

# Evolutionary and Cognitive Science

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When interpreting the actions of people from other societies from a moral point of view, we often err. Two types of errors are of particular relevance here. One consists in overestimating the similarity across cultures of the moral judgments that guide people's actions and interactions. The other consists in underestimating this similarity. Arguably, the first kind of error is common among psychologists who, since Piaget (1932) and Kohlberg (1981), have studied the stages through which children acquire moral competencies and tried to identify basic principles and components of human morality. Although psychologists do not entirely ignore cultural diversity, they, as a matter of course, approach morality as a general human disposition and competence. The bulk of their evidence is experimental and most of their experiments are carried with Western or at least Westernized participants. Anthropologists object to these theoretical, methodological and sampling biases (Westermarck, 1906; Benedict, 1934; Shweder, Mahapatra, & Miller, 1987). Anthropological studies of morality based on participant observation in a great variety of societies show how much moral judgments can vary across cultures, casting doubt, most anthropologists think (but see Laidlaw, 2002; Lambek, 2010), on the existence of universal moral norms, or even on the very existence of morality as a universal trait of the human mind. After all, 'morality' might just be one of these 'family resemblance' category—a notion that Wittgenstein (1953) introduced and illustrated with the category of games—where items are lumped together because each resemble some of the others, without there being any characteristic trait shared by every item in the category. Still, while the richness and relevance of anthropological evidence is clear, its interpretation is not. Moreover, anthropologists' focus on cultural differences and local idiosyncrasies may result in errors of the second type, that is, in underestimating similarity of moral judgments across cultures.

In this chapter, we do three things. In a first section, we highlight from a cognitive perspective some of the issues raised by the interpretation of anthropological evidence. We suggest that, when properly interpreted, this evidence leaves open the possibility that, notwithstanding important cultural differences, there may well be universal foundations to human morality. In a second section, we outline an evolutionary account of what such a foundation might be. More specifically we argue that humans have an evolved moral sense based on fairness, that is, a disposition to take others' interests into consideration and to expect others to do likewise. Finally, in the last section, we suggest how such a hypothesis not only is compatible with the recognition of cultural differences in morality but may even contribute to explaining them.

## Issues in interpreting anthropological evidence

The diversity of moral judgments has attracted the attention of students of morality since antiquity. In a well-known passage, Montaigne (1580), for instance, wrote:

“Here they live on human flesh; there it is an act of piety to kill one's father at a certain age; elsewhere, the father decides, when the children are in the womb, which will be kept and brought up, and which will be killed and abandoned.” (p. 134)

From such examples, Montaigne concluded:

“The laws of conscience, which we pretend to be derived from nature, proceed from custom; every one, having an inward veneration for the opinions and manners approved and received among his own people, cannot, without very great reluctance, depart from them, nor apply himself to them without applause.” (p. 135)

A problem with such early relativistic reflections about morality is that there is no attempt at situating, let alone explaining cultural practices. Anthropologists, by contextualizing these practices, have made them more intelligible and relevant.

That killing one's parent should be seen as act of piety may seem to be based on moral values incommensurable with those of Western societies. However, in situations found in nomadic foraging societies where finding food may involve walking long distances, the practice is not so hard to understand. As Redfield notes:

“The Eskimo who walled up an aged parent in a snow house and left him to die, did so because in their hard, migratory life the old person could no longer travel, endangered his close kinsmen by his presence, and perhaps himself endured an almost unbearable existence. Furthermore, good reporters of actual cases of these assisted suicides—for that they were, rather than homicides—show the tenderness, even the filial respect, with which the thing was done.” (1959 quoted by Lukes 2007)

Redfield goes on to conclude that “seen in context, most customs then showed a reasonableness, a fitness with much of the life, that allowed the outsider more easily to understand and more reluctantly to condemn.”

Anthropologists themselves have shown in countless cases how practices that seemed to reveal radically different moral values could be interpreted in more ordinary manner when the range of options available was taken into consideration. Allowing one's parent to age in comfortable conditions – the ‘moral’ thing to do when possible – may not be an available option. Still, not all cultural norms lend themselves to this type of commonsense explanation. Ethnographic contextualization may for instance help one understand how in some societies, people may see it as their moral obligation to kill a daughter or a sister who has been raped in order to save the honor of the family. Still, the moral sentiments involved are likely, for most reader, to remain quite alien or even abhorrent. In the end, it might be argued, ethnographic interpretation replaces Montaigne's superficial moral relativism with serious and compelling evidence of the cultural character and hence the variability of moral values.

