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## **CHILDREN'S HELPING HANDS**

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One of the key human characteristics is our tendency to act on behalf of others, by sharing such resources as money and food with people in need or comforting people in distress. As adults, we do this routinely, often without immediate personal gain and occasionally even when such behavior is costly to us. It is often assumed that such altruistic behaviors are cultural in origin: our parents taught us moral norms, say, or rewarded us for being nice to others. Moreover, many people think of these behaviors as uniquely human, holding that other animals don't act altruistically in these ways because they are driven by selfish motivations alone and don't have parents who teach them how to be an altruist.

However, several novel empirical findings suggest that

human altruism has deeper roots than previously thought. Specifically, my colleagues and I have conducted studies showing that human children act altruistically from a very early age—that is, before specific social experiences, such as being taught cultural norms, could have significantly influenced their development. Moreover, even chimpanzees on occasion act helpfully, raising the possibility that we are perhaps not as special in our altruism as we might think. By studying young children, we can determine which altruistic behaviors we're capable of early in our lives and trace the development of those predispositions as they interplay with cultural norms and moral education. And by testing chimpanzees, one of our two closest living evolutionary relatives, we can time-travel into our evolutionary past, differentiating any altruistic acts that may have characterized our common ancestor from those that emerged only in the human lineage. Comparing the behavior of young children with that of chimpanzees can thus provide answers debated since the times of the philosophers Thomas Hobbes and Jean-Jacques Rousseau: Is altruism founded in social norms adopted to keep our selfish nature in check (the Hobbesian view)? Or, as Rousseau supposed, are we naturally inclined to care about others?

Early in their lives, children are eager to find out why and how people do what they do. And children take things in with surprising sophistication. Here's an example: When one-year-olds watch someone use a novel tool or press buttons on a fancy apparatus that creates a startling effect, they can tell what the person did on purpose and what was an accident (which is often accompanied by sur-

prise: “Whoops!”). When it’s their turn to wield the tool or press the buttons, they don’t copy everything the person did but only what the person intended to do. Children are intention readers, not just behavior copiers. This intention-reading capacity comes in handy: when children learn by observing others, they separate the wheat from the chaff and imitate only those aspects of another person’s behavior worth copying.

What occurred to me was that another domain in which intention reading is essential is helping. In order to help someone with a problem, the helper has to be able to identify what the person is trying but failing to achieve. Would young children use their intention-reading capacity not only for their own ends (How does this tool work? Which button makes the TV turn on?) but also to help others? For instance, when someone drops something and reaches for it, will they understand that the dropping was an accident and the other person is now trying to pick the object up? Will they help? The opportunity offered itself when I was testing a one-year-old boy in a study on social play, crawling on the floor with him so as to be an appropriate play partner (I am six feet, six inches tall). At one point a ball accidentally rolled out of my reach and I pretended to be unable to retrieve it, stretching awkwardly across the floor. And indeed, the boy stood up, picked up the ball, and put it in my hand.

This serendipitous moment inspired a suite of studies investigating altruistic behavior in young children. What became apparent from these studies is that children help others in various ways and begin doing so early in life. With Michael Tomasello from the Max Planck Institute for Evo-

lutionary Anthropology in Leipzig, I created several situations in which eighteen-month-old children observed an experimenter performing an action when suddenly a problem occurred that prevented him from achieving his goal.<sup>1</sup> We found that the children helped spontaneously, without being asked, receiving a reward, or being praised for their efforts. They picked up clothespins an experimenter had dropped on the ground and was unsuccessfully reaching for. They opened the doors of a cabinet when the experimenter bumped into it while carrying a stack of magazines he was trying to put inside. They helped put a book back on top of a pile after it had slipped off. After they'd learned that a certain box could be opened by lifting a flap and they saw the experimenter accidentally drop a spoon into the box through a hole and squeeze his hand through the hole in a vain attempt to retrieve it, they used their newly acquired technique to open the box and get the spoon for him.

It's important to note that our eighteen-month-old subjects did not perform these behaviors in control conditions, in which the same basic situation was established but with no indication that it presented a problem for the experimenter (e.g., he threw a clothespin on the floor on purpose, or the cabinet doors were closed but he was trying to put the magazines on top of the cabinet rather than inside). This ruled out the possibility that they were acting without regard to the other person's need—just because, say, they liked to hand things to adults or

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1 F. Warneken & M. Tomasello, "Altruistic Helping in Human Infants and Young Chimpanzees," *Science* 311 (2006), 1301–3.

liked to open cabinet doors. Our subjects seemed able to determine whether help was needed or not and could do so in a variety of situations, exhibiting the sophisticated intention-reading capacities that emerge early in childhood.

Young children are also willing to put some effort into helping. Further studies showed that they continue to help over and over again, even if they have to surmount an array of obstacles to pick up a dropped object or stop playing with an interesting toy. We had to be inventive in creating distracting toys that might lower their tendency to help—flashy devices that lit up and played music; colorful boxes that jingled when you threw a toy cube into them and shot it out the other end. We decided that if we couldn't sell the scientific community on our results, we could at least go into the toy business.

