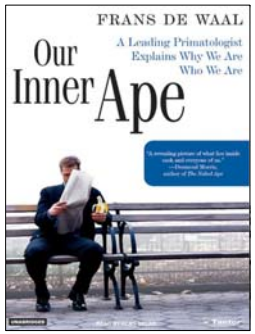
Frans de Waal:
Putting the altruism back into altruism: the evolution of empathy



Have to distinguish between function and motivation when talking about altruism.

Confusion can arise because motivational terminology has been "hijacked" to describe functional terms*

*language of decision – example: "animal should want to…".

Selfish = action that benefits actor and may harm another individual

Altruistic = action that benefits another at the expense of actor's personal fitness (or at least it does in the short term)

Selfish and altruistic have NO motivational meaning.

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"Proximate and ultimate explanations do inform each other, yet they are not to be conflated."

"The common claim that humans are the only altruistic species, since all that animals care about are return-benefits, misconstrues reciprocity as motivation. It assumes that animals engage in reciprocal exchange with a full appreciation of how it will ultimately benefit them. Helpful acts for immediate self-gain are indeed common [in animals] but the return-benefits of altruistic behavior typically remain beyond the animals' cognitive horizon, i.e., occurs so distantly in time that the organism is unlikely to connect them with the original act."

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de Waal's Hypothesis: empathy evolved as the main proximate mechanism for directed altruism. (Empathy viewed as an emotional rather than a cognitive mechanism.)

Likely origin = in parental behavior

"Once evolved, behavior often assumes motivational autonomy: its motivation becomes disconnected from its ultimate goals".

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Example: sexual behavior: "Since animals are, as far as we know, unaware of the link between sex and reproduction, they must be engaging in sex (as do humans much of the time) without progeny in mind"

"Just as sex cannot be motivated by unforeseen consequences altruistic behavior cannot be motivated by unforeseen consequences".

"Once evolved, behavior often assumes motivational autonomy: its motivation becomes disconnected from its ultimate goals".

But why does de Waal assume it was connected in the 1st place?

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de Waal's Hypothesis: empathy evolved as the main proximate mechanism for directed altruism

Question: Does empathy channel altruism in the direction evolutionary theory would predict?

Empathy: emotional sensitivity to others.

Levels of Empathy:

Emotional contagion – adoption of another's emotional state

Sympathetic concern – concern about another's state and attempts to ameliorate this state (e.g., consolation)

Empathetic perspective taking – "emotional state attributed to other instead of self"

Consolation is common in humans and apes but virtually absent in monkeys

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MSR test may be a good test of the ability to take the other's perspective.

Co-emergence hypothesis: MSR and advanced expressions of empathy appear together in both development and phylogeny. (Only in humans, great apes, dolphins, elephants …?)

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Perception Action Mechanism (PAM): At the core of empathy lies a mechanism that provides the subject with access to the another's (the object's) emotional state. When the subject attends to the object's state, the subject's neural representations of similar states are automatically and unconscious activated, e.g., the subject feels the object's pain.

May have something to do with mirror neurons, neurons that respond similarly when doing something as when observing it being done by someone else. Includes studies of self-generated vs. vicarious emotions.

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Russian Doll Model

Empathy covers all the ways in which one individual's emotional state affects another's, with simple mechanisms at its core and more complex mechanism and perspective-taking abilities at its outer layers. Higher cognitive levels of empathy build upon a firm, hard-wired basis, such as the PAM.

"Without emotional engagement inducted by state-matching, perspective-taking would be a cold phenomenon that could just as easily lead to torture as to helping".

PAM underlies not only emotional state matching but also motor mimicry.

Autistic individuals deficient in imitation as well as empathy.

