-to-face interaction, and over time they create with one another shared experiences— a common ground on which their collaborative efforts may rely. The creation of a joint agent— while still at the same time each partner maintains her own individual role and perspective— created a completely new human psychology, especially social psychology.

The key point for current purposes is that early human individuals who were socially selected for collaborative foraging with partner choice related to others in some new ways. Most important, they had strong cooperative motives, both to work together with others toward cooperative goals and to feel sympathy for and to help others who were, or might be, their partners. If an individual depended on a partner for foraging success, then it made good evolutionary sense that the individual help this partner, with the result that he was in good shape for future outings. In addition, their own survival depended on others seeing them as competent and motivated collaborative partners, and so individuals became concerned with how others evaluated them as well (an aspect of the process in which chimpanzees apparently do not engage).

Beyond this, early human individuals who were socially selected for collaborative foraging also developed a new kind of cooperative rationality that led them to treat others as equally deserving partners, that is, not just with a sense of sympathy but also with a sense of fairness. This was in turn based on a sense
of self-other equivalence: partners understood that either of them could, in principle, play either role in a collaboration and that both of them were necessary for joint success. Moreover, as two individuals collaborated repeatedly with one another in a particular foraging context, they developed a common ground understanding of the way that each role needed to be played for joint success, what we may call role-specific ideals (e.g., in hunting antelopes the chaser must do X and the spearer must do Y). These ideals were impartial in the sense that they specified what either of us must do to fulfill the role “properly,” that is, in a way that ensured our joint success. All of these things together led to the attitude that, since we both were needed for success, and we were interchangeable in our roles (each of which had mutually known and impartial standards of performance), we are equally deserving of the spoils. This is in contrast to cheats and/or free riders, who did not participate and so were not deserving of the spoils at all.

In choosing a partner for a collaborative effort, early human individuals wanted to choose someone who would live up to their role-specific ideals and who would divide the spoils fairly. To reduce the risk inherent in partner choice, individuals who were about to become partners could use their newfound skills of cooperative communication to make a joint commitment, pledging to one another to live up to their role ideals, including a fair division of the spoils. As part of this joint commitment (Gilbert, 2003), the would-be partners also could pledge, implicitly, that whichever of them might renege on the commitment would be deserving of censure, and so the deviant, if she wanted to stay in good cooperative standing, would actually join with the partner in condemning herself (internalized into a sense of guilt): a kind of we > me morality. During a collaboration initiated by a joint commitment, the joint agent “we” self-regulated each of the collaborative partners “I” and “you” (perspectivally defined).

The social outcome of early humans’ adaptations for obligate collaborative foraging, then, was a kind of second-personal morality: the tendency to relate to others face-to-face, with a heightened sense of sympathy for (potential) partners and a sense of fairness based on a genuine assessment of both self and other as equally deserving partners in the collaborative enterprise (self-other equivalence). This sense of fairness was innervated by a feeling of obligation, seen as a kind of cooperativized sense of instrumental rational pressure. That is, whereas all primate individuals feel instrumental rational pressure to pursue their individual goals in ways they believe will be successful, in the interdependent social contexts that structured early human lives, individuals felt cooperative rational pressure to treat others as they deserve to be treated, and to expect others to treat them in this same way (Darwall, 2006). This kind of second-personal morality with (potential) collaborative partners was not yet a fully human morality, but it already had all of the important elements in nascent form.
3. Second transition: From collaboration to culture and “objective” morality

The small-scale collaborative foraging characteristic of early humans was eventually destabilized by two demographic factors that ushered in modern humans, *Homo sapiens sapiens*, some 150,000 years ago. First was competition with other human groups. Competition with other groups meant that a loosely structured population of collaborators had to turn into a more tightly knit social group in order to protect its way of life from invaders. The result was the sense that our entire social group was one big collaborative activity – with various kinds of division of labor – aimed at group success. Second was increasing population size. As human populations grew, they tended to split into smaller groups, leading to so-called tribal organization in which a number of different social groups were still a single super-group or “culture.” This meant that recognizing others from one’s cultural group became essential, and, in the context of sometimes hostile group competition, one needed to be recognized by others in one’s group oneself. Such recognition in both directions was important because only members of one’s cultural group could be counted on to share one’s skills and values and so be good and trustworthy collaborative partners, including for group defense. The dependence of individuals on the group thus led to a sense of group identity and loyalty, and a failure to display this group identity and loyalty could be fatal.

