

The primal scene of morality . . . is not one in which I do something to you or you do something to me, but one in which we do something together.

—Christine Korsgaard

IN THE CONTEMPORARY STUDY OF HUMAN BEHAVIORAL evolution, the central problem is altruism, specifically, how it came to be. There is no widely accepted solution to that question, but there is no shortage of proposals either. The challenge is that there must be some way for the sacrificing individual to not sacrifice herself or her progeny out of existence; there must be some kind of compensating advantage for her sacrifice. It has been shown that punishment

of non-cooperators (including negative gossip about reputation) helps to stabilize cooperation—again, in the sense of altruism—but punishment is a public good for which the punished pays the cost and everyone benefits, the so-called second-order problem of altruism. And punishment can do its work only if the punished have a tendency to react by doing “the right thing,” so the threat of punishment alone cannot explain the origins of altruism.

I will certainly not solve the evolution-of-altruism problem here. But that is okay because I do not believe it is the central process anyway; that is, I do not believe altruism is the process primarily responsible for human cooperation in the larger sense of humans’ tendency and ability to live and operate together in institution-based cultural groups. In this story, altruism is only a bit player. The star is mutualism, in which we all benefit from our cooperation but only if we work together, what we may call collaboration. Free-riding persists here, but in the most concrete cases—where you and I must work together

to move a heavy log, for instance—free-riding is not really possible because each of our efforts is required for success, and shirking is immediately apparent. As a side benefit, in the context of a mutualistic effort, my altruism toward you—for example, pointing out a tool that will help you do your job—actually helps me as well, as you doing your job helps us toward our common goal. So mutualism might also be the birthplace of human altruism: a protected environment, as it were, to get people started in that direction.

If we take modern apes in general as the model for humans' last common ancestor with other primates, we have a fairly long path to traverse to get to the kinds of large-scale collaborative activities and cultural institutions that characterize modern human societies. But that is what we will try to do here, albeit sketchily. As a starting point, we know from the work of Joan Silk and others that nonhuman primate societies function in large part on the basis of kinship and nepotism, with a healthy dose of dominance thrown in in most cases. Any cooperation they show will thus

most likely be based on kinship or direct reciprocity. And we know from the work of Brian Skyrms that in building human-style collaboration from this ape foundation, we do not face a prisoner's dilemma, in which individuals assess their own benefits versus those of the group. Rather, our scenario is a stag hunt in which everyone prefers to collaborate because of the rewards doing so brings each of us and our compatriots. The problem is how we can get ourselves to join forces. This is not a trivial task since what I do in such situations depends on what I think you will do and vice versa, recursively, which means that we must be able to communicate and trust one another sufficiently. I will call my evolutionary hypothesis the *Silk for Apes, Skyrms for Humans* hypothesis.

To get from ape group activities to human collaboration, we need three basic sets of processes. First and most importantly, early humans had to evolve some serious social-cognitive skills and motivations for coordinating and communicating with others in complex ways involving joint goals and coordinated

division of labor among the various roles—what I will call skills and motivations for shared intentionality. Second, to even begin these complex collaborative activities, early humans had first to become more tolerant and trusting of one another than are modern apes, perhaps especially in the context of food. And third, these more tolerant and collaborative humans had to develop some group-level, institutional practices involving public social norms and the assignment of deontic status to institutional roles. But before focusing on these three processes in turn, let us first characterize the starting and ending points of our hypothetical evolutionary pathway a bit more concretely.

A CONCRETE EXAMPLE ANCHORS THE TWO ENDPOINTS of our evolutionary story: foraging versus shopping. When humans go foraging for nuts in the forest, it is much the same as when chimpanzees do so. Both humans and apes understand the spatial layout of the forest, the causality involved in using tools to extract

food, and the goal-directed agency of their companions. But what about when humans go foraging for food in the supermarket? Certain things happen here that do not happen in chimpanzee foraging—they cannot happen in chimpanzee foraging because they are constituted by processes that go beyond purely individual cognition and motivation.

Let us suppose a scenario as follows. We enter the store, pick up a few items, stand in line at the checkout, hand the clerk a credit card to pay, take our items, and leave. This could be described in chimpanzee terms fairly simply as going somewhere, fetching objects, and returning to the place whence one came. But humans understand shopping, more or less explicitly, on a whole other level, on the level of institutional reality. First, entering the store subjects me to a whole set of rights and obligations: I have the right to purchase items for the posted price and the obligation to not steal or destroy items, because they are the property of the store owner. Second, I can expect the items to be safe to eat because the

government has a department that ensures this; if a good proves unsafe, I can sue someone. Third, money has a whole institutional structure behind it that everyone trusts so much that they hand over goods for this special paper, or even for electronic marks somewhere coming from my credit card. Fourth, I stand in line in deference to widely held norms, and if I try to jump the line people will rebuke me, I will feel guilty, and my reputation as a nice person will suffer. I could go on listing, practically indefinitely, all of the institutional realities inhabiting the public sphere, realities that foraging chimpanzees presumably do not experience at all.