What does a cognitive perspective contribute? It leads to questioning not the validity or relevance of ethnographic evidence, but the specific uses that can be made of it in evaluating theoretical claims of a general anthropological nature about what all humans have in common.

## Public norms and mental attitudes

At the collective level, anthropologists and historians are particularly interested in norms that are publicly expressed in a given society, either as integrated doctrines such as the Tao or the Talmud, or in a less integrated manner, but not less forcefully, as for instance in Mediterranean rural societies, norms about honor, or, in Polynesia, norms about taboo. These explicit norms vary greatly across cultures, and, in many cases, are mutually contradictory: in Jainism for instance any killing is forbidden whereas in many religions, bloody sacrifices are mandatory.

Does such cross-cultural incompatibility of explicit norms provide clear evidence against the hypothesis that human morality has universal foundations? To answer, one should consider the place of such normative statements in the cognitive processes of the people who produce or accept them. From a cognitive perspective, what people say is an output of complex mental processes aimed at communicative goals, rather than a simple reflection of people's thoughts and attitudes (Sperber, 1985; Bloch & Sperber, 2002). This is true in general, and particularly so when, in their statements, people quote or at least echo culturally transmitted discourse. Culturally explicit norms are objects of thought as much or more than contents of thought. Of course, these public representations affect people's moral ideas and sentiments; and, of course, they are in part the collective output of the thought and sentiments of many generations of individuals. Still, it is quite conceivable that such cultural constructions have a rigid and often hyperbolic character that makes them seem to diverge more across societies than do the mental states of the people who produce and endorse them. It is conceivable also that, inside a given society, the mental states of individuals differ more than their shared endorsement of the same explicit norms might suggest. In other terms, there might be less cross-cultural variation and more intra-cultural variation than commonly assumed.

A good historical illustration of the relative disconnect between public norms and moral attitudes is provided by the case of the early Roman Empire. Some Romans endorsed ancient pagan traditions, others had embraced the new Christian religion and yet others defined themselves as Stoics. Despite this diversity of explicit doctrines appealing to very different principles (the traditional Roman ethos for Pagans, the Gospel and the divine commandments for Christians, the idea of a natural order for Stoics), Romans had a very similar moral opinions on specific practices such as slavery, gladiature, paternal authority, etc. (Veyne, 2005).

A good ethnographic illustration of the complex relationship between public acceptance of norms and personal sentiments is provided by Christine Walley (1997) discussion of so-called 'female circumcision' among the Sabao of Kenya (for other illustrations, see for instance Briggs, 1970 about the Inuits; or Wikan, 1987 about Bali). Young women, Walley notes, had little choice but to embrace the practice: "For them, to criticize circumcision publicly or to reject it would have led to accusations of cowardice, to social ostracism and perhaps to physical violence." Girls, but also their families, were trapped in a web of constraints in which circumcision appears to be a necessary condition to get a husband.

Walley, however, wanted to know what the girls "really thought", but the answer proved elusive. In a conversation with some of the young women whom she had seen undergoing the ritual,

for instance, Walley elicited mixed reactions. One of them "who had a look of religious ecstasy on her face that startled me argued that it was something that a person had to accept with her 'whole being' and when one did so, one did not feel the pain." Would they, Walley asked, regret the ceremony later? They replied "in a light but serious tone 'but we are already regretting it' "

"... there was no delusion among these adolescent girls... about how it would affect their sexual pleasure. I asked whether they wanted their daughter to be 'circumcised'. One said she would because it was an important custom to continue; a second, after some thought, said she would not; and Mary, whose initiations photos we were perusing, looked uncomfortable and refused to comment." (Walley, 1997, p. 411).

Walley describes this variety of reactions as a shifting of voice according to context. She sees her initial goal to find out what the girls "really thought" as naive. From a cognitive point of view, we would agree, and we would also argue that it would be naive to view the expression of different attitudes according to context as a mere ability to do what is expected of you in different contexts. The young women interviewed by Walley were not mere conformists. They could express acceptance of cultural norms and at the same time think and talk critically about them, drawing on implicit considerations and preferences that have greater cross-cultural relevance. The expression and acceptance of highly culture-specific explicit norms does not imply that the underlying attitudes are equally culture-specific: that much may be commonsensical. Still, the challenge is then to identify and explain these underlying attitudes.

### **Moral intuitions and moral justifications**

At the individual level, under the influence of Piaget and of Kohlberg, psychologists studying morality have long focused much of their attention on the way in which people justify their moral judgments (as did for instance the young women interviewed by Walley). These justifications vary with age (which was of particular interest to developmental psychologists) and also with culture. More specifically, moral judgments can be justified by invoking the risk of punishment, respect for authority (that of specific individuals or institutions, or that of public opinion), personal commitment, or by applying general moral principle to the case at hand.

