2014

Empathy in Other Apes

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Forthcoming in *Empathy and Morality* Oxford University Press (Heidi Maibom, ed.)

I. Introduction

Aldrin was a sickly little fellow, and didn't play with the others very much. In fact, he usually didn't do much besides sit next to his babysitter and hug her leg. But one day a terrifying turtle appeared, and he was motivated to climb high in a tree to escape the horror. Later that day when it was time to head back to camp, the babysitters realized that Aldrin wasn't with them. They never saw him come down from the tree. Then the babysitters noticed that Cecep, the leader of the group of youngsters, wasn't around either. When they went back to where the turtle had been, they found Aldrin and Cecep perched high in different trees. Cecep's tree was closest to the path, and he looked back at Aldrin, caught his eye, and then moved on to the next tree. Aldrin followed Cecep from tree to tree until they reached the path back to camp. Though Cecep had been looking back at Aldrin from time to time, when he got down to the ground he just scampered away, joining the rest of the group, with Aldrin following.

Hearing this story, one might be inclined to talk about Aldrin's fear, Ceceb's understanding of Aldrin's emotional state, and his desire to help. It would not be unusual to think that Ceceb was responding sympathetically to Aldrin, understanding that he was afraid and trying to calm him. Perhaps one might suspect that Ceceb's sympathetic response was caused by an empathic reaction to Aldrin's plight. Further, one might dramatize the story by describing Ceceb as playing the role of the policeman who is trying to keep the peace and make sure everyone is doing ok. As juvenile rehabilitant orangutans, however, Ceceb isn't the kind of creature to whom these ideas are generally applied. If he were human, there may be little protest. However, the cognitive requirements for empathy, sympathy, and grasping social norms are not generally thought to be possessed by nonhuman animals.

A number of scholars have offered behavioral and physiological arguments in favor of the existence of empathy in other species (see Bekoff & Pierce 2009, Flack & de Waal 2000, Plutchik 1987). While the evidence is compelling, claims about empathy in nonhuman apes face two different challenges. The first challenge comes from a set of empirical findings that suggest great apes are not able to think about other's beliefs. The argument here is based on a view that empathy is associated with folk psychological understanding of others' mental states, or mindreading, and the existence of mindreading among the other apes is a matter of some dispute. The second worry comes from a host of recent experiments suggesting that nonhuman great ape communities lack certain social norms that we might expect empathic creatures to have, namely cooperation norms, norms of fairness, and punishment in response to violations of norms (especially third party punishment). If apes are empathetic, yet they do not use this capacity to help or punish, what is the role of empathy? We think that both these challenges can be answered by getting clearer about what empathy is and how it functions as well as considering the nature of empathic societies. We also believe that this analysis will clarify the relationship between being empathetic and being ethical.

2. Varieties of Empathy

Both the concept of empathy and the phenomenon have been understood in many different, often contradictory, ways, and this makes it particularly tricky to determine what is being claimed when someone says that other apes are or are not empathetic. In everyday use, empathy is usually thought to be connected with ethical perceptions and behavior. An empathetic person is a "good" person, someone with qualities and virtues that are to be praised. One reason why there is skepticism about whether apes or other animals engage in empathy is because it is hard to understand the idea that animals have morality. There is a growing acceptance of the idea that they may have what de Waal has called "the building blocks" of morality, which includes empathy as well as reciprocity, conflict resolution, a sense of fairness, and cooperation, but perhaps not full blown ethical agency (de Waal, 2006).

In the psychological literature, empathy is alternatively used to mean a state of "feeling what another person or being is feeling" (an affective state that may or may not require cognition), "knowing what another person or being is feeling," (an epistemic state that involves mindreading or metacognition) or "responding compassionately to another's distress" (perception/action state that is often associated with ethical engagement) (Levenson and Ruef, 1992: 234). The phenomenological and affective states do not necessarily require cognition. The epistemic state requires both phenomenological experience and other affective mental states. Responding compassionately, caring for and about, or engaging what one of us calls entangled empathy requires both cognitive and affective states, but not necessarily the same sorts of states that are associated with the other types of empathy. But all of these types of empathic experiences involve the transfer of emotion and this transfer occurs in a variety of ways.