What is common to all of these institutional phenomena is a uniquely human sense of “we,” a sense of shared intentionality. And it does not come only from the collective, institutional world of supermarkets, private property, health departments, and the like. This sense can be seen—perhaps even a bit more sharply—in simpler social interactions. Suppose you and I agree to walk to the store together. Along the

way, I suddenly, without warning, veer off and go my own way, leaving you standing there alone. You are not only surprised, but miffed (or maybe worried about me), so that when you return home you will tell your friends about the incident. “We” were walking to the store together, and I broke that “we” unilaterally, due to either my selfishness or my derangement. Interestingly, I could have avoided the whole incident by simply “taking leave,” saying that I just remembered something important I had to do, asking permission, as it were, to break our “we.”

This sense that we are doing something together—which creates mutual expectations, and even rights and obligations—is, one could argue, uniquely human, even in this simple case. Searle, among others, has shown how the sense of acting together can scale up to the kinds of collective intentionality involved in doing something as institutionally complex as shopping at a supermarket, which exists on the basis of rights, obligations, money, and governments, which in turn exist because “we” all believe and act as if they

do.¹ The upshot is that human beings live not only in the physical and social worlds of other apes, but also in an institutional or cultural world of their own making, a world that is populated with all kinds of deontically empowered entities. The specifics of this world vary greatly among different groups of people, but all groups of people live in some such world.

Although many observable features of the human cultural world clearly differentiate it from the primate social world, identifying the psychological processes underlying these features is far from straightforward. The approach in our laboratory has been to identify differences in the ways that great apes and young children engage with others socially as they collaborate and communicate with them in relatively simple situations. I will concentrate on the three sets of processes noted above, in turn:

- (1) coordination and communication
- (2) tolerance and trust
- (3) norms and institutions

And, to keep things relatively simple and focused,

A prince must learn how not to be good.

—Niccolò Machiavelli

ONE OF THE GREAT DEBATES IN WESTERN CIVILIZATION is whether humans are born cooperative and helpful and society later corrupts them (e.g., Rousseau), or whether they are born selfish and unhelpful and society teaches them better (e.g., Hobbes). As with all great debates, both arguments undoubtedly have some truth on their side. Here I defend a thesis that mainly sides with Rousseau's take on things, but which adds some critical complexities. I will call this thesis, in deference to two of this book's contributors, the *Early Spelke, Later Dweck* hypothesis. Specifically,

I will argue and present evidence that from around their first birthdays—when they first begin to walk and talk and become truly cultural beings—human children are already cooperative and helpful in many, though obviously not all, situations. And they do not learn this from adults; it comes naturally. (That is the Spelke part.) But later in ontogeny, children's relatively indiscriminate cooperativeness becomes mediated by such influences as their judgments of likely reciprocity and their concern for how others in the group judge them, which were instrumental in the evolution of humans' natural cooperativeness in the first place. And they begin to internalize many culturally specific social norms for how we do things, how one ought to do things if one is to be a member of this group. (That is the Dweck part.)

For parents who think that their child must have skipped the naturally cooperative stage, let me quickly note that we are talking here about a behavior measured in relation to other primates. All viable organisms must have a selfish streak; they must be con-

cerned about their own survival and well-being or they will not be leaving many offspring. Human cooperativeness and helpfulness are, as it were, laid on top of this self-interested foundation.

In addition—and this will be a key complicating aspect of my account—I do not believe that human altruism is a single trait, but rather that humans are more or less altruistic in different domains of activity, each of which has its own characteristics. Felix Warneken, a fellow researcher at the Max Planck Institute, and I use an economic framework incorporating three main types of human altruism as defined by the “commodity” involved: goods, services, and information.¹ To be altruistic with respect to goods such as food is to be generous, to engage in sharing; to be altruistic with respect to services such as fetching an out-of-reach object for someone is to be helpful; and to share information and attitudes altruistically with others (including gossip) is to be informative. It is important to distinguish among these three types of altruism because the costs and benefits of each are

different, and they may have different evolutionary histories.

So let us step through the empirical data available as to whether and in what ways young human children and their nearest primate relatives tend toward each of these three types of altruism.

Helping

The basic phenomenon is simple. Infants of fourteen and eighteen months of age confront an unrelated adult they have met just moments previously. The adult has a trivial problem, and the infants help him solve it—everything from fetching out-of-reach objects to opening cabinet doors when the adult's hands are full. In one study, of the 24 eighteen-month-old infants tested, 22 helped at least once, and they did so basically immediately.²

Each of these situations has a corresponding control condition. For example, instead of dropping his clothespin accidentally, the adult throws it down on purpose. Or instead of bumping into the cabinet with

his hands full, he bumps into the cabinet while trying to do something else. In these cases the infants do nothing, showing that they do not just like fetching clothespins and opening cabinets in general.

The ways in which infants help are also remarkably varied. In the study, they helped the adult solve four different kinds of problems: fetching out-of-reach objects, removing obstacles, correcting an adult's mistake, and choosing the correct behavioral means for a task. All of the scenarios were very likely novel, at least in their particulars, for the infants. To help others flexibly in these ways, infants need, first, to be able to perceive others' goals in a variety of situations, and second, to have the altruistic motive to help them.

