FirstRand

Tit for Tatt and the vampire bat

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Life lessons for softies from altruistic bats

If you're familiar with the expression "nice guys finish last" you've probably considered whether it's true, and wondered if you should be meaner. In his legendary book The Selfish Gene, Richard Dawkins presents a compelling argument why you should be nice if you want to get ahead. Inevitably there is a catch to getting niceness right, which happens to have been mastered by altruistic vampire bats.

As Dawkins explains, vampire bat metabolism requires that they eat regularly. This means that if a vampire bat skips a meal they will quickly become unable to function properly and even become so weak that they cannot collect their own food. This characteristic is further complicated by the fact that their food is jealously guarded by its owner. All species generally defend vociferously against sharing their blood, and as result it is quite common that vampire bats are unsuccessful in collecting food.

Vampire bats are thus faced with a situation where they have to eat regularly but cannot be guaranteed regular success in collecting food. This dilemma gives rise to a fascinating social safety net in bat communities. This safety net operates in a way whereby bats who are successful in collecting food on any given outing tend to share their food with members of the community who were not successful. At an individual level, sharing one's food is an investment for a rainy day when one is not successful in collecting one's own. From a community perspective the system of sharing sustains the group as a whole and helps ensure its success long into the future.

Naturally this system is not entirely immune to free riding by antisocial bats who take food without giving any back. In such instances an antisocial bat may enjoy the food provided by others but either does not collect food or collects it and simply keeps it to themself. Here the perceived response of the other bats is fascinating. It is believed that they respond with what is known as a 'Tit for Tatt' strategy. In this strategy the altruistic bats will allow a free rider to take advantage of their generosity once, but not twice. In other words, every antisocial bat is limited in the number of times it takes without reciprocating. Thereafter antisocial bats get frozen out of the exchange. Their remaining options are either to learn how to collect and share food or to starve.

In evolutionary terms this strategy more or less ensures that repeat free riders are only ever the product of random rogue genes that then get quickly removed from the gene pool. At the same time, it allows enough flexibility for every bat to have a bad day from time to time, which they do. This is important for the long-term success of the community as a whole because too much food and effort wasted on lazy bats becomes unsustainable. A colony populated with too many antisocial bats will not be able to sustain itself, let alone grow and flourish. At the same time a population that does not allow for some mistakes or bad luck is also unlikely to succeed. The Tit for Tatt strategy provides flexibility to deal with 'life happening' for unlucky bats while also being severe enough to ensure that repeat offenders are weeded out. This upholds the necessary system of altruism in vampire bat communities and enables their long-term success as a species.

These observations have important implications for human society as well.

In their efforts to better understand the effectiveness of different such strategies in social settings, American political economist Robert Axelrod ran a series of competitions asking colleagues and peers to propose different strategies for dealing with a similar social dilemma (Axelrod's competition was based on the well-known Prisoner's Dilemma which is fundamentally similar to the vampire bat dilemma). Axelrod received dozens of submissions and coded these into a common programming language so that they could be run against one another in a computer simulation. Remarkably the Tit for Tatt

strategy convincingly won most of the competitions against numerous different strategies, including antisocial strategies. Possibly even more remarkably, altruistic strategies consistently all placed in the top half of the competitions while 'nasty' strategies consistently all placed in the bottom half. Of the top performers only one strategy could really rival Tit for Tatt's effectiveness. It was another altruistic strategy named 'Tit for Two Tatts'.

To extend the bat example, in a Tit for Two Tatts situation each antisocial bat would be allowed not one, but two opportunities to free ride from an individual before being cut off from their generosity. In other words, a blood donor would donate blood to any given individual twice before reciprocity became a necessary condition for a third donation. Axelrod and other researchers have looked into the reasons why Tit for Tatt sometimes wins the simulations while other times Tit for Two Tatts wins. The analysis suggests that the success of each strategy depends on the different strategies being employed in the community as well of the number of individuals in the community employing each of these strategies.

Here a key point may be that a successful approach to managing antisocial behavior requires a degree, or degrees, of flexibility depending on the situation. Even more importantly it demonstrates that antisocial strategies generally do not pay off, especially in the long run. By now I suppose it's obvious where this is headed. Dawkins convincingly shows that nice guys don't finish last - they almost always win in the long run, even though consistent success requires temporary degrees of loss and flexibility.

If you're a person who has considered whether you need to meaner in order to get ahead it may be worth considering how many times you've been nice and feel you've lost, and to whom. Are you always nice to the same people who always disappoint you, or are you always nice to new people who just haven't proven themselves yet? If it's the latter your niceness could be a valuable investment for the future. If the former you might need to be a bit meaner from time to time.

Whatever the outcome of your analysis one thing is certain, with Tit for Tatt and Tit for Two Tatts in your toolkit, you can stay soft and still get ahead.