The most basic form of empathy, usually called emotional contagion or affective resonance, involves a spontaneous response to the emotions of another. Anyone who has lived with dogs will be familiar with this phenomenon. Dogs are emotional sponges -- they often become stressed when their person is stressed, sad when their person is sad, joyful when their person is joyful. Infants and small children also regularly engage in these spontaneous reactions. Emotional contagion or affective resonance is a kind of mimicry of the individual(s) in one's immediate environment and does not require any developed cognitive capacities. This very basic type of empathy involves the direct perception of the emotions of others and automatically triggers or "activates the same emotion in the perceiver, without any intervening labeling, associative, or cognitive perspective-taking processes." (Lipps 1903) And in the majority of such cases, this initial response seems unavoidable.

With the more automatic forms of empathy, the empathizer isn't distinguishing his or her own feelings or mental states more generally from those of another. In fact, an awareness of this distinction in agency may not yet have developed, and perhaps never will. And in cases where such awareness already exists, occurrent recognition of the other's individuality may interfere with the emotional sharing, as between a mother and infant, or in a freshly declared love relationship. Some theorists have limited their understanding of empathy to just these sorts of experiences and from that point of view it is difficult to see what role, if any, empathy that involves "fellow feeling" in which the

agent loses herself in the emotions of another, should play in an account of ethical engagement.

There are also types of empathy that rely on more complex cognitive capacities. One sort of cognitive empathy involves taking the perspective of another in order to understand what that other is experiencing and making decisions about what to do in light of what the other is experiencing. This sort of empathy generally requires mindreading or metacognition, and is what the psychologist William Ickes (1993) calls "empathic accuracy". We will discus the conflicting evidence about metacognition in apes in Section 4 below. The other sort of empathy is entangled empathy that involves being able to understand and respond to another's needs, interests, desires, vulnerabilities, and perspectives not as if they are or should be the same as one's own. It involves a reaction to another's experience and a judgment to act in response. This latter form of empathy has a clearer connection to ethics, although here too there is disagreement (Prinz, 2011, 2012).

3. Functions of empathy

Among empathy's functions is to better understand the individuals in one's society—to know what they want and why they want it. There has been great interest in the evolution of this ability as an explanation for cognitive differences across species that led to the development of the Social Intelligence Hypothesis (SIH). Most generally, this hypothesis suggests that social animals evolved a greater cognitive complexity because of the need to interact with a great number of autonomous agents. Apes and monkeys (as well as the social carnivores, birds such as the corvids, and marine mammals such as the bottlenose dolphin) live in intricate social groups that require substantial cognitive commitment; they must be able to recognize individuals (visually, aurally, and perhaps via other modalities as well), they must keep track of kin relations (especially in matrilineal species such as baboons), they must keep track of dominance relations and alliances, plus they must be sensitive to possible defections. They must be able to remember who did what to whom when, and who should care about it. In addition, they must decide what to do in the face of such actions, and make judgments about whether they should, for example, challenge a dominant, join a coup, or court the dominant's mate. They must decide when to let others know they have found food, and when to keep it for themselves. The SIH is premised on the theory that sophisticated cognition must be adaptive given the high costs associated with developing a large brain. Evolution does not optimize, and creatures certainly shouldn't be expected to be cleverer than they need to be. From this it follows that primates developed sophisticated cognitive abilities for some function.

There are two approaches to this hypothesis. According to Machiavellian versions of the hypothesis (Humphrey 1976, 1978; Byrne and Whiten 1988), the ability to understand other minds arose in order to come out on top in a cutthroat environment of scarce resources. By understanding what others believe and what they want, and by being able to manipulate others' beliefs or change their desires, one can steer competitors away. The Machivellian perspective emphasizes the importance of making predictions in order to thrive in this competitive environment. For example, if two individuals both want a food item, and there isn't enough to share, the individual who can predict that an

intervention will lead the competitor away from the food will be the one who gains the food. Given the fiercely competitive primate social environment, making better predictions of behavior was instrumental for gaining greater resources; better predictions were used to better manipulate others' behavior. As individuals gain a more sophisticated theory of social action and greater predictive success, they up the stakes for other members of their community, thus creating an evolutionary arms race. Both active lies and withholding information such as food alarm cries are examples of Machivellian social intelligence.

The other version of the social intelligence hypothesis was introduced by primatologist Allison Jolly (1966). Based on her expertise in lemur behavior, Jolly suggests that cooperative social learning rather than fierce social competition explains why social animals need greater cognitive complexity. Social learning is a nonpedagogical method of learning which requires that a demonstrator tolerate the close observation of the learner, and in many cases the learner gains some of the benefits of the behavior being demonstrated. For example, in orangutan food processing the mother will allow her infant to peer at her complex manipulation of a ginger or termite nest, and she will allow her offspring to take pieces of processed food to eat. While this sort of learning doesn't involve active teaching, it does require acting differently toward individuals with differing abilities, and responding appropriately to different individuals depending on their current skill levels.