There are five reasons to believe that helping others with simple physical problems such as these is a naturally emerging human behavior. The first is the relatively early onset of the behavior: fourteen to eighteen months of age, before most parents have seriously started to expect their children, much less to train them, to behave pro-socially. But this is a

debatable point, as infants have certainly seen adults helping others during the first year of life.

The second reason is that parental rewards and encouragement do not seem to increase infants' helping behavior. We gave one-year-olds a reward every time they helped, and on each new trial the adult had a reward visibly in his hand, but neither inducement affected helping.³ In an ongoing study, Warneken and I gave infants an opportunity to help either on their own or when their mother was in the room and verbally encouraging them to help. Parents take heed: the parental encouragement did not affect the infants' behavior at all; they helped the same amount with or without it. It is noteworthy that in both of these studies the infants were so inclined to help in general that to keep the overall level of helping down—so that we could potentially see differences between conditions—we had to provide a distracter activity in which they were engaged when the opportunity to help arose. Nevertheless, in the vast majority of cases, they pulled themselves away from

this fun activity—they paid a cost—in order to help the struggling adult.

But the situation with rewards is even more interesting. In a recent multiphase study,⁴ Warneken and I gave twenty-month-olds various opportunities to help. Some of the children were given a concrete reward every time they helped: a small toy that they could use to create an exciting effect, which they loved. Other children were given no reward at all, not even a smile or a thank you from the adult who simply accepted the help with no reaction whatsoever. Most children helped on five occasions, and those who did participated in the second phase, in which the infants had the opportunity to help several times again. This time, however, there would be no reaction from the adult in any of the cases. The results were remarkable. The children who had been rewarded five times in the first phase actually helped *less* during the second phase than those who had not been rewarded.

This “overjustification effect” has been documented by the Stanford psychologist Mark Lepper

and others in many domains of activity and is thought to signal that a behavior is intrinsically motivating. In the case of an intrinsically rewarding activity, external rewards undermine this intrinsic motivation—they externalize it to the reward. A behavior that was already driven by external rewards should not be affected by further rewards in this way. So not only do concrete rewards not stimulate children's helping, they may even subvert it.

The third reason to believe that infants are not helping just for rewards or in order to please parents is that chimpanzees engage in the same behavior. Warneken and I administered the battery of ten tasks from our original study to three human-raised chimpanzees. Although they did not help in the other tasks, they did help humans to fetch out-of-reach objects (and not in the control condition).⁵

We realize that there may be many reasons that human-raised chimpanzees would help the human—who, after all, controls their world—and so in another study we gave mother-raised chimpanzees the

opportunity to help one another. In the study, one chimpanzee watched while another struggled to open a door to a room. The observing ape knew from previous experience that the door could be opened by removing a pin. Surprisingly, observers removed the pin and helped their group-mate gain access to the room. And there was no evidence that they expected any reward. They did not do this in two control conditions in which the group-mate was not attempting to gain access in this same way.⁶ The point for current purposes is that if our nearest primate relatives—including ones whose previous contact with humans was minimal—engage in helping behavior similar to our own, there is evidence that humans' helping behavior is not created by a human-like cultural environment.

The fourth reason I will mention only briefly because the data have not been fully analyzed. A new study found that children in more traditional cultures—in which parents typically allow their children to develop with much less adult intervention—help

in basically the same situations, and at basically the same ages, as the Western, middle-class children that we have studied.⁷

Fifth, and finally, a recent study has shown that young children's helping behavior is mediated by empathetic concern. Eighteen and 24-month-old infants looked on as one adult grabbed the drawing that another adult had just been working on and deliberately tore it up. As soon as this happened, infants looked to the victim (who expressed no emotion) with a facial expression that could be coded blindly and reliably as "concerned." That is, they did this more than in a control condition in which the vandal took a blank piece of paper from in front of the other adult and tore it up. In a related condition, an adult, either as victim or control, was stripped of a toy. Then, most important for current purposes, children from both conditions were given an opportunity to help the victim or the control adult. The result was that the children helped the victim more often than they helped the adult from

the control condition. Significantly, the infants who displayed more concerned looks to the victim as her drawing was being torn up had a greater tendency to help her.⁸ This suggests that infants' naturally occurring empathetic or sympathetic responses to the victim's plight affected their tendency to help. It is this "concern" then, we would argue, and not external rewards, that motivates young children's helping.

For these five reasons—early emergence, immunity from encouragement and undermining by rewards, deep evolutionary roots in great apes, cross-cultural robustness, and foundation in natural sympathetic emotions—we believe that children's early helping is not a behavior created by culture and/or parental socialization practices. Rather, it is an outward expression of children's natural inclination to sympathize with others in strife. Research in other laboratories is consistent with this conclusion: even infants below one year of age distinguish helpful from unhelpful agents.⁹

Informing

Although both chimpanzees and young human children help others in some situations, there is one special form of helping in which only children engage: providing needed information. Importantly, this is not dependent on language. Human infants inform others from as early as twelve months of age, pre-linguistically, by pointing. Chimpanzees and other apes do not point for one another at all, and, I will argue, they do not use any other means of communication to helpfully inform one another of things either.

