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Topic: Altruism or Just Showing Off?

"Logic can be stated in English. Hence I do not understand why Wright describes my reasoning as intuitive." Zahavi in a reply to John Wright (1999)

Paper

Zahavi, Amotz. *Altruism as a Handicap: The Limitations of Kin Selection and Reciprocity*. Journal of Avian Biology. (1995)

Criticism

- Form: Altruism is not defined by the author. Considering the common definition, use of "apparent altruism" would limit confusion.

- The majority of in-text citations rely on the authors own work, including four cases of unpublished observations.

- Reviewers of the Journal of Avian Biology may not exhibit proficiency in the area of evolutionary game theory.

- The dismissal and grouping of Group selection (GS) and Kin selection (KS) theory on the grounds of vulnerability to social parasitism are incorrect. See *Wright, 1999*.

- The problem of 2nd order free riders used to discredit Reciprocal altruism (RA) is not elaborated on. It is true that for interactions within a population, free riders thrive when only conditionally cooperative strategies such as TfT are available, see *Fehr & Gaechter, 2002*. However, this problem can be eliminated by introducing reputation into the model, see *Boyle & Panchanathan, 2004*.

- No distinction between higher and lower forms of consciousness is made. Humans should be considered with care because other, cultural replicators can be involved.

- While altruism as a handicap is theoretically conceivable, Zahavi's evidence (mainly based on unpublished observations of the Arabian Babbler) for such occurrence in nature, is firmly discredited by *Wright et al., 2000*. However, the later does not imply "altruism as a handicap" doesn't occur within other situations or species.

Support

Arnon **Lotem**, Michael A. **Fishman,** Lewi **Stone**. *From reciprocity to unconditional altruism through signalling benefits*. Proc. R. Soc. Lond. B. (2003)

> Out of the various kinds of altruism, unconditional altruism seems the hardest to explain in evolutionary terms.
>
> Hammerstein & Selten have shown that "TfT is not an ESS under evolutionary plausible conditions" (1984) due to possible genetic drift towards unconditional altruists (UA) which can be invaded by defectors (DE).
>
> Lotem et al. show that when individuals are modeled to exhibit high or low quality (correlated with the phenotypic ability to be altruistic or not) TfT is an ESS. Their model uses a novel method of *multitype evolutionary game theory (MEGT)*.
>
> I find their assumption of a reasonably large sub-population of unable-reciprocators to be lacking empirical evidence. I believe that the young are mainly cared for by altruism on the bases of KS, and the sick are evolutionary better to die. That leaves individuals with insufficient resources at the time. However, I believe altruism to be relatively cheap. Therefore the parameter q as used in the MEGT model is insignificant. Assuming "evolutionary plausible conditions", this changes the ESS back to DE, see *Fishman et al., 2001*.
>
> More empirical research in organisms of lower consciousness has to be conducted to determine whether the results of an 'altruistic arms race' can be observed. However, altruism might only increase quantitatively to a certain degree, compared to other fitness indicators such as flight speed (Lotem et al., 1998).

Verdict

Signaling probably plays a significant role in the evolution of altruism.

References

Google scholar advanced search should yield unique results when supplied with author name and publishing date.