We think that Jolly's version of the hypothesis is more plausible, for a number of reasons. One of us has argued that the kind of predictions emphasized by the Machiveillian Intelligence version of the social intelligence hypothesis could be made without understanding the content of other minds, and without feeling with others feel (Andrews 2012). In addition, as researchers turn to examine cultural differences between communities of a species, we are finding that social learning is an essential part of the lives of social animals. Indeed, when we compare wild apes with captive or rehabilitant apes, we see that the lack of social learning opportunities among such individuals have led to harm for the individuals and the new groups, leading to problems such as an inability to properly care for offspring (rehabilitant orangutan mothers who inadvertently drown their infants when crossing through streams, for example) and inability to find nutritious food to eat. Further, the traditions of ape societies such as orangutan habitual routes appear to be learned by the infants as they are carried on their mothers' backs; juveniles have been observed to begin leading the way on habitual routes, and waiting for mother at the next stop on the path (Bebko 2012). Social learning leads to the development of cultural behavior, defined as a behavior that is transmitted repeatedly until it becomes widespread through a population (Whiten et al. 1999). A new behavior may be introduced to the community's behavioral repertoire by an immigrant, or by a community member who innovated the behavior. Innovation is defined as "the process that generates in an individual a novel learned behavior that is not simply a consequence of social learning or environmental induction" (Ramsey et al. 2007, 395; see also Reader & Laland 2003). Innovations are beneficial behaviors, and as they spread through a community they make life better for the individuals.

The way innovations or other learned behaviors spread through a community is not unlike how some hunter-gatherer human adults pass on their social knowledge. A recent ethnographic survey of learning in hunter gathering societies concludes that "[t]he

sources discussed here suggest that a range of learning processes are involved in acquiring hunting skills, and that teaching and demonstration play a limited role" (MacDonald 2007, 398). In hunter-gatherer societies, facilitative teaching is the norm, examples of which include allowing young children to accompany adult experts on hunting trips, or to play with the adult's tools or weapons at home.

Infant and juvenile nonhuman apes have much to learn from their mothers as well (McGrew 1992). Much of this learning occurs via facilitative teaching, as described by MacDonald, but there are also reports of active teaching among chimpanzees. At the Fongoli research site in Senegal, chimpanzees make a variety of sharp stick tools to hunt small bush babies that can involve up to five steps to construct, including trimming the tool tip to a point. The chimpanzees prepare the tools, take them to a particular area, and then jab them forcefully into tree hollows where the small primate prey nest. Pruetz has observed what appeared to be a mother teaching the tool-making and hunting techniques to infants not only by modeling the tool making behavior but also by physically correcting the youngster's tool (Pruetz & Bertolani 2007). In addition, one observations of the chimpanzees of the Taï Forest in Côte D'Ivoire suggest that they also engage in demonstration teaching (Boesch 1991, 1993). An adult female named Ricci observed her daughter Nina trying unsuccessfully to crack nuts with a stone hammer. Ricci approached Nina, who immediately handed her mother the stone. With Nina watching closely, Ricci turned the odd-shaped stone to its best position for cracking the nut in a very slow and deliberate fashion. Then Ricci cracked ten nuts, letting Nina eat almost all of them, dropped the stone, and left. Nina picked up the stone and held it in the same position Ricci had.

Teaching by inhibition, or by preventing another individual from acting, is also apparent among chimpanzees. Wild chimpanzee mothers have been observed to pull their infants away from plants that are not part of their regular diet (Hiraiwa-Hasegawa 1990). In captive settings, researchers have observed mothers intervene when their infant played with unusual and potentially dangerous objects, such as a heavy metal chain (Hirata 2009).

Kim Sterelny (2012) has argued that the complex culture we see in human societies emerged from the kind of facilitative teaching we think exists among the great apes, and which MacDonald describes in contemporary hunter-gatherer societies. While Sterelny doesn't apply his account to the great apes, we think that much of what he says about the evolution of human culture through apprenticeship learning can also be said of the other great apes. According to his apprentice learning model humans evolved in an environment organized by humans for learning, and without explicit teaching or any specific cognitive adaption for teaching humans were able to develop complex culture. Like meerkats, whose young gradually learn how to kill and eat dangerous scorpions from adults giving the young dead scorpions first and then half-killed scorpions next, human experts often prepare gradual learning steps for apprentices by "task decomposition" and "ordering skill acquisition" (Sterelny, 2012, 35). In great apes societies, as it is with human children, youngsters are given many opportunities for learning by adults. MacDonald (2007) points out, in hunter gatherer societies, adults are tolerant of children closely looking at their activity and playing with their tools. The same sort of tolerance has been reported among chimpanzees and orangutans (see Van Schaik 2003 for a review).