Researchers set up a situation in which twelve-month-old, pre-linguistic infants watched while an adult engaged in some adult-centered task such as stapling papers. The adult also manipulated another object during the same period of time. Then she left the room, and another adult came in and moved the two objects to some shelves. The original adult then came back in, papers in hand, ready to continue stapling. But there was no stapler on her table, as she searched for it gesturing quizzically but not talking at

all. As in the instrumental helping studies, the infants perceived the adult's problem and were motivated to help her, which most of them did by pointing to the location of the sought-for stapler. The children were far less likely to point at the other object, which had been handled an equal amount. The infants did not want the stapler for themselves. They did not engage in the usual demanding behavior—whining, reaching, and so forth—after the adult grasped the stapler. Once she had it in her hand, the children stopped pointing and were satisfied.¹⁰ In follow-up studies, the researchers also ruled out that infants simply wanted to see the stapling activity reinstated.¹¹

While infants consistently demonstrate understanding of informative pointing, the same is not true of apes. Apes do not point for one another, and when they do point for humans, they do so mainly to get humans to fetch food for them.¹² Indeed, in all observed cases of apes pointing for humans, the motive is directive (imperative). Also, apes who have learned some kind of human-centered communication use it

to communicate only with humans, not with one another, and they do so almost exclusively for directive purposes. Some years ago, my colleague Josep Call and I observed that if a human needed a tool to open a box that contained food for the ape, the ape would point to the location of the tool for the human.¹³ One could interpret this as informing the human, but it is also possible that the ape is imperatively ordering the human to “get the tool.” A recent study directly compared apes and human children as they pointed for tools in a situation like this one, except that in one condition the tool was used by the human to fetch something for the ape, whereas in another condition the tool was used by the human to fetch something for herself.¹⁴ The researchers used an “ABA” design. In the first and third sessions, ape and child subjects pointed to a tool the adult human used to fetch something for them. But in the middle session, they were supposed to point to a tool the adult human used to fetch something for herself (with no reward for the subject). The main finding was that the apes only pointed reliably

when they themselves would get something in the end, which is consistent with the interpretation that their pointing is really a directive (“get the tool”). The infants, on the other hand, pointed equally often in both cases. Interestingly, some infants appeared upset when the adult wanted the tool in order to fetch a reward for herself. Nevertheless, they pointed to the tool for her when she looked around, puzzled; they could not help but be informative.

Perhaps surprisingly, apes do not even comprehend pointing when it is used in an informative manner. Apes follow gaze and pointing direction to visible targets, but they do not seem to grasp an informative communicative intent. Thus, in many different studies we have found that when apes are searching for hidden food, and a human points to a cup to inform them of its location, the apes do not understand; they do not ask themselves why the pointer wanted them to attend to the cup, they do not seek relevance.¹⁵ This makes perfect ape sense because in their everyday lives apes do not experience someone

pointing out food for them helpfully—they compete with others for food—so they do not assume an altruistic intent. Human infants, on the other hand, understand informative pointing and make the appropriate relevance inference in such situations pre-linguistically, at twelve to fourteen months of age.¹⁶ Confronted with pointing, infants appear to ask themselves, “why does *she* think that my attending to that cup will be helpful or relevant for *me*?” This self-question is based on something like the philosopher Paul Grice’s principle of cooperation: others are trying to be helpful by informing me of things relevant not to themselves but to their interlocutors. Chimpanzees do not operate with anything like a Gricean principle of cooperation—fittingly, in their natural worlds—and thus they have no basis for making the appropriate relevance inference.

But what about ape alarm calls and food calls? Are they not generated by an informative intent? In a word, no. When they spy a predator, nonhuman primates give their alarm calls even if all of the other

members of the group are right there looking at the predator and screaming themselves; they give food calls when they discover a rich source of food, even if the whole group is with them already. Their goal in such situations cannot be to inform others, as everyone is clearly already in the know. Whatever they are doing, it is for their own, or their kin’s, direct benefit. (One may speculate that with alarm calls they are alerting the predator that he has been spotted or recruiting others to mob the predator, and with food calls they are ensuring that they have company to protect against predators while they eat.) Apes do not, in either gesture or vocalizations, intend to inform one another of things helpfully.¹⁷

Human infants, on the other hand, not only inform others of things helpfully and accurately interpret informative intentions directed at them, they even understand imperatives in a cooperative fashion. Thus, most human imperatives are not commands, e.g., “get me water,” but rather something more indirect, such as “I’d like some water,” which is just a

statement of desire. I can get water by informing others of my desire because they are so cooperative that simply knowing my desire leads them automatically to want to fulfill it. In a recent study, a researcher asked twenty-month-old infants to fetch her “the battery,” with one battery on the table right in front of her and the other on a table across the room. If the children viewed the researcher’s statement as a command to fetch, pure and simple, then either battery would fulfill the directive equally well. But if they viewed it as a cooperative request for help, then the logic of helping specifies that she would only be asking for help doing something that she could not more easily do for herself. So she would likely be asking for the battery across the room. And that is exactly what the young children assumed, showing that for them, the imperative mode can sometimes be a request for help based on the cooperative logic of helping.¹⁸

Thus, the comparison between children and apes is different in the case of informing. When it comes to informing, as opposed to instrumental helping,

humans do some things cooperatively that apes seemingly do not do at all. This suggests that altruism is not a general trait, but rather that altruistic motives may arise in some domains of activity but not in others. In the next chapter I will try to provide an evolutionary explanation for why only humans help others by providing needed information. In terms of ontogeny, it seems hard to imagine that these twelve-month-old infants are providing information helpfully because they have been rewarded or encouraged to do so; sharing information freely seems to come naturally even to very young children. Of course children soon learn to lie also, but that comes only some years later and presupposes preexisting cooperation and trust. If people did not have a tendency to trust one another’s helpfulness, lying could never get off the ground.