From a normative point of view, these different types of justification are not on par. Basing for instance one's moral judgments on a principled reasoning may seem morally different (and better) than basing them on fear of punishment. These differences in justification are also of anthropological interest. Some societies demand that one's judgments be based on respect for authority whereas other societies encourage personal deliberation, yielding what might be called quite diverse moral styles.

Still, these differences in the style of justification are not specifically moral. Appeal to authority or on the contrary to personal deliberation is found in a variety of domains: choice of a spouse, economic decisions, political commitments, factual beliefs, and so on. Moreover, apparently quite different forms of justification may implicitly point back to the same ultimate foundation of empirical or normative judgments. A layperson's deference to scientists may come not from the view that scientific truths are of a different order than ordinary everyday knowledge but from a sensible

cognitive modesty. Religious believers who rely for moral guidance on spiritual advisers may attribute them a special competence to reason from possibly God-given universal principles. Similarly, public opinion or socially accepted norms may be invoked because they are considered as indicative of the good, without for all that conceiving the good as that which is sanctioned by public opinion or social norms. Hence recourse to different forms of justification does not by itself provide evidence of differences in moral values.

Recent work moreover suggests that justifications of moral choices are to a large extent *ex post facto* rationalizations of moral intuitions (Haidt, 2001; Hauser, Cushman, Young, & Jin, 2007; Mercier, forthcoming). Jonathan Haidt and his collaborators (2004) for instance have found that people commonly hold strong moral opinions even though they are hard put to justify. Participants in a now famous experiment found consensual incest between adult brother and sister happening only once, in secrecy, and with adequate precaution against pregnancy morally objectionable but could offer as justification only rationalizations that contradicted the premises of the story (e.g. the risk of genetic defect of offspring). When the inadequacy of their justifications was pointed out to them by the experimenter, they recognized it but maintained their moral condemnation and were dumbfounded by their inability to justify it.

Just as collective moral doctrines, individual moral justifications (which often appeal to these doctrines) and the way they vary across culture are of great anthropological interest. They do not however provide direct evidence or even strong indirect evidence regarding the existence and character of universal moral dispositions among humans (see also Sperber, 1993).

## **Fairness: Evolutionary, cognitive and anthropological aspects**

### **Fairness and the evolution of human cooperation**

Since the 1980s, cognitive psychology has taken an evolutionary turn. In discussing specific psychological mechanisms, it has been found more and more relevant to ask whether they are biologically evolved adaptations (as has been claimed of face recognition), or an outcome of a specific acquisition process governed by some specialized adaptation (as has been claimed of linguistic competence), or a side effect of one or several adaptations (as has been claimed, in cognitive anthropology, of religious thinking). To the extent that anthropology is about the human species across time and space, an evolutionary perspective on psychological mechanisms should be of particular anthropological relevance. Morality provides in this respect an excellent illustration.

*Homo sapiens* is a uniquely cooperative species (Tomasello, 2009). Human foraging in particular involves a variety of cooperative activities. Humans share goods and information. They help each other not only in joint action but also when one is disabled by, for instance, illness or injury. Contrary to other primates, humans obtain most of their resources through social interactions (Hill & Kaplan, 1999). Although cooperative interactions are mutually advantageous, they also create conflicts of interest. In many cases, individuals are in a position to take advantage of others. For instance, they could accept help offered by others and yet not help others themselves. They could

enjoy the benefits of living in a group where people warn others in case of danger or keep an eye on children, but not contribute to these benefits. They could take a larger share of resources produced through collective actions than their own contribution justifies. Of course, if everybody aimed at taking the benefits of cooperation without incurring the costs, cooperation itself would collapse.

How come humans do not take advantage of others to a degree that would undermine cooperation altogether? Understanding cooperation in general, and the uniquely developed forms it takes among humans, has been a major focus of evolutionary thinking in the past forty years. Several approaches have been developed that may all have something to contribute to an integrated understanding of human cooperation. Since Hamilton (1964), cooperation among close kin is well explained in terms of the advantages it brings to carriers of the same genes. Trivers (1971) has shown how in principle reciprocal relationship could evolve among non-kin. The conditions for such an evolution are however rarely found. The idea that group selection could favor groups of individuals disposed to interact altruistically with one another has been vigorously developed and discussed in the past thirty years (e.g. Sober & Wilson, 1998; Gintis, Bowles, Boyd, & Fehr, 2003; Haidt, 2007). More recently, the idea of reciprocity has been revised and expanded into a mutualistic approach. According to this approach, there is a 'social selection' for reliable partners that favors the evolution of a genuinely moral disposition to value fairness in others and in oneself. For lack of space, we do not compare these different approaches to human cooperation but focus on the last, mutualistic approach (Barclay & Willer, 2007; Baumard, 2010; Chiang, 2010; André & Baumard, 2012) and on some of its psychological and anthropological consequences.