As noted, the behavior of our little subjects did not seem to be driven by the expectation of praise or material reward. In several studies, the children's parents weren't in the room, and thus the helping cannot be explained by their desire to look good in front of Mom. In one study, children who were offered a toy for helping were no more likely to help than those children who weren't. In fact, material rewards can even have a detrimental effect on helping: During the initial phase of another experiment, half the children received a reward for helping and the other half did not. Subsequently, when the children again had the opportunity to help but now without a reward being offered to those in either group, the children who had been rewarded initially were less likely to help spontaneously than the children from the no-reward

group.<sup>2</sup> This perhaps surprising result suggests that children's helping is intrinsically motivated rather than driven by the expectation of material reward. Apparently, if such rewards are offered, they can change children's original motivation, causing them to help only because they expect to receive something for it.

These studies demonstrate that very soon after their first birthday, young children begin to behave altruistically, performing acts of what we have named "instrumental helping," in which they infer another person's unfulfilled intention and help to bring it about. These results square with studies showing that, at around the same age, children begin to act on others' behalf in various other ways. For example, one- and two-year-olds will comfort someone in distress, showing a capacity for resonating with the emotional states of others. Moreover, when children begin to point, at about one year of age, they use this newly acquired nonverbal device not only to request objects from others (the so-called imperative point, aka "Give me that!") but also to help someone who is looking for something ("There it is!).<sup>3</sup> Two-year-olds will on occasion share objects with others—although often only after the person explicitly states her wishes. Not surprisingly, they're more reluctant to share their own belongings than

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2 Svetlova et al., "Toddlers' Prosocial Behavior: From Instrumental to Emphatic to Altruistic Helping," *Child Development* 81 (6) (2010), 1814–1827.

3 U. Liszkowski et al., "Twelve- and eighteen-Month-Olds Point to Provide Information for Others," *Journal of Cognition and Development* 7 (2006), 173–87 (2006).

other, less valuable objects.<sup>4</sup>

Taken together, these studies in the field of developmental psychology demonstrate that young children are not oblivious to the needs of others. In addition to all the self-focused and selfish things children do, they can act on behalf of others if the occasion arises. The fact that these behaviors emerge so early in children's lives is important, because it suggests that the social and moral norms of one's culture are not the original source of the emergence of altruistic behaviors in humans. It can still be argued that young children are especially quick social learners—or that parents who are particularly motivated to raise altruistic offspring will use subtle socialization techniques that developmental psychologists have not yet detected. However, there is another empirical approach that can be instructive: comparing the behavior of human children to that of chimpanzees.

Studying chimpanzees to learn about child development might seem a bit far-fetched. So let's step back for a second and ask, What can we learn from chimpanzees about human behavior? One thing we can learn is whether certain cognitive capacities and social practices are a necessary prerequisite for other types of behaviors. For example, chimpanzees can discriminate between and remember small quantities, such as one versus two or three versus four. When you show them a pile of three grapes and a pile of four grapes, and then conceal the three grapes in

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4 M. Svetlova, S. R. Nichols, and C. A. Brownell, "Toddlers' Prosocial Behavior: From Instrumental to Empathic to Altruistic Helping," *Child Development* (in press).

one cup and the four grapes in another, they will consistently choose the cup with four grapes. Chimpanzees do this even with no linguistic abilities and without having been trained to use symbols; doing basic math thus doesn't require knowing the words "one, two, three" or the mastery of the mathematical symbols 1, 2, 3 (let alone going to math class). Something else we can learn from chimpanzees is what our evolutionary ancestors were like. Humans, chimpanzees, and bonobos evolved from a common ancestor, reflected in the fact that we share most of our genetic material—about 98 percent of it. Between 5 million and 7 million years ago, some individuals branched off and went their own way, their descendants eventually becoming modern humans (chimpanzees and bonobos became separate species only about 1 million years ago). The assumption is that behaviors shared across these species also characterized our common ancestor, whereas behaviors that only humans express evolved after the great split and are thus human-specific.

So are our altruistic tendencies unique to humans, or do chimpanzees share some of them? If cultural practices—such as internalizing social norms or being taught how to behave—are the main source of our altruistic behaviors, we would not expect to see those behaviors in chimpanzees. This is because, to the best of our knowledge, chimpanzees don't teach their children how to behave toward other individuals, nor do they enforce communally shared cultural norms. The absence of these socialization practices suggests the hypothesis that only humans develop a motivation to act on behalf of others, whereas chimpanzee behavior is guided solely by selfish interests leading to per-

sonal gain.

