Betrayal, Outrage, Guilt, and Forgiveness: The Four Horsemen of the Human Social-Emotional Experience

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ABSTRACT

The current work proposes an evolutionary-based model regarding how genuine forgiveness might emerge on the heels of a betrayal in a relationship between two individuals who co-exist in some broader community. Ancestral human societies were small-scale in nature, usually consisting of no more than 150 individuals. Reciprocal altruism (see Trivers, 1971) evolved as a strong feature of our evolved social psychology in such small-scale contexts. People evolved to develop bonds of trust with others whom they could expect to help them in the future. Under these conditions, breaking trust via betrayal would have had devastating consequences. The current work presents a model for understanding how individuals can get past betrayals given our evolved psychology. The model proposed here includes *the four horsemen of the human social-emotional experience*, which we construe as a betrayal by the offender, outrage expressed by the victim, guilt expressed by the offender, and, possibly, forgiveness felt and demonstrated by the victim. Based on this model, other responses to the outrage experienced by the victim, such as spite or shame demonstrated by the offender, are unlikely to lead to forgiveness. Thus, this model conceptualizes guilt as fundamental in the process of forgiveness. Implications for modern living and for future research directions are discussed.

KEYWORDS

Betrayal, Outrage, Guilt, Forgiveness, Evolutionary Psychology, Positive Evolutionary Psychology

In a species that is naturally characterized by living in small-scale social groups that include high levels of reciprocal altruism between individuals, humans can be thought of as having evolved social-emotional systems. It is likely that these systems were selected for keeping individuals connected to others within their groups

and to keep checks on those who exploit others for their own gain (see Geher & Wedberg, 2020). In a now-classic followup to his work on the topic of reciprocal altruism (see Trivers, 1971), Trivers (1985) proposed that human moral emotions evolved specifically to address these issues of small-scale living in a species such as ours.

The current paper specifically presents an organization of the moral emotions particularly related to betrayal. The evolutionary-based analysis presented here focuses on the strong moral emotions that have evolved in our species that may be thought of as related to reciprocal altruism and small-scale social living.

MINDS SHAPED FOR SMALL-SCALE LIVING

While humans are a social species, there is a limit to the number of relationships that can be maintained. Anthropologist and evolutionary psychologist Robin Dunbar proposed that the number of people that we can establish meaningful relationships with is capped at approximately 150. This number has been validated in many societal contexts, from Mesopotamian village size estimations to ideal Roman Army unit sizes (Dunbar, 1993). Drake Bennett implies that Dunbar concluded this number in the following manner, "In the same way that human beings can't breathe underwater or run the 100-meter dash in 2.5 seconds or see microwaves with the naked eye, most cannot maintain many more than 150 meaningful relationships" (p. 54, 2013).

According to Robert Trivers, altruism can be defined as behavior that benefits another organism that is not closely related, at the cost of decreasing the fitness of the organism performing said behavior (1971). Reciprocal altruism can be thought of as prosocial behavior that is, more or less, reciprocated to non-kin. Trivers has also noted that reciprocal altruism in the human species is ubiquitous. As a social organism, humans have utilized reciprocal altruism to establish complex social networks of non-kin. The transition from small bands of people to large-scale societies resulted in something of a mismatch between our evolved psychology rooted in evolutionary altruism under small-scale conditions and the modern large-scale societal conditions that now surround so many of us.

Under ancestral conditions, individuals were surrounded by the same 150 individuals for most, if not all of their lifetimes, as moving from one group to another was highly unlikely and typically not an option. Moreover, this small band of 150 individuals was made up largely of kin and non-kin with strong ties to one another. Therefore, the maintenance of these relationships was extremely important for the survival of the individual.

THE EVOLUTIONARY PSYCHOLOGY OF BETRAYAL

The model that we present here focuses on how betrayal in a small-scale social context can have devastating effects. In this section, we summarize past work on the evolutionary psychology of betrayal.

Research into the psychology of betrayal has utilized various definitions. The current work utilizes a model of betrayal that follows from Fitness' (2001) citation classic which defines betrayal as such: *Betrayal means that one party in a relationship acts in a way that favors his or her own interests at the expense of the other party's interest.* Betrayal can send a message about the extent to which the betrayer cares about his or her relationship with the other person (Fitness, 2001).

The psychology of betrayal can vary depending on the domain. Shackelford and Buss (1996) studied the way people rated certain situations in terms of betrayal. They found that participants perceived the greatest betrayal when given an act that occurred in the mateship context, next greatest in the friendship context, and least in the coalition context (Shackelford & Buss, 1996). They explain their findings in an evolutionary context.