In the ancestral environment, as strongly suggested by the study of contemporary foraging groups, individuals could to a large extent choose with whom to cooperate. When individuals can choose their partners, they are also in a competition to be chosen. In this competition, the long term reputational cost of taking advantage of others are higher than the short terms benefits of doing so: having a bad reputation as a cooperator results in lost opportunities to cooperate ( Trivers, 1971; Bull & Rice, 1991; Noë, van Schaik, & Van Hooff, 1991; Roberts, 1998). In the long run, the dynamics of such social selection of good partners are likely to have selected for the psychological foundations of what had been described (with Mauss' *Essai sur le Don* in the background) as 'generalized reciprocity' (Levi-Strauss, 1969; Sahlins, 1972) and that is now better understood in terms of mutualism (reciprocity being just a mutual relationship between two individuals). What is needed in order to be recognized by others as a mutualistic cooperator and hence desirable partner is a sense of fairness, that is, a disposition to take into account the others' interests, to expect them to recognize one's own interests, and to act accordingly in a mutually advantageous way (Baumard, 2010) This sense of fairness is a cognitive mechanism aiming at balancing the burden and benefits of social interactions.

When we say the sense of fairness is a cognitive mechanism, we do not mean to contrast cognition and emotion. On the contrary, in keeping with much recent work on emotion, we see emotions as strongly embodied cognitive states with motivating power. We agree with, for instance, Haidt & al. (1993) that moral cognition is largely intuitive and emotional, a matter of 'gut feelings' rather than ratiocination. We agree that emotions that are not exclusively moral, disgust or empathy in particular, may play an important role in moral interactions. But is it that people find behavior that elicit in them a feeling of disgust morally objectionable, or that they find behavior that they judge

morally objectionable on other grounds disgusting (as when people say that they are disgusted by treason or corruption)? We favor this second hypothesis and maintain that a sense of fairness plays a central role in morality whereas other emotions play a mere biasing or an enhancing role. Still, there is much cultural variability in the way these other emotions are deployed in issues of morality, contributing to making it hard to ascertain whether there is a universal moral core and, if so, what it consists of.

### Fairness across cultures

Moral judgments have often been characterized in contractual terms. We act, defenders of this 'contractualist' view argue, as if we had entered into an agreement with others to behave in mutually beneficial ways (Rawls, 1971; Scanlon, 1998)—or, as the 'golden rule' has it, to treat others as we would like them to treat us. To what extent are the 'golden rule' and the contract-like interactions it dictates culture-specific Western traits? Isn't it the case that, in most non-Western societies, the group has priority over the individual? As Malinowski (1926) noted in his classic study of morality in the Trobriand Islands, this was indeed the main impression one might gain from the outside when looking at economic interactions in small-scale societies, for instance at the way Trobrianders shared resources such as canoes:

“To an observer who does not grasp all the details, and does not follow all the intricacies of each transaction, such a state of affairs looks very much like communism: the canoe appears to be owned jointly by a group and used indiscriminately by the whole community.”

However, on a closer look, it emerges that relationships among Trobriand fishermen are actually based on mutual advantage.

“In using the craft, every joint owner has a right to a certain place in it and to certain duties, privileges, and benefits associated with it. He has his post in the canoe, he has his task to perform, and enjoys the corresponding title, either of 'master' or 'steersman', or 'keeper of the nets', or 'watcher for fish'. (...) Each canoe also has its place in the fleet and its part to play in the maneuvers of joint fishing. Thus on a close inquiry we discover in this pursuit a definite system of division of functions and a rigid system of mutual obligations, into which a sense of duty and the recognition of the need of co-operation enter side by side with a realization of self-interest, privileges and benefits. (...) It is the sum of duties, privileges and mutualities which bind the joint owners to the object and to each other.”