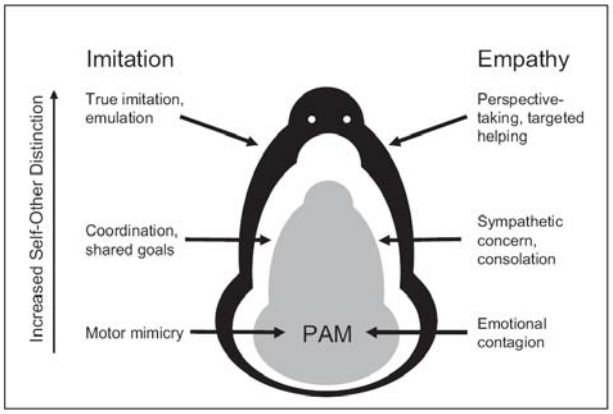

Figure 2

The Russian doll model of empathy and imitation. Empathy (*right*) induces a similar emotional state in the subject and the object, with at its core the perception-action mechanism (PAM). The doll's outer layers, such as sympathetic concern and perspective-taking, build upon this hard-wired socio-affective basis. Sharing the same mechanism, the doll's imitation side (*left*) correlates with the empathy side. Here, the PAM underlies motor mimicry, coordination, shared goals, and true imitation. Even though the doll's outer layers depend on prefrontal functioning and an increasing self-other distinction, these outer layers remain connected to its inner core.

Empathy as an evolved proximate mechanism of directed altruism

A Russian doll is a satisfying plaything for the biologist since every outer layer encompasses an older, inner one. This is relevant to the origin of empathy: All prosocial behavior, even when dependent on prefrontal functioning, probably has PAM-based emotion sharing at its core (Preston & de Waal 2002a). Without this emotional component, it is hard to see why we or other animals would care.

Empathy as an evolved proximate mechanism of directed altruism

Humans have so little control over empathic activation that they regularly shield themselves from it, e.g., by covering their eyes when in a movie something gruesome is about to happen. This is because they have already identified with the on-screen characters. One way to cognitively control empathy is to inhibit such identification. How self-imposed filters and contextual appraisal modulate the brain's empathic response remains a major unresolved issue (de Vignemont & Singer 2006). Sometimes, empathy appears wholly absent. For example, chimpanzees are capable of brutally killing each other (de Waal 1998 [1982], Wrangham & Peterson 1996), hence must be capable of suppressing empathic activation in relation to conspecifics, which has led Goodall (1986, p. 532) to call their victims "dechimpized." (It is important to note, though, that a species' occasional violence by no means argues against it having empathic capacities—if so, human empathy would be the first to be denied.)

Empathy as an evolved proximate mechanism of directed altruism

If altruism is produced by mechanisms, such as empathy and bonding, that produce emotional identification with the other, one may well ask if helping another does not boil down to helping oneself. It does, but as Smith (1759) argued, this is no reason to call empathy-based altruism selfish. A truly selfish individual would have no trouble walking away from another in need, whereas empathic engagement hooks one into the other's situation. Since the mechanism delivers intrinsic rewards exclusively via the other, it is genuinely other-oriented (Wispé 1991). At the same time, it is futile to try to extract the self from the process. There simply is no satisfactory answer to the question of how altruistic is altruism (debated among Batson et al. 1997, Cialdini et al. 1997, Hornstein 1991, Krebs 1991). This is, in fact, the beauty of the empathy-altruism connection: The mechanism works so well because it gives individuals an emotional stake in the welfare of others.

1. An evolutionarily parsimonious account (cf. de Waal 1999) of directed altruism assumes similar motivational processes in humans and other animals.
2. Empathy, broadly defined, is a phylogenetically ancient capacity.
3. Without the emotional engagement brought about by empathy, it is unclear what could motivate the extremely costly helping behavior occasionally observed in social animals.
4. Consistent with kin selection and reciprocal altruism theory, empathy favors familiar individuals and previous cooperators, and is biased against previous defectors.
5. Combined with perspective-taking abilities, empathy's motivational autonomy opens the door to intentionally altruistic altruism in a few large-brained species.

Empathy as an evolved proximate mechanism of directed altruism