Cosmides and Tooby's (1989) model of social exchange can also shed light on the concept of betrayal from an evolutionary perspective. Social exchange theory describes the interaction between two groups of people and the risks and rewards associated (Cosmides & Tooby, 1989). In their model, betrayal is part of the risks and rewards in human relationships writ large.

All human relationships are vulnerable to a multitude of transgressions and betrayal. As a result, humans have evolved different psychological mechanisms in order to detect a friend from foe (Shackelford and Buss, 1996). Due to the fact that humans evolved living in small scale-societies (Dunbar, 1992), it became vital to learn whom to trust and whom not to trust. It is not within humans' best interest to betray others given the damaging effects that such an outcome might have on one's relationships and social standing. Today, humans live in much larger societies, however, we have evolved to detect when someone has wronged us and our reactions to betrayal relate back to our most basic evolved emotional psychology.

EMOTIONAL RESPONSES TO BETRAYAL

When Brutus stabbed Julius Caesar in the back, it was clear that Caesar's "best friend" had fully betrayed him. Such an act might be thought of as the prototype of the intense emotional psychology that surrounds acts of betrayal.

Outrage

Outrage, which is essentially the emotion of anger turned outward in a partially public manner, is a common response to the experience of betrayal. Based on the work of Sell et al. (2017), anger is a fundamental part of how humans attempt to level the playing field in social contexts. Humans use anger as a means to communicate. It has been theorized that anger is used as a way for people to bargain with others to increase their lot (Sell et al., 2017). This bargaining tendency is especially common in instances when an individual's welfare tradeoff ratio is low due to interpersonal conflict. *Welfare tradeoff ratio* is a cognitive-regulatory variable that determines the weight of an individual's resources versus another's resources (Tooby & Cosmides, 2008). When a better outcome is received (an apology, understanding, and/or change), then anger may subside (Sell et al., 2017).

Outrage is characterized by an explicit outburst of negative emotions that often function to call out amoral and/or transgressive acts publicly (Rothschild & Keefer, 2017). Though language is a crucial part of outrage, it is not necessarily needed to come to a moral judgment about a transgressor (Haidt, 2013). Instead, researchers point to the idea that moral judgments are intuitive (Haidt, 2013) and are considered automatic (Bargh & Chartrand, 1999). Expressing outrage in response to being betrayed by someone in a small-community context appears to serve two specific evolutionary purposes: one that has an evolutionarily adaptive benefit (*ultimate function*) and one that has an immediate benefit (*proximate function*) (Geher, 2014).

Ultimate Function. As mentioned earlier, humans have evolved to live and function well within a relatively small and stable group (Dunbar, 1992) where everybody knows one another. Those strong social ties generally discouraged individuals from taking advantage of others within that group without feeling significant consequences (Geher et al., 2019). Moral standards partly provide social agreements within groups to ensure the safety of its people and resources (see Haidt, 2013). The ultimate function of outrage in response to betrayal appears to be the restoration of justice on behalf of the victim (Rothschild & Keefer, 2017), concluding that outing the offender, therefore, potentially benefits the entire community (see Geher, 2014).

Proximate Function. Displaying moral outrage seems to carry more than just prosocial and restorative benefits. An individual may be motivated to outwardly show his or her feelings against a moral transgressor for very self-serving purposes. Outing a moral transgressor deflects threats to one's moral identity or to one's ingroup immoral behavior, thus potentially raising one's own social status (Rothschild & Keefer, 2017). Additionally, Rothchild and Keefer (2017) report that moral outrage has been documented to be used as a defensive mechanism of individuals to reduce feelings of guilt from one's own past transgressions, which we discuss in detail in the following section.

Guilt

Guilt deeply influences our decision-making process and regulates social behaviors (Shen, 2018). It has been viewed as playing an important role in morality as one who feels guilty seems to be able to evaluate what is right and what is wrong (Shen, 2018). Such an individual is able to recognize his or her actions and take responsibility for them after transgressing against another (Pivetti, 2015). Guilt is directly related to the tendency to repair social connections (Pivetti, 2015) With the ability to mend, guilt has become a very adaptive "communal-oriented" emotion that allows an individual to maintain social relationships through internalization (Pivetti, 2015).

Ultimate Function. Guilt-driven reparation of social bonds has been found to be relatively effective in a practical sense (which makes it effective in terms of Darwin's bottom lines of survival and reproduction, ultimately; see Shen, 2018). In small-scale societies, moral transgressors would not have the option to hide from the other members of their communities. Guilt likely serves the function of allowing the transgressor to face the members of his or her community yet still potentially remain connected within the group (and even to the victim of the transgression).