If we're right and Jolly's version of the social intelligence hypothesis is correct, then there is a real relationship between understanding others and the behaviors associated with different forms of teaching and learning. We should expect, then, that empathy would have evolved in order to facilitate teaching and learning and the transmission of social traditions, which in addition to behaviors such as food processing can also include behaviors that may be understood as examples of social norms, such as the prohibition against infanticide in chimpanzee societies (see Rudolf von Rohr et al. 2011 for a review), and the assistance male chimpanzees provide to females and children in crossing roads (Hocking et al. 2006) that we will say more about in Section 5 below.

4. Empathy and mindreading

Part of what it means to understand others is to see those others as distinct from one's self and to recognize that the other has thoughts and idea of his or her own, a capacity that is sometimes referred to as having a "theory of mind." Sarah, a chimpanzee, was the original subject of studies that attempted to determine whether she understood mental states such as "intentions," "knowledge," "belief," "thinking," "guessing," "pretending," and "liking" of others. Sarah was shown a set of four video-taped recordings of a human facing a problem and the tape was stopped just before the human was to solve the problem. She was then presented with photographs, one of which depicted the solution to the problem. She was asked to pick the photograph that solved the problem for the human in the video and she passed the test well above chance levels which indicated to the authors at the time that she could "impute mental states to herself and to others" and thus had a "theory of mind" (Premack & Woodruff 1978: 515). While this original study did not hold up as establishing that there was evidence of a theory of mind in chimpanzees and was dismissed by one of the authors (Premack 2007; Premack and Premack 2003), it led to further attempts to determine what chimpanzees know about other minds.

At first, the focus was on visual perception, and the results were not promising. When chimpanzees at other laboratories were tested on a perspective taking task, they failed miserably (Povinelli, et. al. 1996). It appeared that no other chimpanzees could pass what are called "non-verbal false belief tests," often used with human children before they can speak. A test was designed to determine whether chimpanzees understood that seeing meant knowing. Two humans would stand outside an enclosure with a desirable food item. One of the humans would not be able to see the chimpanzee. (Her eyes might be covered; she would have a bucket over her head; or she would be looking away.) The other human would be looking right at the chimpanzee. If the chimpanzee went to the human that could see him and asked for food, rather than going to the human who could not see him to ask for food, researchers could conclude that the chimpanzees understood that seeing was an important part of the way individuals formed mental states. But the chimpanzees approached the humans randomly in this set of experiments.

But when chimpanzees were not viewed as hairier, stronger versions of human children and researchers started to pay attention to chimpanzee difference, the theory of mind tests could be reformulated. Brian Hare and his colleagues noticed that chimpanzees did seem to understand something about

the visual perception of other chimpanzees. Hare created an experiment in which a subordinate chimpanzee and a dominant chimpanzee were put in competition over food, and showed that the subordinate would systematically approach the food the dominant could not see and avoid the food the dominant could see. In a variation on this theme, a subordinate watched food being hidden that the dominant could only sometimes see, depending on whether or not the dominant chimpanzee's door was open or closed during the time of hiding. When the dominant was released, the subordinate would only approach the food that the dominant had not seen being hidden, even though the dominant could see it now. They concluded, "We now believe that our own and others' previous hypotheses to the effect that chimpanzees do not understand any psychological states at all were simply too sweeping" (Hare et al. 2000; Hare et al. 2001; Tomasello et al. 2003).

There is also evidence that chimpanzees understand goals and intentionality (Uller 2004; Tomasello & Carpenter 2005; Warneken & Tomasello 2006). For example, Claudia Uller found that chimpanzees, like human children (Gergely et al. 1995), seem to perceive the behavior of geometric shapes moving in the right way as intentional (Uller 2004). Just as children do, chimpanzees expect that a little ball should move directly toward a larger "mother" ball, rather than taking the more circumspect path it was previously taking when there was a barrier to avoid. This behavior led Uller to conclude that chimpanzees understand agency, and saw the little ball as an agent.

