Commentary article on Whitehouse H. (2018). Dying for the group: Towards a general theory of extreme self-sacrifice. *Behavioral and Brain Sciences* **41**, e192: 1–62. doi:10.1017/S0140525X18000249

“Self-sacrifice” as accidental outcome of extreme within-group mutualism

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Abstract: Whitehouse makes no room for evolutionary approaches to extreme behaviors based on partner choice and mutualism, which have been convincingly invoked to make sense of ordinary morality. Extended to intergroup warfare, these evolutionary mechanisms may play a pivotal role in explaining the existence of extreme – though not functionally sacrificial – behaviors, benefiting nonkin fellow fighters, together with the distinctive phenomenology those behaviors display.

Whitehouse’s model accurately describes the phenomenon of identity fusion, but his evolutionary analysis (target article, section 4) of apparently sacrificial behaviors is underdeveloped. Here, I explore one important alternative to both kin altruism and group selection to explain extreme conduct that is not considered by the article: partner choice mutualism within coalitions. When operating in circumstances of recurrent intergroup conflict, these may have selected for high-risk parochially altruistic dispositions benefiting non-kin that should not, however, be categorized as functionally self-sacrificial.

From partner choice to a genuine sense of fairness. Drawing on pioneering work on reciprocity (Alexander 1987; Trivers 1971) and ethnographic evidence, partner choice models explain the biological evolution of intrinsic moral motivations to serve the interests of others while avoiding risks of exploitation through competition in a “market of cooperation” (Barclay & Willer 2007; Baumard et al. 2013). They describe the environment of ancestral hunter–gatherers as characterized by the constant search for mutually beneficial ventures in a context where nonkin live in relatively fluid groups. The availability of reputational information makes them, to a great extent, free to choose the most cooperative partners and to punish less generous ones by ostracizing them and gossiping on their misconduct.

The allocation of goods and services is not random when partner choice prevails. The need to attract the best partners, coupled with the existence of bargaining opportunities outside each actual interaction, incentivizes *all* individuals, including dominant ones, to raise their offers so as to satisfy others. The most adaptive strategy becomes to evolve a general propensity to treat others with impartiality, whatever the position one occupies, by sharing the benefits of cooperation in strict proportion to each person’s contribution, and to adjust one’s level of altruistic commitment to a given relationship to the benefits one can expect from it.

Although Machiavellian approaches may view mutual help as motivated by cold considerations of return on investment, the absence of an *intrinsic* concern for others’ rights may motivate individuals to cheat when circumstances are judged favorable (e.g., perceived unlikelihood of detection). Yet, considering the challenge posed by the co-evolution of increasingly refined cognitive abilities to gauge others’ level of commitment and the transmission speed of reputational information, public awareness of even a few actions failing

to meet the demands of impartiality may be enough for the individual responsible to be abandoned.

In that respect, it is now widely accepted that a genuinely moral concern for others' welfare represents the most reliable way of securing the good reputation necessary for durably enjoying the benefits of cooperation with nonkin (Frank 1988; Sperber & Baumard 2012; Trivers 1971) (see Fig. 1). Behavioral experiments massively support the claim that humans spontaneously respect the interests of strangers, even in anonymous contexts (Baumard et al. 2013; Henrich et al. 2005), and that they care about restoring fairness in exchanges (Baumard 2011). In line with the hypothesis that truly moral motivations evolved as honest signals of partner quality, studies show that the most generous partners tend to be friends with one another (Pradel et al. 2008) and that individuals prefer people expressing deontological moral preferences when choosing with whom to cooperate (Everett et al. 2016).

Figure 1. (Marie) Partner choice and mutualism: the general logic. Adapted, with permission, from Baumard and Boyer (2013).

From mutualism to extreme parochially altruistic, apparently “sacrificial” behavior. What is the connection between an indirect reciprocity-based analysis of our ordinary morality and the spectacular behaviors Whitehouse describes? My claim is that the social selection mechanisms that shaped the former may be extended to explain the evolution of extreme parochial altruism and identity fusion.

First, consider that the ancestral competition for resources and the advent of weapons operated at a distance (like spears) sustained intergroup warfare, which in turn would have selected for dispositions to form increasingly cohesive coalitions (which enhance total formidability while reducing individual risk [Tooby & Cosmides 2010]). Second, recall that coalitions are *n*-party exchanges: even when it involves a dozen fighters reciprocating help and protection, a coalitional alliance obeys the same partner choice mutualistic logic as other joint ventures. Third, the high lethality of ancestral raids suggested by paleoanthropology (LeBlanc & Register 2003) would have radically increased the degree to which individual fitness within coalitions was mediated by protection from partners (e.g., compensating for dead angles). Given these parameters, and provided that extreme interdependence was recurrent enough over evolutionary time, partner choice mechanisms within groups may have selected for dispositions for equally extreme individual heroism as the best way of securing vital protection from one’s comrades, independently of genetic relatedness.

Reports of military and insurgent behavior, past and present, indeed suggest that the more adversarial the conditions combatants are facing, the more individuals’ survival prospects are interrelated, and the costlier are the signals of commitment and the actions undertaken (Atran 2010).

Let me insist that such extreme forms of conduct should not be categorized as functionally sacrificial, because the resulting fitness payoff would come from physical protection (and later access to mates and resources) provided by (allied) genetic strangers. Death would only be an accidental outcome, resulting from risk miscalculations by the inference systems involved.

Another crucial fact to highlight is that the subjective experience of a behavior can be completely decoupled from its biological function. Hence, natural selection may have designed the phenomenology of these extreme acts to include a set of complementary motivational processes, the function of which would be to facilitate costly individual contributions to the fighting power of one's coalition. Among the most familiar candidates, one may cite intuitions that one is selflessly giving one's life for a reified group (from coalition to nation [Haidt, 2012; Tooby & Cosmides 2010]); processes of deindividuation via identity fusion calibrated for violent ordeals in close physical proximity (Whitehouse, target article); and a propensity to sacralize local moral imperatives evolved to maximize one's chances of being recruited as a partner and to represent perilous ventures as imbued with transcendental significance (Atran 2010) (Fig. 2).

Figure 2. (Marie) Within-group mutualism in coalitional conflict.

An advantage of this mutualistic approach is also its parsimony, as it subsumes the ordinary and the exceptional into the same evolutionary logic. It could complement the kin altruism framework in ways that should be further investigated both empirically and theoretically.

ACKNOWLEDGMENTS

I thank Aurélien Allard, Nicolas Baumard, Léo Fitouchi, and Dan Sperber for valuable comments on earlier drafts, and Camille Williams for stylistic recommendations.

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