Author response

Digging deeper: A response to commentaries on ‘The roots of human altruism’

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The current response discusses the insightful commentaries by Dale Hay (2009) and Karen Wynn (2009) on the proposal that human altruism has deep roots both in phylogeny and ontogeny (Warneken & Tomasello, 2009). In particular, I focus on (a) what observational and experimental methods can reveal about altruistic motivations in children, (b) Wynn’s idea that early altruism might confer a selective advantage to the infants themselves, and (c) how recent findings on young children’s social ontology will enable us to test the hypothesis that ontogeny proceeds from rather global to more differentiated altruistic behaviours.

Observation and experimentation

In her thoughtful commentary, Dale Hay welcomes the experimental evidence for altruistic behaviours in early ontogeny because it aligns well with extensive observational research highlighting the richness of prosocial behaviours in children. It is important to keep in mind, however, that natural observations of behaviour are often open to many interpretations – especially in terms of underlying motivations. This may be one factor driving several researchers to talk about prosocial behaviour only in terms of material outcomes, leaving aside the issue of altruistic motivation altogether (Eisenberg, Fabes, & Spinrad, 2006). Observations alone cannot establish what motivates children when they pick up a dropped pen and hand it to someone – experiments are necessary to rule out alternative hypotheses one by one. The ideal, of course, is when observational and experimental research complement each other, which, fortunately, is the case here. However, these experiments do not just provide confirmation for what was known from observation, but enable us to dig deeper and gain insight into the underlying cognitive and motivational processes involved.

Growing green beards

In her commentary, Karen Wynn asks the intriguing question of what the adaptive advantage of early emerging altruistic behaviours might be for the infant herself.

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Why would such behaviours arise so early, before infants’ helping is of a large tangible benefit to others? Wynn suggests that perhaps by acting altruistically, the infants may signal their cooperative attitude to the members of their social environment – including the likelihood that these infants will be valuable and skillful cooperators in their adult future. Parents therefore get excited to see their infant willingly offering their drooling pacifier not because of the object at hand, but because of the things yet to come once their offspring earn a salary. Borrowing from Dawkins’ thought experiment in which altruism can emerge when cooperative individuals wear green beards to recognize and preferentially interact with each other (Dawkins, 1976), one could then say that it pays to grow a beard early in life because children’s first green stubble signals to others that they should pay attention and facilitate their growing cooperativeness. Importantly, this scenario can only work if the appearance of early altruism actually does foreshadow later skillful altruism – otherwise it would be a false signal. It seems to me like the subjects to be tested in this case should be the adults: Does the adult’s response to cute helpers correlate with the mature cooperativeness of the grown up child later in life?

But there is another reason why altruistic motivations may emerge early in life – supposedly before other factors such as norms and reciprocity begin to play a major role. Think of reciprocal altruism. Mutually beneficial interactions can only get off the ground if individuals start out cooperating. Specifically, a player in a prisoner dilemma game promotes mutual cooperation when the player uses what Axelrod calls a ‘nice’ strategy (by never being the first one to defect), i.e. cooperating first and then just copying what the other player did on the previous move (tit-for-tat; Axelrod, 1984). Thus, maybe mother nature gives children a jump start towards altruistic interactions in this way to make ‘nice’ strategies more likely. It is an open question to what extent this early altruistic tendency is complemented by safety-measures such as a cheater detector, but perhaps individuals without such a device up and running early in ontogeny are not at a disadvantage because they grow up in the protected environment of their family. As the number of interactions with non-family members increases over ontogeny, however, altruistic children should exercise more caution in deciding whom to help or not.

Selectivity

In her commentary, Wynn endorses our proposal to empirically test to what extent children direct their altruism selectively towards different social partners. This is driven by our hypothesis that children develop from rather global to more selective altruism throughout ontogeny. However, she refers to recent research which suggests that infants might actually be more selective from early on than we hypothesized.

First of all, we are also very impressed by the discriminatory abilities of these young infants who, for example, differentiate between and preferentially interact with agents who speak the language that is more familiar to the child (Kinzler, Dupoux, & Spelke, 2007) or an agent who proved to be more helpful towards others (Hamlin, Wynn, & Bloom, 2007). Yet, even though these discriminatory abilities and the altruistic motivations are present early in ontogeny, it might represent a major developmental step to bring them together. Namely, it remains to be tested to what extent these discriminatory abilities actually guide rather complex behaviours such as instrumental helping. There are other examples in which discriminatory abilities are present in early ontogeny, but still not used for certain purposes until later in ontogeny. One example is
selective trust: despite the ability to discriminate between small and large quantities in infancy and the emerging capacity to learn and use words in toddlerhood, it appears to take until middle childhood that children will preferentially learn a novel label endorsed by the group majority over a minority (Corriveau, Fusaro, & Harris, 2009). Another example more related to the current topic is that in anonymous sharing tasks in which 3- to 8-year-old children can donate to in-group or out-group members, the identity of the recipient as an in-group or out-group member becomes increasingly more important with age, with a major transition towards parochialism at around 7–8 years of age (Fehr, Bernhard, & Rockenbach, 2008). Thus, the ability to discriminate between different types of people is one component (and a necessary prerequisite) for selectively directed altruism, but when this discrimination becomes (increasingly more) relevant for the children for their altruistic and other prosocial behaviours is another question which, as Wynn agrees, needs further empirical investigation.

Secondly, it is important to emphasize that a critical feature of our proposal is not to investigate selectivity per se, but selectivity along the dimensions that are known to be important for the evolution of altruism. Developmental research should seek out those proximate mechanisms that are purported to explain altruistic behaviours within evolutionary theory, such as kinship, potential reciprocation and group membership. Moreover, our hypothesis suggests that there should be major age differences in the kind of selectivity that children employ. As we proposed, an altruistic bias towards familiar individuals (as a cue for kinship) might be one of the earliest mechanisms for selectivity in the domain of altruistic behaviours already emerging in children at two years of age (Young, Fox, & Zahn-Waxler, 1999). However, other selective mechanisms may emerge later either because they are more complex cognitively, or because they require more social experience. The types of selective mechanisms falling in this category might include contingent reciprocity or the internalization of social norms. Thus, even though already young children may act selectively early on along one dimension of the social world (such as cues for kinship), there are many additional dimensions that children can take into account – and many of which may be beyond the scope of young children. Given the novel research on infant’s categorization of social partners and their motivations to act altruistically towards them, we should be optimistic that this question will find an answer in the near future.

References


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