

An Adaptation for Altruism?

The Social Causes, Social Effects, and Social Evolution of Gratitude

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ABSTRACT—*People feel grateful when they have benefited from someone's costly, intentional, voluntary effort on their behalf. Experiencing gratitude motivates beneficiaries to repay their benefactors and to extend generosity to third parties. Expressions of gratitude also reinforce benefactors for their generosity. These social features distinguish gratitude from related emotions such as happiness and feelings of indebtedness. Evolutionary theories propose that gratitude is an adaptation for reciprocal altruism (the sequential exchange of costly benefits between nonrelatives) and, perhaps, upstream reciprocity (a pay-it-forward style distribution of an unearned benefit to a third party after one has received a benefit from another benefactor). Gratitude therefore may have played a unique role in human social evolution.*

KEYWORDS—*gratitude; emotion; evolution; morality; prosocial behavior; reciprocity; altruism*

Emotions are discrete, time-limited, affective responses to significant environmental changes. Once activated, emotions are thought to coordinate thought, physiology, and behavior so that people can respond to reality in self-protective and self-enhancing ways (Ekman, 1992). Discovering what a particular emotion *does*—the environmental inputs that activate it and its effects on behavior, for instance—is therefore regarded by many emotion researchers as a royal road to discovering what it is *for*—that is, why humans evolved to experience that emotion.

Gratitude—a positive emotion that typically flows from the perception that one has benefited from the costly, intentional, voluntary action of another person—is an interesting test bed for considering this functional approach to emotion. Western social theorists from Seneca and Cicero to Adam Smith and David Hume, to modern social scientists such as Robert Frank and

Robert Trivers, have apprehended the importance of gratitude for creating and sustaining positive social relations (Bartlett & DeSteno, 2006; Harpham, 2004; McCullough, Kilpatrick, Emmons, & Larson, 2001). Oddly, though, psychological science largely neglected gratitude until the 21st century. Fortunately, recent research has explored gratitude's distinct social causes and effects. These studies may help to shed light on gratitude's evolutionary history.

GRATITUDE AS A PROSOCIAL EMOTION

Gratitude is a pleasant emotion, but it is different from simple happiness because gratitude is typically preceded by the perception that one has benefited from another person's generosity. Because gratitude is predicated upon receiving a benefit from another social agent, McCullough et al. (2001) proposed that gratitude possesses three psychological features that are relevant to processing and responding to prosocial behavior: It is a (a) benefit detector and both a (b) reinforcer and (c) motivator of prosocial behavior.

Gratitude as a Benefit Detector

First, McCullough and colleagues proposed that gratitude is an affective readout that alerts people that they have benefited from another person's prosocial behavior. Gratitude is responsive to four types of information about the benefit-giving situation: (a) the benefit's costliness to the benefactor, (b) its value to the beneficiary, (c) the intentionality with which it was rendered, and (d) the extent to which it was given even without relational obligations to help (for example, parents' obligations to help their children). Recent experiments support this characterization of gratitude as a benefit detector. For example, Tsang (2006a) found that, consistent with the proposition that gratitude increases proportionally with the benefactor's intentionality, participants experienced more gratitude toward benefactors who helped them out of benevolent rather than self-serving motives.

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Gratitude as a Reinforcer of Prosocial Behavior

McCullough et al. (2001) also proposed that gratitude reinforces prosocial behavior because expressions of gratitude (for example, saying “thanks”) increase the likelihood that benefactors will behave prosocially again in the future. Reviewing previous studies, McCullough and colleagues concluded that benefactors who are thanked for their efforts are willing to give more and work harder on behalf of others when future opportunities arise than are benefactors who have not been thanked. Writing “thank you” on a restaurant bill even raises servers’ tips.

Why would saying “thanks” reinforce prosocial behavior—and even tipping? Perhaps because the beneficiary’s expression of thanks acknowledges to the benefactor that he or she has noticed a kindness and, thus, might be prone to reciprocate when a future opportunity to do so arises. In other words, expressing gratitude may make beneficiaries seem like safe targets for future investments.