In line with Malinowski's early study, much modern ethnography has revealed a comparable pattern in other forms of collective action. Among the Ache, for instance, a semi-nomadic hunter-gatherer population in Paraguay, resources are shared in two different ways: big game is shared equally among all the members of the group, while small game, plants, and fruit are kept by each family (Kaplan & Hill, 1985). This different treatment results from the way these kinds of resources are obtained. Small game and vegetables are predictable resources: the longer you spend gathering and hunting, the more of them you end up with. If individuals do not spend the same amount of time hunting and gathering, it is not mutually advantageous to share them equally. Doing so would amount to favoring those who work less than others. Big game, by contrast, is highly unpredictable. Luck plays a much greater role in the killing of a large animal, and hunters thus have an interest in

sharing each animal equally: this creates a form of mutually advantageous insurance against bad luck and respects everyone's contribution (see also Alvard & Nolin, 2002; Bailey, 1991; Gurven, 2004; Winterhalder, 1997 on mutualistic relationships in hunter-gatherers societies).

Like resource distribution, punishment had long been seen as an instrument that serves the interests of the whole group (Durkheim, 1893). Many studies have, however, shown how, in stateless societies as in most ancient societies, punishment is mainly restorative. Its aim is to rebuild mutually advantageous relationships (for a review, see Baumard, 2011). The level of compensation is therefore directly proportional to the harm done: for example, a wrongdoer owes more to the victim if he has killed a member of his family or eloped with his wife than if he has stolen his animals or destroyed his crops (Hoebel, 1954; Howell, 1954; Malinowski, 1926). This restorative logic was quite manifest in the system of punishment for adultery among the Ifugao, a Philippine group observed by Barton in the early twentieth century. An adulterer had to pay compensation in two ways:

“to the in-laws of his partner in adultery and also to his own wife's kinsmen as a penalty for the breach of his own marital contract. The same holds for a married adulteress as well. Adultery is, as noted, a ground for divorce, but it not be so used. However, if the marriage is to be continued, the offender must then put up a 'general welfare' feast at which he regales both his wife's and his own kinsmen. Eating together restores and renews the equable relations of the two groups.” (Hoebel, 1954, p. 119)

The same logic held for rape.

“Rape of a married woman by a married man offends both her own and her husband's kin group. Each collect damages equivalent to those paid in a case of aggravated adultery. And then, if the rapist is married, he pays not only to the woman's, her husband's, but also his wife's kin damages' that go with aggravated adultery.” (Hoebel, 1954, p. 120)

This example clearly shows that punishing rape is about compensating the victims. The greater the harm, the more compensation is required.

Compensation is not always enough to restore justice, however. In some cases, such as murder, it may not be possible to fully compensate victims for the harm that has been done to them. This may explain why, in these kinds of cases, people turn to punishment: since it is not possible to reduce the gap between the wrongdoer and victim by compensating the victim, people may judge that inflicting a cost on the wrongdoer is the only way to fully restore fairness. In line with this idea, experimental studies suggest that as the seriousness of crimes increases, people tend to feel that a retributive component (e.g. a prison sentence) should be added to restorative justice (i.e. compensation) (Gromet & Darley, 2006). In the same vein, a range of studies in the United States have consistently shown that the judgments of both juries and judges are based on the idea that the punishment should be proportional to the crime (Baron & Ritov, 1993; Carlsmith, Darley, & Robinson, 2002; Sunstein, Kahneman, & Schkade, 1998). If, on the other hand, the function of punishment was to serve the interest of the group through, in particular, dissuasion (as in group based theories of morality, see for instance Boyd, Gintis, Bowles, & Richerson, 2003), then, *ceteris paribus*, crimes that are easier to commit should be more harshly punished. Although such a principle has been argued for by utilitarian philosophers of law, it has very limited application in modern law and does not seem to be evidenced in the anthropological literature.

Finally, although mutual help may seem to exhibit the characteristics of an unbounded generosity, it is actually regulated by the same mutualistic requirements that we see elsewhere. In foraging societies, for instance, where mutual help may be rendered vital by the unpredictable availability of resources and the impossibility of stockpiling, individuals expect others to share the costs as well as the benefits of solidarity, and if they fail to do so, they simply end the relationship (see for instance Aspelin, 1979; Henry, 1951; Price, 1975).

More generally, this mutualistic logic pervades social interactions and regulates all kinds of mutual help. Among the Yuroks of northwestern California, for instance, it was the duty of a canoe owner to ferry any traveler across a river when called upon. However, as Hoebel notes:

“in balance with this duty of the canoe-owner he enjoyed a (...) right against the traveler for any injury he (the canoe owner) suffered in consequences of service rendered. A boat-owner whose house caught fire and burned while he was engaged in ferrying a passenger enjoyed a (...) right for full damages by his passenger on the presumption that he could have brought the fire under control if he had not been engaged on the river” (Hoebel, 1954, p. 57).

This is an example of how the actual workings of help offered on mutualistic terms are carefully monitored, to ensure that its terms do not favor one of the parties over the others.