Chimpanzees also seem to understand the differences in people's intentions. Call and colleagues found that chimpanzees are more impatient with humans who are unwilling to give them food compared with humans who are unable to give them food; they beg more from the capable person who is unwilling than they beg from the person who is unable to access the visible food, and they get more upset with people who are unwilling (Call et al. 2004). Chimpanzees also are able to identify a human's goal, and will spontaneously help a friendly human achieve his goal. While engaged in what appeared to be informal social interactions with the experimenter, the young chimpanzees were tested on their ability to respond to a nonverbal request for help. For example, when the experimenter was using a sponge to clean a table and dropped the sponge onto the floor, the chimpanzee he was interacting with responded to his gestural request to retrieve the sponge by picking it up and handing it to him (Warneken & Tomasello 2006).

Apes' understanding of intentionality has also been investigated by looking at contingent responsivity. For example, a chimpanzee named Cassie responded differently when being imitated by his caregiver than he did when his caregiver engaged in non-imitative behavior (Nielsen et al. 2005). Like human infants, Cassie would systematically vary his behavior while closely watching the imitator. Nielsen and colleagues describe one bout of behavior while Cassie was being imitated: "Cassie poked his finger out of the cage, wiped the ground in front of him, picked up a piece of straw and placed it in his mouth, pressed his mouth to the cage, then poked his finger out of the cage again" (Nielsen et al. 2005, 34). Such repetitive sequences were the norm when Cassie was being imitated, but not when the caregiver engaged in non-imitative behavior or no behavior at all. Cassie's response demonstrates that he was aware that his caregiver was acting purposefully, further evidence that the chimpanzee has a notion of agency.

Chimpanzees also seem to recognize the emotional expressions of other chimpanzees (Parr 2001). In an experimental study on captive chimpanzees, chimpanzees

were shown videotapes of other chimpanzees being injured as part of routine veterinarian procedures that the subjects themselves had previously been exposed to (such as getting an injection, or being darted). After watching the video, the chimpanzee subjects were given the opportunity to use a joystick to match the scene with photographs of different chimpanzees displaying five different facial expressions: a play face, a fear grimace, a screaming face, a pant-hoot, or a neutral face. The chimpanzee subjects were experts at matching the painful videos with the photographs of chimpanzees expressing a fear grimace or screaming. When the chimpanzees were shown positive images of fun things, such as desirable food, the chimpanzees matched those scenes to positive facial expressions—the play face.

While there is evidence that chimpanzees understand quite a bit about others' mental states, are able to distinguish intentional agents from the nonintentional objects in the world, are able to understand the visual perceptive of others, and are able to respond appropriately to others' goals, intentions, and emotions, there is currently little evidence that the great apes are forming beliefs about the beliefs of others. But there is evidence that they can think about other's emotions, intentions, and even personality traits (Subiaul et al. 2008). It would be wrong to infer from that lack of evidence that apes read minds that there is no evidence of cognitive empathy in great apes. Cognitive empathy and perceptive taking involves much more than understanding the content of other's beliefs. It just as importantly considers others' physical or social situation, their capability, their emotions, and their differing goals. Being able to determine such things about others provides the elements required for entangled empathy, including the ability to understand and respond to another's needs, interests, goals, strengths and weaknesses. It requires seeing others as somewhat different from oneself, and from one another, and we see evidence of that among chimpanzees and the other great apes.

5. Empathy and social norms among apes

In addition to the evidence that other apes can understand some mental states in others, and that they can identify others' goals, intentions, and interests, there is a growing body of literature that supports the view that cooperation and sanction occur among relatively large groups of chimpanzees who are apparently genetically unrelated (individuals that are not direct kin). In natural settings where populations are not significantly threatened, chimpanzees live in fission-fusion societies in which their smaller, tighter knit groups of between four to ten come together with the larger community of approximately one-hundred individuals on a fairly regular, although not day-to-day, basis. The ability to share resources, exchange information, and to manage social interactions in such a large group would best be facilitated through adherence to some sort of norms, particularly with a species as volatile as chimpanzees. The complex behaviors exhibited in these regular meetings would also be best explained by the existence of norms. Chimpanzees have long-term memory, they are socially tolerant and intelligent; they have quite flexible social repertoires; they have complex communicative abilities; they respond to the emotions of others; they understand the consequences of their and others' actions and there is at least some evidence that they are able to inhibit their behaviors. They also engage in complex behaviors that researchers have variously

described as “fairness,” “other-regarding behavior,” “inequity tolerance,” “punishment or sanction,” “targeted helping,” “cooperation,” and “retaliation.”