Gratitude as a Motivator of Prosocial Behavior

This leads to gratitude’s third prosocial characteristic: It motivates people to behave prosocially after receiving benefits. In 2001, when McCullough and colleagues reviewed the literature, gratitude’s efficacy as a motivator of future prosocial behavior was the most speculative of their proposals about gratitude’s effects. More recent research has confirmed their speculation. McCullough, Emmons, and Tsang (2002) found that people who scored higher on self- and peer-report measures of the “grateful disposition” also scored higher on measures of prosocial behaviors during the previous month (and overall) than did people who scored lower on the gratitude measures. In addition, Bartlett and DeSteno (2006) discovered that participants made to feel grateful toward a benefactor exerted more effort to help the benefactor on an unrelated task (i.e., completing a boring and cognitively taxing survey) than did nongrateful participants. They were also more likely to help a stranger (that is, someone who had not helped them) than were nongrateful participants. This latter finding shows that gratitude’s effects on prosocial behavior were not simply caused by reminding people of the norm of reciprocity (the norm that dictates that one should return help for help received).

Likewise, Tsang (2006b) found that people who received a benefit due to the intentional effort of a partner not only were more grateful than were people who received the benefit by chance but also were more likely to behave generously toward their partner in response. Finally, Emmons and McCullough (2003) found that participants who wrote daily for 2 weeks about things for which they were grateful reported offering more emotional support and (with near-statistical significance) tangible help to others than did participants who wrote about their daily hassles or about ways in which they were more fortunate than others.

Gratitude may motivate prosocial behavior by influencing psychological states that support generosity and cooperation. For example, Dunn and Schweitzer (2005, Study 3) found that participants who described a time in the past when they felt grateful toward someone (thereby creating grateful emotion in the present) subsequently reported higher levels of trust toward a third party than did participants who were asked to describe a time they felt angry, guilty, or proud. Similarly, Jackson, Lewandowski, Fleury, and Chin (2001) found that having participants recall a real-life gratitude-inducing experience caused them to attribute another person’s good fortune to stable causes that were under the fortunate person’s control. In other words, gratitude causes one to give people credit for their accomplishments. Trust and a readiness to give people credit for their accomplishments are important lubricants for positive social interaction, so psychological effects such as these may explain how gratitude promotes prosocial behavior.

DISTINGUISHING GRATITUDE FROM OTHER EMOTIONS

In light of its prosocial characteristics, functional emotion theorists would likely speculate that gratitude was shaped by evolutionary pressures for generosity and helping. However, if gratitude’s prosocial characteristics were not unique to gratitude (for example, if gratitude were indistinguishable in these respects from emotions such as happiness and indebtedness), then the proposition that gratitude was designed specifically to facilitate social exchange would be weakened. Fortunately for the functionalist approach, research shows that gratitude is quite distinct from several kindred emotions in its phenomenology, causes, and effects.

Gratitude Versus Other Positive Emotions

Psychologists have long held that positive emotions such as happiness and amusement can promote prosocial behavior. What may distinguish gratitude from other positive emotions in this respect is that gratitude stimulates helping even when it is costly to the helper. Bartlett and DeSteno (2006) found that participants in an experimentally induced state of gratitude voluntarily spent more time completing a boring survey as a favor to their benefactor than did participants in an amused emotional state (see also Tsang, 2006b). Additionally, as noted above, Jackson et al. (2001) showed that gratitude causes people to give other people who encounter good fortune more credit for their good fortune than does simple happiness.

Gratitude Versus Obligation and Indebtedness

Gratitude is also distinct from obligation and indebtedness. Although people often use obligation-related phrases (e.g., “I owe you one”) and gratitude-related phrases (e.g., “I’m grateful to you”) interchangeably, they are distinct and have distinct

psychological effects. For example, obligation feels negative and uncomfortable, whereas gratitude is usually associated with contentment and well-being (McCullough et al., 2001).