These are just a few illustrations of the commonality of mutualistic arrangements and of the idea of fairness to which they conform. It would take a systematic survey to assess its true generality, but these illustrations are enough to raise a fundamental question. How are such mutualistic norms of fairness maintained generation after generation? The commonality of such norms in societies where they are not imposed by judicial institutions, police support, and systematic teaching suggest that norms of fairness are intuitive enough to be easily acquired and deployed and for departure from these norms to meet spontaneous resistance. This in turn suggest that the acquisition of these norms by children recruits evolved psychological dispositions that somehow ‘look for’ the specific way in which these norms are locally implemented, just as there may be evolved psychological dispositions that cause young children to attend to linguistic inputs and ‘look for’ the underlying regularity of the local language. This of course, is rather speculative, but it is a speculation that suggests precise cognitive anthropology questions. For instance: Do children acquire and deploy cultural norms of fairness with particular ease and do they have any problem in acquiring norms that override fairness? Do people, including young children, invoke considerations of fairness (for instance in defending their own interests) even when doing so is not a culturally approved practice? Do people attribute fairness-based sentiments or motivations to others even in cases where they are not culturally appropriate (for instance, do they imagine that someone who is harmed in a culturally sanctioned way may nevertheless feel that this is unfair)? These are questions which could be fruitfully addressed by a cognitive anthropology approach mixing sophisticated ethnographic and experimental method (well-illustrated in the work of Rita Astuti among the Vezo of Madagascar, see for instance Astuti, 1995, 2008).

## How far can the mutualistic framework be extended?

So far, we have considered only a restricted number of moral situations where considerations of fairness are obviously relevant and indeed central: distributive justice, mutual help, reciprocal relationships, and retributive punishment. Moral judgments, however, apply to a much wider range of cases (Haidt, Koller, & Dias, 1993; Shweder et al., 1987) and biologists (de Waal, 1996), psychologists (Haidt & Joseph, 2007) and social scientists (Wilson, 1993) have in consequence proposed to regard morality as the product of diverse emotions such as disgust, empathy, or in-group loyalty that need not be moral in and of themselves. Here we consider just two types of cases where, it seems, norms other than that of fairness play a central role: hierarchical relationships and sexual morality. We will ask whether the norms involved in these cases are (a) independent of, and in contradiction with norms of fairness, (b) independent of, but nevertheless compatible with norms of fairness, or (c) at least partly dependent on norms of fairness.

### Morality in hierarchical relationships

Since the Neolithic revolution, most societies have been characterized by hierarchy and inequality. People are hierarchically ranked and have unequal access to resources (Johnson & Earle, 2000). Most of the time, people seem to accept these unequal allocations of resources and to endorse hierarchical relationships. India with its castes system provides the best known illustration of this very widespread phenomenon (Dumont, 1970). It may seem that, if social interactions were based on mutual advantage, hierarchy ought to be rejected, and that therefore such social arrangements must be based on non-mutualistic value systems.

Still, before drawing such a conclusion, one should ask to what extent acceptance of hierarchy is based on beliefs about matters of fact as opposed to values and preferences. In all human societies for instance, there are hierarchical relationships between parents and children. This is commonly based on the belief that adults' authority over children is, rather than a value in itself, a necessary means to maintain social order through the passage of generation and to help children become competent adults. Not only is such a view quite compatible with mutualism, it follows from mutualism, given these beliefs. Other forms of hierarchy might be based on much more questionable beliefs, but still on *beliefs* regarding the usefulness or the unavoidability of hierarchy rather than on a *preference* for hierarchy in itself. Before the feminist revolution, for instance, most people in the West could not seriously imagine that men and women might share equally the household chores, or that men could take a paternal leave to take care of their children. In the absence of an alternative, there was, for the vast majority, no injustice in the fact that women did most of the work. Although people's morality was truly based on mutual advantage, it also took into account what individuals thought were intangible constraints such as the intrinsically feminine character of household chores and child rearing.