Sharing

Virtually all experts agree that apes are not very altruistic in the sharing of resources such as food. Sharing valuable resources is obviously a more dif-

difficult proposition than simply helping humans by expending a few ergs of energy fetching or pointing to things for them. And if our plane crashes in the Andes, and I have one granola bar left in my pocket, I, a human, am not likely to be so generous with it either. Nevertheless, in more-or-less direct comparisons in two experimental settings, human children were more generous with food and valued objects than were our great-ape relatives.

First, two similar studies—one at our laboratory and one at UCLA—found that chimpanzees do not seem to care at all about the food others may or may not be receiving. In one version, the chimpanzee subject was faced with the choice of pulling in one of two boards, on each of which were two reward trays: one tray accessible to the subject and one tray accessible to another individual in an adjoining cage. In the simplest situation, one of the boards contained one piece of food for the subject and none for the partner, whereas the other board contained one piece of food for each. Thus, the energy that a

subject needed to expend was identical in the two cases, and the reward for the subject (one piece of food) was also unchanged. The question was whether the chimpanzees would pull the board that would also deliver some food to the partner—at absolutely no cost to themselves. The answer in both studies is that they did not. Nor did they systematically try to prevent the other from getting food by always pulling the one that only had food for them. They pulled indiscriminately, as they seemed to be focused only on the possibility of acquiring food for themselves. To ensure that they knew what food was going to the other cage, the study included a control condition in which the other cage was empty and the door to it was open so that the pulling chimp could quickly get the food designated for the other cage. In this case they most often pulled the board with pieces of food for both cages.¹⁹ Researchers have recently shown that both 25-month olds and school-age children in a very similar paradigm select the equitable option more often than the selfish option.²⁰

One might naturally puzzle over the fact that in the Warneken helping studies, chimpanzees seem to help others attain their instrumental goals, yet in the pulling study they do not help the other get food even when doing so costs them nothing. We are currently working on a study to help resolve this puzzle, but for the moment our best speculation is that in the food-pulling experimental paradigm, the chimpanzees are focused on getting food for themselves—what happens to the other is irrelevant—whereas in the various helping paradigms, the chimpanzees are not in a position to get food for themselves at all, so their own foraging needs and competitive strategies do not predominate.

In a second experimental paradigm, we can see the effects of food competition among chimpanzees quite directly. Led by Alicia Melis, researchers at the Max Planck Institute presented chimpanzees with a food-laden board with two cords attached. The board could be reeled in only with the cooperation of both subjects. In previous studies, chimpanzees

had performed this task poorly. But in those studies, the food was always clumped in the middle of the board, ensuring that sharing became a problem. The team replicated this effect, but in addition they presented the chimpanzees with a condition in which the food was already divided—some on one end of the board for one partner and some on the other end for the other partner. This time they were far more adept collaborators. It seems that the chimpanzees had previously performed badly not because they could not handle the task cognitively, but rather because they were already thinking of the fight at the end as they tried to work together.²¹ Recently, Warneken and his team have done the same study with young children, and the children do not really care whether the food is pre-divided. It is not that the children always divide the food equally. Sometimes one individual will take more than her share, but then the partner challenges her to square things up, which she almost always does. This means that both partners are still ready to try again on the next trial, trusting

that they will be able to work it out. Chimpanzees do not have this trust.

But what about in more natural settings? There have been some recent studies of male chimpanzees in the wild sharing food with potential coalition and mating partners, but this is almost certainly barter, not generosity.²² If chimpanzees are presented with a low-quality food such as branches of leaves tied together by humans, they are tolerant of others feeding from the same branches;²³ however, the natural behavior of feeding chimpanzees is to separate themselves from others by a few meters as they eat, and to relinquish food only under direct begging or harassment. Human infants, in contrast, like giving objects to people—indeed offering objects to them—and these objects are often food. But at the same time, they can become attached to objects and stubbornly refuse to let them go. We are on shaky ground here because there are no comparative experiments—it very well could be that the key factor is that infants simply do not care about most objects or food very much—so to call them gen-

erous, would be, well, generous. Nevertheless it appears that in natural settings, even very young children give away and offer objects and food more readily than do their simian cousins.