Moreover, feeling obligated after receiving a favor does not uniquely predict compliance with a request to perform a favor for the benefactor after controlling for gratitude statistically. In contrast, gratitude predicts compliance even after controlling for indebtedness (Goei & Boster, 2005; Goei, Roberto, Meyer, & Carlyle, 2007). Tsang (2007) also found that gratitude was a better mediator of the association between receiving a gift of large value and reciprocating a favor than was indebtedness.

In a related finding, Watkins, Scheer, Ovnicek, and Kolts (2006) showed that people anticipate feeling indebted and obligated, but not grateful, when benefactors help them with an explicit expectation of a return favor (that is, when the help has “strings attached”). Indeed, the greater one’s gratitude for a benefit, the greater one’s desire to help, praise, and be near the benefactor. Conversely, the greater one’s indebtedness, the greater one’s distress and desire to avoid the benefactor (Watkins et al., 2006).

THE SOCIAL EVOLUTION OF GRATITUDE

Researchers have noted that gratitude appears to be cross-culturally and linguistically universal (McCullough et al., 2001), and Darwin himself (1871/1952) posited (albeit without appealing to any systematic evidence) that gratitude was observable in the behavior of nonhuman primates. There is also reason to believe that gratitude evolved independently of language because some nonverbal behaviors (e.g., handshakes) are useful for communicating gratitude (Hertenstein, Keltner, App, Bulleit, & Jaskolka, 2006). These observations, plus the recently discovered facts about gratitude’s causes and effects, raise the possibility that gratitude evolved to facilitate social exchange. Indeed, many of psychology’s recent discoveries about gratitude can be reconciled with two hypotheses from evolutionary biology about the selection pressures that sculpted gratitude into its modern form.

Gratitude and the Evolution of Reciprocal Altruism

The first of these hypotheses is that gratitude evolved to facilitate reciprocal altruism. In introducing the theory of reciprocal altruism, Trivers (1971) proposed that “the emotion of gratitude has been selected to regulate human response to altruistic acts and that the emotion is sensitive to the cost/benefit ratio of such acts” (p. 49). Research confirms both of Trivers’s proposals: Gratitude regulates people’s responses to benefits by motivating them to acknowledge those benefits verbally and nonverbally and by motivating them to extend benefits to their benefactors in kind. Trivers was also correct in proposing that gratitude is sensitive to the costs and benefits associated with altruistic acts (McCullough et al., 2001; Tsang, 2007).

Trivers’s theory is also congenial to two other findings about gratitude. The first is that people anticipate feeling more grateful to strangers, acquaintances, and friends who benefit them than to genetic relatives (i.e., siblings and parents) who provide the same benefit (Bar-Tal, Bar-Zohar, Greenberg, & Hermon, 1977). The second is that gratitude increases people’s trust in third parties, but only when they lack a high degree of familiarity with those third parties (Dunn & Schweitzer, 2005).

Both phenomena make sense if gratitude evolved expressly in response to selection pressure for reciprocal altruism. Because people share, on average, 50% of their genes in common with their offspring and siblings, it is in one’s genetic self-interest to expend resources to benefit a genetic relative (kin altruism) as long as the value of the benefit to the beneficiary, weighted by the degree of relatedness, exceeds the cost to the benefactor (Hamilton, 1964). Concerns about reciprocity are superfluous, then, to the selection pressures that gave rise to kin altruism. For this reason, specialized adaptations for reciprocal altruism—gratitude possibly being one of them—should not be activated by the prospect of receiving benefits from genetic relatives. This may explain why gratitude toward kin is apparently less intense than is gratitude toward nonkin. Furthermore, the fact that gratitude increases trust in strangers, but not in well-known acquaintances, makes sense if gratitude evolved to help people convert acquaintanceships with nonkin into relationships that can support reciprocal altruism.

