Critique of Frans de Waal's 12 May 2010 lecture at the University of Michigan:
"Monkey Business: Cooperation and Fairness in Primates"

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De Waal began his talk with the topic of mutualism, which he characterized repeatedly as involving simultaneous benefits between parties. I am not sure that this is an appropriate or complete characterization of mutualism. Instead I would tend to refer to reliability or certainty of exchanges of benefits; thus, obligately mutualistic species may incur large expenditures of calories and risk merely locating their usual but still missing mutualist partner. The actual benefits may indeed be transferred simultaneously. But establishing the situation in which the mutualism can take place can involve great risks and loss of calories. De Waal's definition thus leaves questions about the differences between mutualism and reciprocity A few years ago I worked out what I thought was a very good definition of mutualism, for a class handout, but I would have to go looking for it in my "stuff" somewhere. So my comment here is not definite.

After the introductory portion of his talk, de Waal began to refer repeatedly to "altruism." He may have called it "net-cost altruism." In any case he used adjectives and descriptive phrases that clearly indicated to the audience that primates and other non-human animals sometimes engage in what I call net-cost altruism. He said repeatedly that some of the altruism he was discussing had no likelihood of being compensated or returned [that's what "net-cost" means to me]. He left the impression that net-cost altruism occurs frequently in animals and humans, meaning without compensation, or without the possibility of compensation. He referred fleetingly, with a hint of approval, to a small group of social scientists, philosophers, and others who have argued recently that net-cost altruism is an easily demonstrated behavior based on studies with undergraduate students. He did not say directly that net-cost altruism is an evolved behavior -- an evolved adaptation. But he did not say much at all, if anything, about adaptedness or evolution, in the entire talk, and he gave examples of what he saw as net-cost altruism carried out by animals behaving in normal social behavior (hence may have been in position to receive return benefits).

Let's consider that point. Net-cost altruism is by definition a behavior that is costly to the organism exhibiting it. "Net-cost" means that calories are used without (sufficient or compensating) return, and that risks (meaning, including larger costs than mere calories without compensation) are also possible. This means that net-cost altruism cannot evolve; it cannot be an evolved adaptation. It cannot meet Darwin's wonderful challenge that no "complex organ" can evolve except via "numerous, successive, slight modifications." The selective processes that are the principal guiding force of evolution can be expected continually to reduce net-cost altruism; all evolution can do that will yield evolved traits is to enable some genes and gene combinations to be transferred between generations. Net-cost altruism does the opposite. Behavior judged to be net-cost altruism therefore is restricted to temporary or minimized accidental or incidental behaviors that occur as evolutionary mistakes. And that is not a trivial point.

De Waal consistently referred to "reciprocal altruism" rather than the more commonly used term (or at least a better term), "social reciprocity." He seems to use altruism much more frequently than most biologists, and not to discuss problems with the term sufficiently to his audience.

Altruism -- in the net-cost sense -- is the only sense that ordinary people, or people who would define altruism via their dictionaries and their everyday usage, typically appreciate. Such people are not evolutionists, and typically not scientists, and they are always wishing for things to be better than they are -- which would be terrific if it helped the global social situation. But I think we have to understand all of these things before we will be able to stride out and solve the pressing problems involved in issues like altruism. I don't think de Waal is treating his audiences right by continually using the term altruism as if it were an established (evolved) form of behavior. It is not trivial that he talks almost entirely about evolved behaviors (without, I think, calling them that or explaining what "evolved" means). But Frans doesn't talk very much about evolution -- indeed, my impression and memory suggest "scarcely at all."

I have no idea whether he deliberately chooses not to talk about, or perhaps even understand, evolution, and I cannot know if he has decided deliberately, or consciously, to talk about the behavior of primates, and other animal species, in human terms. And I cannot know if he deliberately refuses to discuss evolution because it is a difficult and sometimes dreary topic that most people don't even want to hear about. Franz certainly wants to find reasons to make people happy about the behavior of primates, in a way suggesting that primates are behaving like humans, and are kindly and willing altruists.