A final, illustrative comparison between humans and apes appears in the sharing of food between mothers and their children. As foragers, chimpanzee youngsters are on their own, even somewhat in competition with their mothers. A recent study looked systematically at food sharing among three mother-infant pairs. Researchers recorded 84 attempts by the infant to get food from the mother; 50 of these were rejected. And more active transfers of food by the mothers were rare, occurring only fifteen times. Tellingly, when mothers did transfer food to their children more actively it was always—100 percent of the time—the less palatable part of the food they were eating. That is, the peeling, the husk, or the shell.²⁴ This is more than they would do for other adults or non-kin children, so there are clearly some maternal instincts at work here. But human mothers actively

provision their infants—or buy them off with junk food—at a much more unsparing rate.

In the case of sharing resources such as food, then, human children seem to be more generous than chimpanzees. But here, again, I would emphasize that this is only a matter of degree. Starving humans are not so generous with food, either. It is just that chimpanzees act as if they were always starving.

Reciprocity and Norms

There is very little evidence in any of these three cases—helping, informing, and sharing—that the altruism children display is a result of acculturation, parental intervention, or any other form of socialization. But socialization does play a critical role, obviously, as children mature. Different individuals have different experiences, and different cultures have different values and social norms—these have an impact.

The influences of the child's social world may be divided into two broad sets. One is the child's direct

social experience—interaction with others and lessons learned about how to interact with others based on their reactions and the resulting outcomes. On the positive side, children learn that in most situations being cooperative and helpful engenders cooperation and helpfulness in return, so they are encouraged in this direction. On the more cautious side, children also learn that always being cooperative and helpful may lead to others taking advantage of them.

Thus, after their initial period of a kind of indiscriminate altruism mixed with some selfishness about valuable things, young children become more discerning based on various characteristics of potential targets of their altruism. Several recent studies have shown that children begin to make these judgments about others from around three years of age. In one study, children at around this age *share* more often if the recipient was previously nice to them and is from their group.²⁵ Researchers in our lab found something similar with a helping measure: children of this age more often *help* those who have been

helpful to others.²⁶ So children begin learning early in life who and who not to be nice to based on their own experiences with those people. This is perhaps not so surprising; recent observations—both in the wild and in experiments—have documented that even chimpanzees reciprocate grooming, support in fights, and access to food.²⁷

The other set of social influences on children involves the values and norms of the cultural group, which the child experiences less through direct feedback from interactions with others and more through modeling, communication, and instruction. Cultures typically try to promote helpfulness and cooperation in their children through various kinds of social norms: be nice, be helpful, don't lie, share your toys. These have a positive side—people admire us if we live up to some valued social norm—but evolutionarily it is likely that the original function of norms is to threaten punishment for violators, everything from gossip about reputation to ostracism from the group to death by stoning. Children at some point become aware that

they are the targets of the judgments of others who are using social norms as standards. So children attempt to influence these judgments—what the sociologist Erving Goffman called “impression management.” Through this kind of vigilance is born the public self, whose reputation we all spend so much time and energy cultivating and defending.²⁸ Social norms represent, in some complex way, the perspective and values of the social group as a whole.

The authors of one recent and much-publicized study have claimed that some nonhuman primates (in this case, capuchin monkeys) have a normative sense of fairness.²⁹ In a similar study focused on chimpanzees, the researchers found that when a human gives a chimpanzee a low-quality food, such as a cucumber, she will normally accept it. But when the experimenter shows favor to a second chimpanzee, giving that ape a high-quality food such as a grape, the first chimpanzee, having seen the gifting of the grape, will reject the cucumber that she was previously prepared to accept. The authors' interpretation

depends on social comparison—she got something better than I did—and a sense of fairness—this unequal distribution is not fair.³⁰

But studies from three different laboratories in the case of the capuchins, and from our laboratory in the case of the chimpanzees, have all found that this is a spurious result in that it does not depend on a social comparison at all. One of the studies found that simply seeing and expecting to receive the grape makes the cucumber look less attractive to chimpanzees. No other individuals need be around.³¹ There is no social comparison going on, only food comparison. So nothing related to norms of fairness is at work either.

In another study in our laboratory, we presented the ultimatum game from experimental economics to chimpanzees. In the human version of the game, a subject is given an amount of real money, say 100 euros, and is told that she should offer some to an unknown partner. This partner, who knows how much has been given to the subject, may then ac-

cept the offer, in which case both partners take their shares and go home. Or the partner may reject the offer, and no one gets anything. There are some cultural variations in how humans react, but by far the most common reaction of partners in this game is to reject low offers, less than about 30 euros. The logic of rational maximizing would say, “Take the 25 euros because, even though that guy is a jerk, 25 is better than none.” But people do not do this; they reject low offers because, as subjects report, they are not fair. Proposers anticipate this, by the way, and so typically offer an even split.