Contemporary humans have many diverse ways of marking group identity, but the original ways were mainly behavioral: people who talk like me, prepare food like me, and otherwise share my cultural practices are very likely members of my cultural group. And so emerged the modern humans’ tendency toward active conformity to the group and its conventional cultural practices. Teaching one’s children to do things in the conventional way thus became mandatory for their survival. Teaching and conformity generated cumulative cultural evolution characterized by the “ratchet effect,” and so cultural organization in the form of the group’s specific set of conventions, norms, and institutions. Individuals were born into these supra-individual social structures, and had no choice but to conform to them. The key characteristic of individuals adapted for cultural life was thus a kind of group-mindedness in taking the perspective of the group cognitively, in caring about the group’s welfare, and in conforming to the group’s ways.

Individuals in a cultural group had to conform to the group in order to coordinate with others in conventional cultural practices, in order to advertise their identity with the cultural group’s way of doing things, and in order to be in line with the group’s social norms. Some social norms were only about conformity and group identity, but others touched on humans’ senses of
sympathy and fairness (inherited from early humans), and these became moral norms. And so just as conventional norms codified the right and wrong way of doing things in instrumental activities, moral norms codified the right and wrong way of treating other people morally. Because the collective intentionality and cultural common ground of modern humans created a kind of “objective” perspective on things, modern human morality came to be characterized as objective right and wrong.

Of course one could act against moral norms. But when called to task by other group members, the options were limited: one could ignore their criticism and censure, and so place oneself outside the norms and values shared by the cultural group (perhaps leading to exclusion from the group), or one could accept it as legitimate and deserved. And indeed modern humans did think of the cultural norms into which they were born as legitimate means by which “we” regulate “us,” and it was part of their group identity to think in this way. This meant that when one deviated from the group’s social norms, it was important to justify this deviation to others in terms of the shared values of the group (e.g., I neglected my duties because I needed to save a child in trouble). In this way, modern humans internalized not only moral actions, but also moral justifications, and so created a reason-based moral identity within the moral community.

Modern humans thus self-regulated their thoughts and actions not just based on what they imagined other individuals to be thinking about them, as did early humans, they also self-regulated their thoughts and actions based on the normative standards of the group. They began self-regulating their thoughts via the group’s publicly accepted norms of rationality and their actions via the group’s publicly accepted norms of morality: not just social self-regulation but normative self-governance (Korsgaard, 1996).

4. Final thoughts

What we call human morality is a bit of a motley. An important dimension of this motley is what Scanlon (1998) dubs “what we owe to each another.” In the current formulation, “what we owe to each other” derives from an evolutionary history of extreme cooperation based on social interdependence. We owe each other for our very lives. But it also means holding others accountable. Thus we have compassion for people in trouble, but perhaps not for those who have committed heinous crimes against ourselves or groupmates. We naturally share resources with cooperative partners and groupmates fairly, but perhaps not with those who do not deserve it or who belong to some out-group. The motley that is human morality involves many and various motivational and emotional processes, such as sympathy, obligation, guilt and shame, and many and various psychological attitudes, such as resentment, trust, blame, responsibility, and respect.
And these may or may not be applied to individuals whose membership in the moral community is uncertain (out-group members, animals, etc.).

In *A Natural History of Human Morality*, I proceed from the assumption that a major part of the explanation for human moral psychology comes from processes of evolution by means of natural selection. But, importantly, in this case the selecting is not done primarily by the physical environment but rather by the social environment. In contrast to evolutionary approaches that instantiate this premise in terms of processes of reciprocity and reputation management, I stress that early human individuals understood that they were at the same time both judge and judged, so that the concern was not just for what “they” think of me, but rather for what “we,” including “I,” think of me. The essence of my account is thus a kind of “we” > “me” psychological orientation, and that is what gives the individual’s moral notions their special powers of legitimacy in individual decision making. None of which is to say that biological evolution in any way determines an individual’s moral decision making. Nature makes us creatures capable of making moral decisions, but we make those decisions ourselves.

**Disclosure statement**

No potential conflict of interest was reported by the author.

**Notes on contributor**

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**References**

Darwall, S. (2006). *The second-person standpoint: Respect, morality, and accountability*. Cambridge, MA: Harvard University Press.

Gilbert, M. (2003). The structure of the social atom: Joint commitment as the foundation of human social behavior. In F. Schmitt (Ed.), *Socializing metaphysics* (pp. 39–64). Lanham, MD: Rowman & Littlefield Publishers.

Korsgaard, C. (1996). *The sources of normativity*. Cambridge: Cambridge University Press.

Scanlon, T. (1998). *What we owe to each other*. Cambridge, MA: Belknap.

West-Eberhardt, M. J. (1979). Sexual selection, social competition, and evolution. *Proceedings of the American Philosophical Society, 51*(4), 222–234.