In regard to net-cost altruism, consider the following example used by de Waal: He referred to a species that lives in social groups. I have forgotten the identity of the species, but that is unimportant because the appropriate details are in the example. A single individual from this social group was attacked by a predator. The would-be victim made a loud noise in the nature of an alarm call, and the members of its social group rushed to the scene and fought off or frightened off the predator, saving the would-be victim. De Waal asserted that the rescue behavior of the group members was net-cost altruism because the individuals who saved the would-be victim, he said, could not be compensated for their risk-taking or (presumably) the calories lost by the rescuing behavior. There is no question that de Waal was seeing the rescue as beneficial to the victim and as incurring net costs to the rescuers. He made it very clear. De Waal's attention to other cases leaves the distinct impression that he is assuming that net-cost altruism is frequent in both humans and other species.

Here are four benefits likely available to the rescuers in this case, any one of which denies de Waal's assumption of net-cost altruism:

(1) Deterring and running off a would-be predator saved a member of the social group. Presumably the would-be victim had some likelihood of being genetically related to some or all other members of the social group (including spouseships, because of the obvious relationship to reproductive success). If this is so, a genetic return to the rescuer may occur when the victim is saved. De Waal did not tell us that the members of the social group were not genetically related or not associated with sexual or parental partners. Incidentally, he began his lecture -- after the introductory material -- saying that he did not want to discuss outcomes involving kin. But he did not tell us how he demonstrated that real kinship was not involved in his experiments. Kinship, or kinship-like behavior, can generate among unrelated individuals in nonhuman species in ways that most people know nothing about, and usually do -- and there is much more to this that needs to be explained.

(2) Every individual in the social group is likely to have a better chance of not being attacked by the particular predator that was chased away because that individual predator obviously was seriously threatened until it failed.

(3) Organisms do not tend to live in unified social groups unless there is a specific advantage because competition is increased when organisms live in groups. The most frequent explanations of such social groups involve predator defense (despite Wrangham's insistence that it's all about food -- I am assuming he still takes that position). Rescuing a member of a social group that defends itself as a collective unit against predators reduces the likelihood that the group will be gradually whittled down, individual by individual, causing the social group to become increasingly vulnerable (as, incidentally, I am thinking might be the case with chimp groups). Loss of even a single individual in such groups can have a dire effect (some human groups seem to counter losses of individuals as if they were thinking in just this way). Therefore, I would hypothesize that there is sufficient reward for some kinds of social groups to go to the rescue of one of their members.

(4) Rescuers in this instance may learn about the predator and be more capable of dealing with that predator species because of details involved in the particular case.

It seems obvious that there is no reason at all to assume that the rescuers in this case were engaging in net-cost altruism. Indeed, I did not notice any case described by de Waal in his lecture required net-cost altruism. Yet he kept bringing up that topic as if it were the main theme of his talk. I got the impression he was telling the audience repeatedly something like, "You see, nonhuman animals can carry out net-cost altruism just as humans do -- all the time, so to speak. Undoubtedly that makes many people feel good and like the lecturer and his topics. It is as if such comments are downgrading evolution in the interests of elevating the human audience via myth(?).

Why does de Waal flirt and tantalize with the kinds of situations, language, and conclusions most appropriately applied to humans? I believe that he understands how (1) omitting any considerations of how the evolutionary process works and (2) using terms that imply "good" and "kind" behaviors, usually connected to humans, to explain the behaviors of nonhuman organisms yield a sympathetic, but perhaps flimsy and muddled approach that causes his audiences to feel good, and also to believe (wrongly) that de Waal is delivering the most accurate available truths about themselves as well as about other species. To me this aspect of his performance is not first-rate science.