By contrast, in this game chimpanzees are rational maximizers. Researchers constructed a mini-ultimatum game in which the proposer was faced with two trays with a pre-established division of food for himself and for the partner. For example, in one condition the choice was between “eight grapes for me, two for you” versus “five for each of us.” The proposer then pulled the tray as far as he could, halfway, and the responder then had the choice of completing the deal

by pulling the tray the rest of the way—or not, which would be a rejection. Humans typically reject as unfair an offer of “eight for me, two for you” when “five for each of us” is the alternative. But the chimpanzees did not. Chimpanzee proposers almost always made selfish offers, and responders almost always accepted anything, except zero (showing that they were not just pulling indiscriminately).³² In this experiment as well, then, we see no evidence that chimpanzees operate with social norms of fairness.³³

Humans, on the other hand, operate with two general types of social norms, with many hybrids: norms of cooperation (including moral norms) and norms of conformity (including constitutive rules). The vast majority of research with children has been conducted on moral norms, where children judge as “wrong” actions in which one person harms another. But children also respect conventional norms in which no harm is involved. Even preschool children understand that people often wear shorts in hot weather, but that is not because they think they

are supposed to, whereas they wear coats and ties to weddings for precisely the latter reason. Dress at weddings is a social norm governed by people’s expectations and attitudes, whereas dress in hot weather is not. Importantly, children do not just follow norms as they encounter them, but in new situations they actively seek out what they are supposed to do—what the social norms and rules are in the situation—so that they can behave accordingly. On their first day in a new classroom, for example, children want to know what they are supposed to do with their coats. When they learn that we hang our coats on the rack before sitting down at our desks each morning, they understand this as the way “things are done” here, and they want to do it this way too.³⁴

The deep question is why children respect social norms. Where does the teacher’s admonition, “Coats go here,” get its force? Why might one listen when a peer says, “That’s the rule”? Following Durkheim, Jean Piaget famously argued that the force emanates from two sources: (1) authority, coming from interac-

tions with adults; and (2) reciprocity, coming from interactions with coequals. In Piaget's account, early in development, children respond only to norms based on authority, resting ultimately on adults' superior power. So these norms are not really norms at all, in a sense, as the child has not given them her independent sanction. True social norms based on reciprocity emerge in the late preschool period, as children lose their egocentrism and begin to see others and themselves as coequal autonomous agents. Norms based on reciprocity have power by virtue of a kind of social contract among peers founded on mutual respect. Thus, they are true norms.³⁵

There is no doubt that authority and reciprocity play important roles in children's respect for social norms, but a recent series of studies suggests that Piaget's story is not quite right. It turns out that not only do children actively follow social norms, but from almost as early as they follow them they also participate in enforcing them. In one of the studies, three-year-old children were shown how to play a

one-player game. When a puppet later entered and announced that it, too, would play the game, but then did so in a different way, most of the children objected, sometimes vociferously. The children's language when they objected demonstrated clearly that they were not just expressing their personal displeasure at a deviation. They made generic, normative declarations like, "It doesn't work like that," "One can't do that," and so forth.³⁶ They do not merely disapprove of the puppet playing the game differently; he is playing it improperly. This behavior is of critical importance, as it is one thing to follow a norm—perhaps to avoid the negative consequences of not following it—and it is quite another to legislate the norm when not involved oneself.

There are two noteworthy facts about this study. First, the rules or norms are not just regulative rules that act as a kind of traffic cop of social interaction; rather they are constitutive rules that actually create the game—and the game is then solitary, not cooperative, after one has learned it. This shows that chil-

dren view even simple conventional norms of how a game is played not just as instrumental guides to their own effective action—actions likely to please powerful adults or garner some other reward—but as supra-individual entities that carry social force independent of such instrumental considerations. Second, in these studies we originally thought that to convey the idea that there was a right way and a wrong way to play the game, the child should watch the adult make a mistake and correct himself. But it turns out that was not necessary. The children had only to see the adult demonstrate the game—in a straightforward way with no normative judgments or language—before they jumped to normative conclusions about how the game *should* be played.

What these studies show is that even children's very earliest norms—at around three years of age—are true social norms (although there are still developments to come), and they result from something more than either the fear of authority or the promise of reciprocity. Although sensitivity to social pressures

such as authority and reciprocity alone may be able to account for a child's tendency to cooperate and conform, they cannot account for the child's active enforcement of social norms. Children are not forced or even encouraged to enforce norms on others, so why do they do it? They are definitely not mimicking adults sanctioning others in our experiments, as they never see adults sanctioning either others or themselves in the context of the games. And if one posits that they are mimicking adults sanctioning others in some general way based on past experience in similar games, which is dubious at best, then we must ask why adults do it. Indeed, in many formulations, enforcing norms is an act of altruism, as the whole group benefits from my attempts to make the transgressor shape up, which only makes norm-enforcement by young children even more mysterious.

What is needed is a recognition that even young children already have some sense of shared intentionality, that is to say, that they are part of some larger “we” intentionality. I contend that without this added

dimension of some kind of “we” identity and rationality, it is impossible to explain why children take it upon themselves to actively enforce social norms on others from a third-party stance, especially those norms that are not based on cooperation but rather on constitutive rules that are, in an important sense, arbitrary.³⁷ And, after the child sees how the game is played, it is played alone, so reciprocity cannot play a role. In these kinds of solitary, rule-based games, the only basis for normative sanctions is that “we” don’t do it like that.