For example, in Bossou, chimpanzees are occasionally observed crossing roads that intersect with their territories. One of the roads is busy with traffic, the other is mostly a pedestrian route, both are dangerous to the chimpanzees. On video recording of chimpanzee behavior at the crossings, adult males were found to take up forward and rear positions, with adult females and young occupying the more protected middle positions. The positioning of dominant and bolder individuals, in particular the alpha male, was found to change depending on both the degree of risk and number of adult males present. Researchers suggested that cooperative action in the higher risk situation was probably aimed at maximizing group protection. This sort of risk taking for the sake of others is also often observed in male patrols of territorial boundaries in other parts of Africa. In these instances, a bold male, who may or may not be the alpha of the group, together with others with whom he has an alliance, begin a patrol with the goal of potential food rewards as well as protecting the group from neighboring threats. (Hocking et al. 2006)

Across different chimpanzee communities researchers have observed that infants enjoy a special status in the community, and are tolerated to a much greater degree than are juveniles or adults (as discussed in Rudolf von Rohr et al. 2012). Adults, including alpha males, are extremely tolerant of infants climbing over them and even stealing their food or tools, and adults have been observed to self-handicap when playing with infants. However, from time to time infanticide does occur among chimpanzee communities, though it is rare; for example, in one community of Gombe chimpanzees, over a period of 40 years only 5 out of 112 infants were the victim of infanticide from a group member (Murray et al. 2007). Those who have observed intragroup infanticide report that the females respond with “massive reactions,” including screaming, barking, and risky attempts to intervene.

There is a unique case in Senegal in which an infant chimpanzee who had been the victim of poaching was ultimately retrieved from the poachers by the research team. The team left the infant in a burlap sack close to the chimpanzee group and an adolescent male helped return the infant to the mother. The mother was injured in the human attack and when she would fall behind the group as they were travelling, the unrelated adolescent male assisted her by carrying the infant. According to Pruetz, this targeted helping behavior could not be explained by reference to self-interest and may best be explained as empathetic action. The male recognized the difficulties the mother was experiencing keeping up with the group while carrying her infant as well as her need for help during group travel (Pruetz 2011).

There is some evidence of cooperation and sanction in experimental studies with captive chimpanzees as well. Formal experiments have indicated willingness to cooperate with a social partner in order to gain food to be shared (Hirata and Fuwa 2007), spontaneous helping behavior when engaged with a human caregiver (Warneken et al. 2007), and responses to requests for help from another chimpanzee even when there is no direct benefit to self (Yamamoto et al. 2009). Chimpanzees have also demonstrated that they can strategically share the appropriate tool with another chimpanzee in a task that

requires two chimpanzees to coordinate the use of different tools in order to gain access to food (Melis and Tomasello 2013).

However, the case isn't as clear as we have been presenting it. Both the experimental studies and the field observations are subject to interpretations that must be considered. In addition, there are several studies that suggest to some that chimpanzees do not have social norms that permit cooperative behavior.

The sort of evidence we see in favor of cooperation in great apes, such as food sharing, might be interpreted in a self-interested way. In one captive experiment, Frans de Waal and Sarah Brosnan developed a series of tests to try to analyze food sharing among chimpanzees. They found that adults were more likely to share food with individuals who had groomed them earlier in the day. They suggested that the results could be explained in two ways. The "good-mood hypothesis," in which individuals who have received grooming are in a benevolent mood and respond by sharing with all individuals or the "exchange hypothesis," in which the individual who has been groomed responds by sharing food only with the groomer. The data indicated that the sharing was specific to the previous groomer. The chimpanzees remembered who had performed a service (grooming) and responded to that individual by sharing food. de Waal and Brosnan also observed that grooming between individuals who rarely did so was found to have a greater effect on sharing than grooming between partners who commonly groomed. Among partnerships in which little grooming was usually exchanged, there was a more pronounced effect of previous grooming on subsequent food sharing. They suggest that being groomed by an individual who doesn't usually groom might be more noticeable and thus warrant greater response, in the form of food sharing or it could be what they call "calculated reciprocity." (Brosnan & de Waal 2002)

Others have argued that all the evidence of so-called cooperative behaviors seen among chimpanzees can be explained in self-interested terms. The tasks in which two chimpanzees have to cooperate to gain food that is then shared is an obvious case, but even in the tasks when a partner responds to a request for a tool to help another gain a food reward, with no reward to himself, might also be explained in terms of expectations of future help by the partner (Vonk et al. 2008).