Similarly, as Shweder et al. (1987) suggest, Oriyas believe that a husband's control over his wife's behavior is essential to the working of the family. Allowing wives to be independent would be like organizing an army on a democratic basis: it would simply not work. For the Oriyas, Shweder claims:

“beating a wife who goes to the movies without permission is roughly equivalent to corporal punishment for a private in the army who leaves the military base without permission. For Oriyas there are rationally appealing analogical mappings between the family unit and military units (differentiated role and status obligations in the service of the whole, hierarchical control, drafting and induction). (Shweder et al., 1987, p. 71)

If this parallel is justified, then, for the Oriyas, hierarchical relationships are not incompatible with a principle of fairness, for they are the only possible interactions inside a family. Moreover, just as hierarchy is believed to benefit everyone in the army because it makes it collectively functional and successful, hierarchy within the family is seen mutually beneficial because both wife and husband benefit from this arrangement. Actually, the Oriyas clearly emphasize mutual advantage:

“Wives should be obedient to their husbands, and husbands should be sensitive and responsive to the needs, desires and inclinations of their wives.” (Shweder, Much, Mahapatra, & Park, 1997, p. 145)

In this situation, social interactions have a clear mutualistic interpretation:

“The person in the hierarchical position is obligated to protect and satisfy the wants of the subordinate person in a specified way. The subordinate person is also obligated to look after the interests and ‘well-being’ of the superordinate person.” (Shweder et al., 1997, p. 145)

In traditional societies where social mobility is low, statuses are relatively rigid, and institutions seem static, individuals who occupy subordinate positions entertain little hope of changing their situation and may find it hard to imagine that another kind of social arrangements would be possible. In the Roman Empire, for instance, the existence of slavery was considered a natural fact: neither laypeople nor philosophers envisaged that a society could work without slaves. Even rebel slaves who fought against their owners did not have the abolition of slavery as their aim (Veyne, 1992). To be born a slave or to become one was commonly seen as a matter of bad luck, not injustice (in the same way that we view the unequal allocation of beauty or talent).

So, just as in the case of parents-children relationships, various forms of hierarchical relationships may be conceived by the people involved as mutually beneficial. It is too hasty to conclude from a social arrangement that we see as unfair that the values on which it is based are incompatible with fairness. In principle, such an arrangement might even be based on the application of fairness considerations to the necessities of the social world as seen by the people involved. But is it so? To decide whether and when such is indeed the case, what is needed are ethnographic accounts that understand the cognitive complexity of such a question, that really aim at addressing it, and that are not driven by interpretive biases that prejudge the issue.

## Sexual morality

Students of morality have sometimes observed that moral judgments on sexual practices or personal behaviors are difficult to account for in terms of fairness (Haidt & Joseph, 2007; Shweder et al., 1987). Indeed, when we speaking of social interactions and mutual advantage, we often think of

economic exchanges between buyers and sellers, workers and companies, taxpayers and the state, and so on. But a society involves a much greater diversity of interactions, and fairness concerns can be applied to much more than just resource transfers. People are not only consumers, workers and tax-payers; they are also parents and children, wives and husbands, teachers and pupils, and so on. If, instead of playing their role in each of these interactions, they favor their own interests at the expense of those of others, they behave no less unfairly than they would shortchanging others in economic interactions.

From this perspective, a vast array of normative expectations can be understood in terms of fairness. If we think that a nurse is committed to being compassionate and caring, then we may think that he is behaving unfairly to the hospital and to the patients when performing his duties in a cold and indifferent manner. If we think that a school-bus driver must be particularly prudent, we will feel that she does not deserve her job if she is not. In the same way, it may be thought that a friend must be loyal, a child respectful, or a partner faithful in order for friendship, family or marriage to be mutually beneficial. Loyalty, respect and faithfulness may be valued not in the absolute, but because they are seen as necessary to fair relationships among friends, parents and children, or partners.

More generally, every kind of behavior that is seen as necessary to performing a task of mutual interest in a cooperative interaction is likely to be so moralized. Consider the Christian “capital sins”: wrath, greed, sloth, pride, lust, envy, and gluttony. These behaviors can be seen as threatening the actual working of social interactions. If your neighbor is greedy, he won’t help you as much as neighbors should help each other. If your colleague is lazy, she won’t do her proper share of the work. If your friend is envious, he will ask more and more of you. And so on. Of course, from a theological point of view, what makes these behaviors sins is their effect on grace rather than on social interactions. But from a cognitive anthropology point of view, the question is: what made this list of capital sins such a cultural success? At least part of the answer may be that, in the context of popular Christianity, they are easily interpretable as immoral, not on arcane theological grounds, but on the basis of intuitions of fairness.

Of course, the same behavior may be looked at differently depending on contextual constraints. Passive homosexuality, for instance, has been reviled both by the ancient Greeks and Romans and by the Christians albeit for different reasons. In the Greco-Roman world, passive homosexuality was a sign of weakness. Among the aristocracy, displaying masculine dominance was an essential quality, both in politics and war. A man who practiced passive homosexuality was displaying personal preferences incompatible with the conduct of a career in service of the common good. Note that in contrast, passive homosexuality was acceptable and even required of slaves and adolescents whose part in the Greco-Roman social contract was to serve and obey their master and elders (Veyne, 1992).