My proposal, therefore, is that children’s respect for social norms is not due solely to their sensitivity to authority and reciprocity. From a young age, children also possess a kind of social rationality along the lines of what the philosopher Thomas Nagel proposes in *The Possibility of Altruism*, what we might call a “he is me” attitude of identification with others and a conception of the self as one among many, leading to the impersonal “view from nowhere.”³⁸ This is especially clear in cooperative activities based on

shared intentionality, about which I will have much more to say in the next chapter. In shared cooperative activities, we have a joint goal that creates an interdependence among us—indeed, creates an “us.” If we are carrying a table to the bedroom, I cannot simply drop it and run off without hurting us and our goal. In shared cooperative activities, my individual rationality—I want to transport the table to the bedroom so I should do X—is transformed into a social rationality of interdependence: *we* want to transport the table to the bedroom, so I should do X and you should do Y.

These studies demonstrate that even outside of such cooperative activities, children also value conformity to the group—both their own and that of others. Initially children base such “we-ness” on identification with significant-other individuals such as parents and family and schoolmates (G. H. Mead’s significant other), and only later generalize them into truly impersonal cultural norms based on identification with some type of cultural group (Mead’s gen-

eralized other).³⁹ Young children thus become more adult-like in their understanding of social norms by coming to comprehend ever more about: (a) the “arbitrary” nature of norms, based on consensus⁴⁰; and (b) the independence of norms from any specific individuals (their “agent-neutral” status).

The universality of social norms, and their critical role in human evolution, is apparent. All of the well-studied traditional societies incorporate powerful social norms about what one can and cannot do, even (or perhaps especially) in the most biologically relevant domains such as food and sex. Humans have developed special emotions adapted for the presence of norms, further demonstrating their critical role in the evolution of the species. Guilt and shame presuppose some kind of social norms, or at least social judgments, that people internalize and use to judge themselves (with feeling). In one interpretation guilt and shame are kinds of self-punishments that serve, first, to make it less likely that I will engage in the same transgression in the future, and second, to dis-

play to others that I indeed hew to the norm, even if I did not live up to it in this case. (In studies with adults, onlookers are much less likely to think badly of someone who causes some harm accidentally if that person immediately displays outward signs of guilt.) Guilt and shame are thus biologically based emotional reactions, which presuppose the kinds of normative (or at least punitive) social environments that humans have constructed for themselves. They are thus particularly good exemplars of the co-evolutionary process between human biology and culture.⁴¹

So the development of altruistic tendencies in young children is clearly shaped by socialization. They arrive at the process with a predisposition for helpfulness and cooperation. But then they learn to be selective about whom to help, inform, and share with, and they also learn to manage the impression they make on others—their public reputation and self—as a way of influencing the actions of those others toward themselves. In addition, they learn the social norms that characterize the cultural world in

which they live, and they actively attempt to learn what these are and to follow them. They even begin to participate in the enforcement process by reminding others of the norms—as in our studies in which children tell others “how it is done”—and punishing themselves through guilt and shame when they do not live up to them. All of this reflects not only humans’ special sensitivity to social pressure of various kinds, but also a kind of group identity and social rationality that is inherent in all activities involving a shared, “we” intentionality.

SO IS THE DEVILISH HOBBS OR THE ANGELIC Rousseau correct? Are humans by nature kind or mean-spirited? As always in these types of all-encompassing questions, the answer is a bit of both. I have presented hopefully convincing empirical evidence that infants and young children come to culture ready to be helpful, informative, and generous in the right situations (though selfish in others, of course). But as they become independent, children

must be more selective and aim their altruistic acts toward others who will not take advantage of them and who might even reciprocate. Interestingly, this *Early Spelke, Later Dweck* developmental pattern may be seen as a kind of ontogenetic reflection of the famous tit-for-tat strategy for cooperation, especially effective in maintaining cooperation in groups over time: you should start out altruistic and then treat others selectively, as they treat you.

But also important are social norms, as modeled for and communicated to young children. As children transform themselves into public persons with their own identities in early childhood, they become concerned with their public reputations, and they are eager to follow and even enforce social norms, including upon themselves in the forms of guilt and shame. Children do not only respect social norms, as is typically argued, due to the benefits of reciprocity and threat of punishment. Instead, they are sensitive from a young age to their own interdependence with others in collaborative activities—a kind of social

rationality endemic to shared intentionality—and they value conformity to the group as a marker of group identity. These different forms of “we-ness” are important sources of both their own respect for social norms and their enforcement of social norms on others.

It is interesting in this regard that adults who assume that children are not naturally helpful and cooperative and attempt to make them so through external reinforcements and punishments do not create children who internalize social norms and use them to regulate their own behavior. Much research has shown that so-called inductive parenting—in which adults communicate with children about the effects of their actions on others and about the rationality of cooperative social action—is the most effective parenting style to encourage internalization of societal norms and values. Such inductive parenting works best because it correctly assumes a child is already disposed to make the cooperative choice when the effects of her actions on others and on group functioning are

made clear to her. Children are altruistic by nature, and this is a predisposition that (because children are also naturally selfish) adults attempt to nurture.

In the second chapter we turn to the question of how human beings might have become so cooperative evolutionarily—again by comparing humans with their nearest primate relatives. The focus in this case is on mutualistic collaboration as the evolutionary source of human skills and motives for shared intentionality (including conventional communication and social institutions), and I argue that mutualistic collaborative activities were the original source of human altruism as well.