

Book Review

Using the hatchet and burying it afterwards — A review of *Beyond Revenge: The Evolution of the Forgiveness Instinct*

McCullough M. *Beyond Revenge: The Evolution of the Forgiveness Instinct*. San Francisco, CA: Jossey Bass; 2008. \$24.95, 282 pages.

Cooperation and conflict have long been two of the most important areas in studies of social behavior from many perspectives, and evolutionary psychology is no exception. Within those topics, revenge and forgiveness are two major factors, and both have long been known to be crucial strategies for any organism attempting to succeed in cooperative and/or competitive relationships. But how does this actually play out in the brains and psychological processes of people around the world? Are revenge and forgiveness truly both adaptations, and what are their potential functions? What factors tend to promote desires for vengeance, and what factors make forgiveness possible and even likely? What role does religion play, if any, in promoting revenge and forgiveness? Michael McCullough tackles all of these questions, and much more, in *Beyond Revenge: The Evolution of the Forgiveness Instinct* (McCullough, 2008).

Cooperation and conflict are very interdisciplinary, so no single discipline can claim a monopoly on the research on revenge and forgiveness. One of the best features of *Beyond Revenge* is that it successfully synthesizes research from several of these areas, such as evolutionary game theory, anthropology, primatology and social psychology (McCullough's own specialty). At least part of this success is due to the book's strategy of covering in detail both proximate and ultimate causes of revenge and forgiveness; after finding out the function of each and the evidence for universality, we are presented with evidence to support the various proposed psychological processes behind them. Not only does this strategy give the book a clear and logical flow (aided by good writing), but it also helps prevent confusion over proximate and ultimate causation — an error that is all-too-easy to commit when researching cooperation-related topics.

For the ultimate causes, those familiar with the work of [Daly and Wilson \(1988\)](#) will recognize the uses of revenge as a deterrent for future transgressions, and McCullough also applies this concept to costly punishment of those who free ride on group cooperation. Similarly, those familiar with [Axelrod's \(1984\)](#) famous prisoner's dilemma tournaments will recognize the importance of forgiveness in repairing

damaged relationships and ending costly ongoing hostilities, and readers are given a tour of some of the post-Tit-for-Tat research in cooperation. One conspicuous omission is a discussion of Robert [Frank's *Passions Within Reason* \(1988\)](#), which would have been beneficial and complementary when presenting the ultimate causes and integrating them with the proximate causes.

Experts will be familiar with some sections yet will find enough new material from other lines of research to keep them interested. For example, some will find the excellent discussion of ultimate causes useful (especially those who do not study cooperation and conflict, or researchers who are not explicitly evolutionary). Others, like those already studying the evolution of cooperation (such as myself), will benefit more from the sections discussing proximate causes, including the psychological processes and the factors promoting forgiveness vs. revenge (e.g., what makes apologies effective). As with any multidisciplinary review, there are occasional overstatements that experts will catch, such as the extent to which people can be made “race blind” (i.e., noticing others' race less vs. completely ignoring race) and the ease with which this can be accomplished ([Cosmides, Tooby, & Kurzban, 2003](#); [Kurzban, Tooby, & Cosmides, 2001](#)), or the extension of the definition of “revenge” to include guppies refusing to further approach and inspect predators if their coinspector does not approach — a costless and possibly immediately beneficial behavior (via shoaling; [Connor, 1996](#)). Assertions are sometimes left unsupported (especially towards the start), such as the exact nature of ancestral environments, although most of these will not be troublesome to most readers of *Evolution and Human Behavior*. These occasional overstatements and omissions are not common or egregious enough in *Beyond Revenge* to detract from the overall quality and breadth of the discussion and supporting data. The book is like a good meal: a pinch of salt is occasionally required, but not much and not too often.

Two of the themes running through the book will be particularly appealing to evolutionary researchers. The first is that the desire for revenge is not a disease or sickness that only a few deranged individuals have, but a potentially adaptive emotional response to specific situations that is part of the basic emotional toolkit produced by natural selection. This perspective will not be news to many readers of this journal, but the discussion on this topic is worth the read as McCullough dissects and rebuts the more standard social science view that revenge is an illness for which forgiveness is the cure and presents a strong case for

adaptation by showing the specificity and cross-cultural ubiquity of revenge.

Although not done in the book, this theme can be expanded to help explain even vengeance that appears to go beyond the bounds of usefulness as follows. Suppose that there is an optimal level of vengeance to any given situation: too much and it results in injury or retaliation, too little and it does not deter future transgressions, such that playing the revenge game involves “brinkmanship” (Daly & Wilson, 1988). The optimal level of revenge is not automatically known by a wronged person; instead, people unconsciously process cues in the environment to infer whether wrongs have indeed been committed, the extent of those wrongs and the optimal level of vengefulness to experience. Naturally, there will be error associated with these inferences, as with any other inferences based on cues which can vary and/or be misperceived. Also, there will be natural or induced variation in people’s propensity to experience vengefulness in general, just as there is *some* variation about the optimum in just about any complex trait. These psychological mechanisms can bring fitness benefits on average, even though the mechanisms inevitably under- or overshoot the optimum level, resulting in some distribution of vengefulness around that optimum. However, when a highly vengeful person overperceives a number of cues, extraordinary and maladaptive cases of vengeance can occasionally result — these are the stories that get picked up by the press (and repeated at length at the start of several chapters of *Beyond Revenge*). Similarly, maladaptively *low* levels of vengeance can result from the same processes in the opposite direction. Add in the possibility of genuine pathologies *in the evolved revenge systems* of the brain or areas that process revenge-relevant cues, and it is quite easy to get from the adaptive emotion of vengefulness to extremely maladaptive revenge behavior.

A second theme is the degree to which the emotions of revenge and forgiveness are facultatively adjusted according to what would pay off in a given situation, depending upon things such as the value of the relationship, the costs of continued hostilities, the presence of external authorities to appeal to, etc. This theme fits well with many evolutionary researchers’ focus on adaptively facultative responses to environments, as well as with the decades of social psychology literature demonstrating the power of situations to dramatically change behavior. McCullough spends much time synthesizing literature showing the various specific environmental contingencies that can be changed to affect

the level of forgiveness displayed, whether at an individual level or at larger levels like groups and nations. The penultimate chapter even includes an interesting discussion on how religions can increase both vengeance *and* forgiveness, and that religious norms often promote one or the other according to the local payoffs for revenge and forgiveness (for both the individual and for the spread of the religion itself). Despite this strong focus on the facultative adjustment of behavior according to the costs and benefits, McCullough does not fall into the easy trap of confusing proximate and ultimate causation by assuming that the weighing of costs and benefits is done rationally, and he is quick to point out that the proximate motives are likely to be simple decision rules rather than conscious assessment of expected payoffs.

All of this information on environmental contingencies is useful for anyone who would wish to use research findings to help reduce the incidence of violence and aggression within and between groups. As such, *Beyond Revenge* may even appeal to those whose interests are not solely academic. It does a commendable job of covering the highly interdisciplinary topics of revenge and forgiveness by presenting research from many fields bearing on both proximate and ultimate causes. In all, *Beyond Revenge* is an enjoyable and informative read, and is a fine addition to anyone’s bookshelf, whether they specifically research cooperation and conflict or not.

Pat Barclay

Department of Neurobiology and Behavior
Cornell University, Ithaca
NY 14853, USA

E-mail address: pjb46@cornell.edu

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