Gratitude and the Evolution of Upstream Reciprocity

A second (admittedly more speculative) evolutionary hypothesis is that gratitude evolved to stimulate not only direct reciprocal altruism but also what Nowak and Roch (2006) have called “upstream reciprocity”: passing benefits on to third parties instead of returning benefits to one’s benefactors (for example, on occasions when one’s benefactors do not need helping). On the basis of computer simulations, Nowak and Roch concluded that a gratitude that motivates organisms to direct benefits toward third parties in this gratuitous fashion can enhance fitness, provided the population has already evolved for direct reciprocity. (To better appreciate the possible adaptive advantage of upstream reciprocity, note that upstream reciprocators will sometimes undeservingly benefit from other upstream reciprocators’ benevolent actions.) In fact, Nowak and Roch came to the surprising conclusion that if this “pay it forward” sort of gratitude evolves within a population that is already adapted for direct reciprocity, natural selection will reduce the benefit–cost ratio required for altruism to stabilize within the population, thereby making altruism more efficient. Another interpretation is that gratitude-motivated upstream reciprocity appears to facilitate the evolution of higher levels of altruism than would be possible without it.

Thus, Nowak and Roch suggest, modern gratitude may have been shaped by selection pressure for upstream reciprocity. If

the Nowak-Roch model turns out to be correct, then Bartlett and DeSteno's (2006) finding that gratitude increases people's willingness to help third parties may not be the "incidental effect" that Bartlett and DeSteno (2006) presumed, but rather, an intrinsic part of gratitude's adaptive design.

DIRECTIONS FOR FUTURE RESEARCH

Three avenues for future research seem especially promising. First, if gratitude evolved to facilitate altruism among nonrelatives, as Trivers (1971) and Nowak and Roch (2006) proposed, then benefits delivered by kin should produce less gratitude, and therefore less direct and upstream reciprocity, than should benefits delivered by nonkin. Moreover, gratitude is probably more valuable for establishing reciprocal relationships than for maintaining them: Once a long chain of successful reciprocal exchanges has occurred, a gratitude-based acknowledgment of a benefactor's altruistic act and a gratitude-motivated intent to reciprocate would be superfluous because actions (e.g., both parties' long histories of mutual trustworthiness) would speak louder than words. Exploration of relational boundary conditions such as these would shed further light on gratitude's possible adaptive design.

Second, Nowak and Roch's (2006) model of upstream reciprocity needs fuller attention. If their model is correct, then the motivation to respond to the receipt of benefits by passing them on to undeserving third parties is not an incidental effect of gratitude but, rather, an intrinsic design feature.

Third and finally, we recommend research on whether the effects of gratitude on psychological well-being (Emmons & McCullough, 2003; McCullough et al., 2002) are due to real (or even merely perceived) changes in people's social relationships. As many have noted, positive social relations are conducive to health and well-being, so given gratitude's pervasive relational effects, gratitude's links to health and well-being may be partially due to those relational effects.

CONCLUSION

Gratitude appears well-designed for signaling and motivating the exchange of benefits. Gratitude's unique social characteristics suggest that it may have been instrumental in the evolution of humans' prodigious tendencies to cooperate with nonkin. Research on gratitude that is informed by evolutionary theorizing can be a time machine that helps us to make inferences about the social forces in our evolutionary past that turned us into the exquisitely cooperative creatures we are today.

Recommended Reading

Cosmides, L., & Tooby, J. (1992). Cognitive adaptations for social exchange. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind* (pp. 163–228). New York: Oxford University Press. A

"modern classic" that outlines a strategy for identifying psychological adaptations for social exchange.

Emmons, R.A., & McCullough, M.E. (Eds.). (2001). *The psychology of gratitude*. New York: Oxford University Press. A readable collection of chapters on gratitude by leading scholars in philosophy, the social sciences, and the life sciences.

McCullough, M.E., Kilpatrick, S.D., Emmons, R.A., & Larson, D.B. (2001). (See References). A more leisurely and wide-ranging review of research and theory on gratitude through the end of the 20th century.

Nowak, M., & Roch, S. (2006). (See References). An important introduction to the logic and evolutionary plausibility of natural selection for upstream reciprocity.

Trivers, R.L. (1971). (See References). A landmark theoretical work that provides a blueprint of the psychological system that might have supported the evolution of reciprocal altruism in humans.

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