Among Christians on the other hand, both passive and active homosexuality are condemned. Homosexuality is condemned in particular as a threat to the marriage institution. From a religious point of view, marriage is intrinsically linked to procreation and is ‘sacred’, which, intuitively, may be understood as meaning that it is an unbreakable social contract, creating inalienable mutual rights and duties. In the same way, is condemned any sexual behavior that is not strictly related to procreation (masturbation, oral sex, etc.), as well as any practice that reduces the cost of cheating (prostitution, abortion, etc.) or that encourages sexual promiscuity (drug usage, cohabitation, sexual

education, premarital sex) (for experimental evidence, see Kurzban, Duker, & Weeden, 2010; Weeden, Cohen, & Kenrick, 2008). Even for Christians who understand and accept the dogma behind these rules, mutualistic intuitions may govern their everyday sentiments about their implementation and may play a crucial role in the cultural success of the institution of Christian marriage. They may feel that married couples who obey the rules and procreate do their fair share in society whereas people who ‘fornicate’, that is, have sexual relationships not aimed at procreation within the framework of the Christian marriage—and particularly those who fornicate with people of the same sex excluding the possibility of transforming the union into a Christian marriage—are free-riders or parasites.

In spite of this radical opposition, both opponents and advocates of homosexual marriage may be sharing a deep concern for fairness. Advocates of the right of homosexuals to marry in particular are moved by considerations both of fairness vis-à-vis heterosexuals who are seen as having an unfair advantage in being the only ones allowed to enter into a matrimonial relationship and of fairness between homosexuals would-be spouses: mutual respect, mutual assistance, reciprocal commitment, common property, and so on. We are not denying, of course, that there is a deep moral disagreement between the two sides; we are just suggesting that nevertheless, at the deepest level, there may well be major commonalities.

Even for Christians whose strongest emotion towards homosexuality— an ‘abomination’—is disgust, it could be that disgust is not the primary moral intuition at play but, rather, is an emotion culturally recruited in the service of a fairness intuition without which moral disgust would not ‘stick’. We alas lack crucial evidence to decide between this possibility and Haidt & Joseph’s argument (Haidt & Joseph, 2007) that disgust is a basic rather than a derived moral emotion.

This brief survey suggests that humans may moralize sexual practices not because sexual purity is seen as a value in itself, but rather because sexual relationships carry high social stakes and naturally generate conflicts of interest. Indeed, the moralization of sexual practices follows the general line of conflicts of interest. When social forces are favorable to men’s interests, women chastity tends to be moralized and sexual promiscuity condemned. When women gain some leeway in their interactions with their husband and their own kin, sexual promiscuity become more acceptable and chastity less praised (on the social determinants of matrimonial arrangements, see Marlowe, 2000; Scheidel, 2009). Given beliefs about the social necessity of specific matrimonial arrangements, threats to these arrangements may be seen as contrary to the mutual interests of the people involved, and preventing these threats may be seen as a just thing to do. As in the case of hierarchy, we are not asserting of sexual morality that it is, after all, just a matter of fairness. We are arguing that, for all the evidence we have, it may well be a matter of fairness combined with factual beliefs about what is possible and impossible. To go beyond a theoretical argument based on evolutionary considerations and reinterpretation of evidence that has been gathered with different theoretical aims (if any), both psychological and anthropological evidence has to be gathered with the aim of testing these and other evolutionary hypotheses, and therefore without prejudging what the results of the test should be.

## Conclusion

At first sight, moral judgments greatly differ across culture, suggesting that human morality may be based on radically different systems of values. Evolutionary considerations on the bases of human cooperation suggest however that there must be evolved dispositions that make this cooperation sustainable. There are competing views regarding what these dispositions might be, an altruistic disposition to act for the benefit of the group even at an irredeemable cost to oneself, a mutualistic disposition to act and expect others to act fairly, or some combination of both? Here we have explored the hypothesis that among the dispositions involved a sense of fairness is paramount. How then to interpret differences of moral judgments? We suggested that much can be done by paying attention to people's beliefs about the range of their actual choices—beliefs that may be true as in the case of Inuits seeing themselves as unable to take care any longer of their aged parents, or false as in the case of Romans seeing slavery as part of a natural order. Attributing such beliefs, what looked like cruelty may come to appear charitable; what looked like blatant disregard for fairness, may appear compatible with considerations of fairness applied to a situation perceived quite differently than we would. But speculative reconstructions of people's beliefs and inferences are not good enough. Appropriate cognitive anthropology evidence is needed to further our understanding of human morality.

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