I suggest that de Waal is more likely to develop accurate interpretations of the organisms whose behavior he wishes to explain if he thinks more carefully about how evolution works and his use of human terms to explain nonhuman species. Thus, why not stop implying net-cost altruism when it cannot or is not being demonstrated, except as accident, and evidently cannot evolve. A more useful and less misleading term is easy. I use "high-risk social beneficence." That term emphasizes -- accurately -- the significance of the unanswered question whether there are not-so-obvious advantages in beneficent behaviors that do not at first seem to provide return benefits. It

may make people feel good to think that net-cost altruism is prevalent, but legitimate scientists seek accuracy, not poorly based innuendoes.

There is the comforting thought that if what looks like net-cost altruism spreads sufficiently, and becomes understandable to more and more people, it could become a sufficient stimulus to create global harmony. That's a big "maybe," but I think we'll need a big maybe if we're ever going to crate that widespread harmony. In any case, I think we are unlikely to turn ourselves into a world-wide friendship unless we make the effort honestly, by which I mean that we do it by first becoming accurate about science as a method and evolution as a fact.

In 1859, Darwin put forth the following challenge: "*If it could be demonstrated that any complex organ existed, which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down."* It is reasonable to translate Darwin's "complex organ" to mean any trait that has come about via "numerous, successive, slight modifications." In other words, Darwin's incredible challenge (a bet against the most complicated phenomenon known in the current version of the universe), still unmet after more than 150 years, can be inverted to solve the important question whether a particular trait is an evolved adaptation. If it can be demonstrated or convincingly indicated that a trait has indeed been formed by numerous, successive, slight modifications (in today's language, if it has come about via numerous, successive, genetic alterations -- or has been somehow converted from pre-existing behaviors), then it can be assumed to be an evolved adaptation, and not an accident or mistake.

I think my statement in Darwinism and Human Affairs is appropriate here:

*The challenge of Darwinism is to find out what our genes have been up to and to make that knowledge widely available as a part of the environment in which each of us develops and lives so that we can decide for ourselves, quite deliberately, to what extent we wish to go along***.** (Richard D. Alexander 1979. *Darwinism and Human Affairs*) [Not all evolved adaptations are likely to be deemed desirable in today's world.]

De Waal announced at the beginning of his lecture that he wanted to stay away, as far as possible, from tests involving kinship. This stance is troubling because it implies that social ties resembling kinship cannot be spuriously or unknowingly joined. In other words, he does not provide for his audience evidence that he knows how to prevent either true or false kinship ties in the absence of genetic relatives, or that he has even considered that jeopardy. And he seems not to deal with the question of the many different ways actual or false kinship ties can become involved in the sociality of non-human (or human) animals.

De Waal doesn't seem to grasp all the many different ways that individual primates can adopt behavior appropriate to kinship. Humans are much more likely to be kind and benevolent to (a) relatives, (b) close associates, and (c) individuals bound in a group functioning as a social unit. De Waal did not tell us nearly enough about the social background of chimps that cooperated, for instance to bring food close enough to be used, and that the chimps shared.

In about five minutes I can create a bond with a newborn foal (horse) that closely resembles kinship, and with little or no reinforcement along the way will last for life. For de Waal to claim or imply, as he did, that he removed all kinship ties from his experiments requires that he explain to us how he has accomplished it -- or how he prevented the equivalents or components of kinship behavior from occurring.

De Waal uses the word morality to describe nonhuman behavior, his implication seeming to mean that the animals he is studying are moral in the sense of exhibiting net-cost altruism. He made no suggestions that animals that carry out what he called moral behavior might be obtaining specific returns that over-compensate for any initial beneficence. I think that we have to consider the hypothesis that closely knit social behavior, attachment to absolute moral systems, and hyper-patriotic tendencies virtually characterize our own species, and are there because they serve well in the intergroup aggressions that (1) may occur so infrequently and (2) may be removed so effectively from our consciousness, that we tend to overlook them.

I was chagrined at the questions asked because not a single one of the things I have just discussed here were mentioned. No way could De Waal have gotten away with the lecture he gave if previous generations of students, both graduate and undergraduate, had been present.