In addition, there have been a number of captive experiments that failed to find social norms like cooperation or fairness among chimpanzees. In one study, chimpanzees failed to take advantage of a situation to offer food to a companion at no cost to self (Silk et al. 2005). The chimpanzee was given two ropes to pull; each would deliver food to oneself. However, one of the ropes also delivered food to a chimpanzee in the cage next door. Chimpanzees randomly pulled the ropes to deliver food to self, seemingly uninterested in whether the visible chimpanzee next door received any food. In addition, in a chimpanzee version of the ultimatum game in which a chimpanzee is given a choice between making one of two offers which the other chimpanzee can accept or reject, the chimpanzees accepted all offers, while humans tend to reject unfair offers thereby punishing the provider (Jensen et al. 2007a). This suggests to the authors that chimpanzees are not concerned with fairness. Finally, while there is evidence that chimpanzees will punish others who directly target them (Jenson et al. 2007b), researchers failed to find that chimpanzees will engage in third party punishment in an experimental setting (Riedl et al. 2012).

But the negative results and the non-cooperative interpretations of the positive results shouldn't lead one to reject the notion that there are social norms among chimpanzees because there are alternative explanations for the negative results as well. Chimpanzees may have failed to pull a rope that supplied food to a neighboring chimpanzee because they were so excited by the food they failed to notice the consequences their action had on their neighbor (Warneken & Tomasello 2006). Alternatively, they may have failed to offer assistance to the neighbor because they were not particularly interested in that individual. All the experimental studies fail to report the quality of relationship between the individuals who are asked to cooperate. Certainly among humans the quality of relationships is a salient variable in determining when to apply human social norms of fairness and cooperation. It is fair to share foods with friends and family, but not unfair to fail to share food with the stranger sitting next to you on the bus (at least in North America). Indeed, when the quality of relationships are taken into account, we see that the willingness to exchange food for grooming with particular individuals may be less of a calculated reciprocity than it is an instance of nurturing existing social relationships and creating new ones. In a recent study that found a positive relationship between grooming and food sharing, the authors also calculated a relationship score for the dyads. They found that short term contingencies disappeared when considering long term relationships, which significantly predict the willingness to share food and engage in grooming (Jaeggi et al. 2012). This consideration reminds us that fairness and cooperation are not relationship neutral social norms for humans either. Finally, in a more recent study looking at chimpanzee performance on the ultimatum game, researchers found that in the iterated version of the game, chimpanzees will start out by making selfish offers, but upon verbal protest of the partner they shift to making the fair offer (Proctor 2013).

Any study of social norms in chimpanzees must take more seriously two variables: the relationship between interacting individuals and the resource in question. We know that chimpanzees recognize the relationships between individuals. Group members know the relationships between mother and infant, and relationships between males who form a coalition. They can identify familiar individuals, individuals from rival groups, and unknown individuals. In experimental set ups they make choices based on individual differences; chimpanzees prefer to cooperate with partners who share rewards more equitably (Melis et al. 2009), and they know which partners will best help them to achieve the task at hand (Melis et al. 2006). And we know that among humans the resource at question is a relevant variable that can help to predict whether someone will shares a resource. Humans have social norms of fairness even though they do not share equal amounts of every resource with every individual. We may share a bag of chips with a colleague sitting next to us on the bus, but we might not share them with a stranger. And when we consider different resources, things change; we may not offer that same colleague half our vegemite sandwich or a drink from our water bottle. As the specific content of social norms differ across human cultures, we should expect them to differ among different species as well.

6. Empathy and Ethics

The nature of social relationships has not often been discussed in studies of

chimpanzee behavior and the importance of social relationships is not a central feature of most theories of human morality. Of course, that we are constantly navigating such relationships is why we need ethics – social living involves conflicts and ethics is a way of justifying resolutions to those conflicts. But the nature of these relationships is generally not thought to be relevant. Within ethical theory, there is a long tradition of seeking to overcome the partiality of social relationship in order to justify ethical behavior. The "ethical point of view" as it is sometimes put, is associated with a "the point of view of the universe" or more helpfully, a view that is not partial to any particular group or set of individuals. Theories that privilege or favor the needs, interests, attitudes or practices of members of one's own family, friends, nation, gender, race, or ethnicity over others generally are not considered moral theories at all.

The ability to reason plays a central role in achieving this impartial point of view. As Peter Singer has noted:

> Reason makes it possible...to see that I am just one among others, with interests and desires like others. I have a personal perspective on the world...but reason enables me to see that others have similarly subjective perspectives, and that from "the point of view of the universe" my perspective is no more privileged than theirs. Thus my ability to reason shows me the possibility of detaching myself from my own perspective, and shows me what the universe might look like if I had no personal perspective. (Singer, 1993: 229)

So the standard view suggests that in order for one to behave ethically one must have the reasoning capacity to detach from particular interests and particular relationships, as well as one's immediate desires and inklings, and once we do that we can work out what to do from an ethical perspective. The partial attitudes and relationships that we have aren't "good" or "bad" but rather are the sorts of things that cannot serve as the basis for moral judgments and behaviors.