Several experiments with chimpanzees show exactly that. One of the telling experiments performed by a research team headed by a UCLA anthropologist, Joan Silk, works like this: A chimpanzee subject is given the opportunity to pull a handle that moves a container of food toward it and simultaneously moves an empty container toward another chimpanzee (the 1/0 option). Alternatively, the chimp can pull a handle that moves food to both of them (the 1/1 option). In Silk's study, the subject chimpanzees did not preferentially pull the handle that also delivered food to the recipient chimpanzee, even though that gesture could be made at no cost to them. They appeared indifferent to the outcome for the other, at least in this context, leading to the conclusion that chimpanzees are indifferent in general to the needs of their conspecifics.<sup>5</sup>

However, when we tested chimpanzees in instrumental helping situations similar to the tests with human toddlers described above, we were amazed to see that chimpanzees, too, proved helpful at times. At the Leipzig Zoo, we conducted a study with human-reared chimpanzees, who observed their human caregiver accidentally drop an object and unsuccessfully reach for it (just like the clothespin-dropping test with the human children). The chimpanzees picked the dropped objects up and brought them to the caregiver when she was reaching for them, but

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5 J. Silk et al., "Chimpanzees Are Indifferent to the Welfare of Unrelated Group Members," *Nature* 437 (2005), 1357–59; K. Jensen, et al., "What's in It for Me? Self-regard Precludes Altruism and Spite in Chimpanzees," *Proceedings of the Royal Society of London B* 273 (2006), 1013–21.

not in control conditions, in which she showed no interest in the dropped objects. They performed this behavior even though she did not reward them for their help. This was the first experimental demonstration of helping in chimpanzees.<sup>6</sup>

An important concern, of course, was that this kind of helping might be restricted to human-reared chimpanzees interacting with their primary (human) caregiver: maybe they wanted to please her, since she had already trained them to do all sorts of things at her command. So my colleagues Brian Hare and Alicia Melis went to a chimpanzee sanctuary in Uganda to test individuals with a different rearing history, who, moreover, had never interacted with those two researchers. We found that those chimpanzees, too, helped by fetching an object the experimenter was reaching for—and significantly more often than in situations in which the experimenter was *not* reaching for it.<sup>7</sup> Even more surprising was that the offer of a reward had no effect on this behavior. Chimpanzees picked up the objects for the experimenter because the experimenter wanted them, not because they wanted a reward for themselves. So far, so good, but the critical test case would obviously be one that showed whether chimpanzees help other chimpanzees.

To test this, we confronted chimpanzees with the following situation: A recipient chimpanzee tries to open a

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6 Warneken and Tomasello, “Extrinsic Rewards.”

7 Warneken, F., Hare, B., Melis, A. P., Hanus, D., & Tomasello, M. (2007). Spontaneous Altruism by Chimpanzees and Young Children, *PLoS Biology* 5 (2007), 1414–1420.

sliding door to get into a room where food is waiting for her. However, the door is blocked by a chain attached with a peg to the bars in an adjacent room. We found that when we placed a chimpanzee subject in the adjacent room, frequently it would release the chain so that the recipient chimpanzee could get the food. This behavior occurred less often in control conditions, in which the recipient was either trying to go through another door or no recipient was present. Thus, these chimpanzees seemed able to determine when another needed help and respond accordingly.

A major challenge for the future is to find out under what other circumstances chimpanzees show altruistic tendencies—and under what circumstances they do not. In several studies, chimpanzees were somewhat reluctant to provide food actively to others, even at no cost to themselves. On the other hand, we had demonstrated that they do intervene on another's behalf in instrumental helping situations. What explains this discrepancy? One pattern that appears to emerge is that chimpanzees help only when the helpee overtly expresses the need for help: reaching for a desired object, trying to open a door, or gesturing toward the potential helper. When these signals are absent, chimpanzees do not proactively engage in altruistic behaviors. This might reflect limitations in reading another's intentions or simply indicate a generally weaker altruistic motivation—that is, the helpee needs to work harder to persuade its conspecifics to provide assistance. Our tests showing altruistic chimpanzee behavior (in the sense of intervening to further another's goal) did not involve any sacrifice of resources or major effort on the part of the helper; thus, it remains an open question whether chim-

panzees will engage in altruistic behaviors that come at a cost. It is possible that they are willing to act altruistically if doing so is fairly cheap but are less prone to act altruistically when it isn't. What we can say at this point is that altruistic tendencies are not absent in chimpanzees. Also, they seem to have the fundamental cognitive and motivational capacities for engaging in altruistic behavior. This suggests that human altruism might have evolutionary roots dating back at least to the last common ancestor of humans and chimpanzees.

These findings also help us better understand the factors responsible for the emergence of altruistic behaviors in human children. Altruistic behaviors do not appear to be solely the outcome of cultural norms and socialization. No doubt socialization practices profoundly influence children's development and cultural norms can facilitate and sustain whatever is jump-started by biological inheritance. Despite altruism's early emergence, children have a lot to learn about how and whom to help. For example, we should not blindly help everyone (such as those with bad intentions); it is essential that we learn when to help and when not to help. Moreover, our altruistic tendencies become an important asset; being helpful tends to improve your reputation, whereas failure to help others can damage it. You need sophisticated perspective-taking abilities to know how your behavior affects how others see you—a strategic skill that young children lack but that becomes important later in life. It remains to be studied at what stage of their development children begin to take into account the complex intricacies and norms that characterize our social life—and human altruism in particular.

However, adherence to cultural norms does not appear to be the original source of our altruistic behaviors. Rather, it appears that cultural factors can build on a biological predisposition we share with our closest evolutionary relatives: culture cultivates, rather than implants, the propensity for altruism in the human psyche.