This standard view informs the spectatorial nature of cognitive empathy, which requires mindreading and the accurate attribution of beliefs and desires to another. When we step back from our engaged interactions with others as whole persons with relationships, past histories, personalities, social roles, emotions and moods and take others instead as bags of skin filled with beliefs and desires, we are adopting the sort of impartiality and intersubstitutability championed by the standard view, aiming for objectivity and accuracy. But we are missing the whole story, and missing the entangled nature of empathy, when we strip away the context in which the subject forms beliefs and desires.

Because these partial attitudes and our social situatedness, features of our human experiences that other apes also experience, are precisely what are supposed to be overcome when we are acting ethically, it appears that the most we can say is that our social natures are "precursors" or "building blocks" to full blown ethics (deWaal, 2006). Apes may be empathetic in some of the ways we have discussed here, but behaving empathetically isn't the same as acting ethically. The standard view elevates the capacities thought to be truly ethical and finds that they belong to socially detached, unencumbered, rational deliberators.

But this view assumes that it is possible to step outside of the social or to detach from the experiences of our particular embodiments and deny that we are entangled with

other beings, as well as the practices and the ways of making meaning that we not only share with others but that make us who we are (Meyers 2004). However, ethical problems may only become visible as problems in a social context and some, perhaps most, solutions only make sense in the process of interacting with the parties to the conflict. As Shirley Sturm notes in her discussion of baboon social contracts, "problems are solved in social interaction before being appropriated by individuals; the flow of cognitive solutions goes from the social to the individual rather than the other way around" (Strum 2008).

Adoption of the standard view informs the empirical work that has been done to try to generate evidence for or against the claim that other apes are empathetic, are capable of understanding the interests and perspectives of others, or behave according to social norms. When one assumes that we can detach ourselves from our specific relationships, attitudes, and beliefs we overlook the relationship between experimenter and subject and the effect the quality of that relationship has on research results (Smith 2012). That relationships differ between researchers and subjects may explain why studies have resulted in diverging conclusions. By assuming this sort of detachment, there is also a danger of unwitting anthropomorphism in that the ethical norms that are being tested are thought to be the same across species and cultures. Questioning the acceptability of the standard view does not entail the rejection of meaningful generalization, but rather refocuses inquiry on the socially and affectively entangled nature of individuals in their communities.

For example, in recent studies of chimpanzee cooperation, researchers have chosen testing pairs based on their levels of tolerance for one another (Melis and Tomasello 2013). By recognizing that the quality of relationships matter, researchers are already acknowledging that cooperation as ethical behavior is not unrelated to the realities of situated individuals with different kinds of social connections to one another.

The focus on empathy as mindreading—the accurate attribution of beliefs and desires—is related to the aspect of morality that focuses on autonomy. This argument is made by Christine Korsgaard, who argues that since animals cannot mindread, they cannot self-govern, because they cannot consider their reasons for action and decide whether or not they are justified (Korsgaard 2006). But Kantian autonomy is just one form of autonomy (Gruen 2011) and it is not the only piece of the morality puzzle. Other aspects, such as Shweder's Community dimension of morality (Shweder et al. 1997) or Haidt's Care/Harm dimension, which focuses on the ability to feel and dislike others' pain and Fairness/Cheating, which focuses on reciprocal actions (Haidt and Graham 2007) are largely ignored by the standard view. Yet it is exactly these dimensions that we find evidence for in nonhuman ape behavior. It is no surprise that when we focus on the most rarefied and linguistically mediated form of a behavior we will fail to find it in other species. Once we are able to look past the most salient examples of human morality, we find that moral behavior and thought is a thread that runs through our daily activities, from the micro-ethics involved in coordinating daily behaviors like driving a car down a crowded street (Morton 2003), to the sharing of someone's joy in getting a new job or a paper published. If we ignore these sorts of moral actions, we are overintellectualizing human morality, something the British psychology C. Lloyd Morgan warned against: "To interpret animal behavior one must learn also to see one's own mentality at levels of development much lower than one's top-level of reflective self-consciousness. It is

not easy, and savors somewhat of paradox." (Morgan 1930, 250).

By also attending to the entangled empathy aspects of morality, we are embracing the paradox. The nature of particular entanglements and how and whether empathic responsiveness emerges (or doesn't) within them is an important area of study and exploring empathy among other apes with this framework in mind may lead to insights not just about what apes can or can't do, but also how humans might rethink empathy and ethics.

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