Proximate Function. Some research suggests that while guilt can be unpleasant, it generally does not violate one's core identity (Pivetti, 2015). Guilt-prone individuals will admit their wrongs, take true responsibility for what they have done by confessing, and apologizing to those whom they have hurt (Pivetti, 2015). One who experiences guilt will likely apologize after genuinely feeling wrong for hurting another which in return can create a strong moral identity (Shen, 2018). Guilt generally serves the proximate function of helping to make amends and restore a relationship (Pivetti, 2015).

Forgiveness

Forgiveness can be defined as the tendency to "to cease to feel resentment against (an offender)" (Merriam-Webster.com). There are multiple ways to experience forgiveness, such as intrapersonally (by feeling resolved about a transgression in one's own mind) or interpersonally (by ceasing the expression of resentment toward an offender; see Lawler-Row et al., 2007). Generally speaking, forgiveness is seen as critical to conflict restoration and is crucial for allowing people to maintain connections in a small-scale social context on the heels of a betrayal (Toussaint & Webb, 2005).

Ultimate Function. Under ancestral, small-scale social conditions, everyone had a part to play and rifts in social connections had the capacity to be broadly disruptive (Geher et al., 2019). Genuine forgiveness has the capacity to keep individuals connected within small groups in spite of a history of moral breaches and deceit. This said, consistent with the general theme of this paper, forgiveness that is automatic on the heels of a betrayal is not very likely; there are evolutionary reasons for understanding this concept. Ancient humans who unconditionally forgave those who betrayed them were likely candidates for being exploited by others more generally—and such an approach would clearly have detrimental consequences in terms of one's long-term reproductive success. Thus, monitoring how likely someone is to forgive another includes considerations of such factors as the relationship between the individual and wrongdoer as well as how likely the wrongdoer is to cause more harm later on (Lopez, 2015). Forgiveness can often be seen when the value of the relationship is high in comparison to the risk of exploitation.

Proximate Function. There are also several immediate, intrapersonal benefits when it comes to forgiving someone who has wronged us. In fact, it seems that genuine forgiveness has the capacity to help the victim feel a variety of positive affective states and even lead to an improvement in the individual's own self-identity (see Gorsuch & Hao, 1993). This stress-reduction component of forgiveness, which may be a primary proximate function of many religions, seems to facilitate acts that allow victims to find peace with others given a history of betrayal.

Table 1. The Functions of the Moral Emotions Catalyzed by Betrayal

Social Emotion	Stimulus	Ultimate function	Proximate function
Outrage	Betrayal	- Outs the cheater and curtails his or her transgressive behavior (Rothschild & Keefer, 2017). - Benefits the individual expressing outrage by publicly establishing his or her moral fortitude (Sell et al., 2017).	- Ability to acknowledge immoral behavior of a group member. (Rothschild & Keefer, 2017) - Acknowledges threats to ingroups. (Rothschild & Keefer, 2017) - May help maintain or raise victim's social status. (Rothschild & Keefer, 2017)
Guilt	An offender has been called out via outrage by a victim	- Allows the betrayer an opportunity to avoid being ostracized (Shen, 2018). - Allows one to be a part of a strong group with strong relationships (Pivetti, 2015). - Allows a group to maintain a healthy number of members. (Shen, 2018).	- Motivate conciliatory behaviors (such as apologies) (Pivetti, 2015). - Create amends and restore relationships (Pivetti, 2015). - Allows one to sustain a genuine, moral identity (Shen, 2018).
Forgiveness	Allowing the offender back into one's life and/or the broader ialcial circle (Toussaint & Webb, 2005)	- Preserves connections within small groups. (Geher et al., 2019) - Elevates the social status of the forgiver (especially if they already hold a leadership position; Geher & Wedberg, 2020).	- Religious policies that encourage forgiveness (see Geher & Wedberg, 2020) - Improve self-identity and self-esteem (Gorsuch & Hao, 1993)

- Initiate the feeling of a variety of positive affective states (Gorsuch & Hao, 1993)
- Stress-Reduction Lynn, Paris, Frye, & Schell (2010)

METHODS

Alternative Social-Emotional Pathways in Response to Betrayal

While the current model of how people respond to betrayal focuses on the experience of guilt on the part of the offender as the primary response to outrage expressed by a victim, alternative responses exist. Such alternatives include *divine forgiveness*, shame, apathy, and spite. Divine forgiveness, in this situation, implies the act of forgiving based on religious beliefs rather than based on judging the wrongdoer's actions. This is based on how biblical reconciliation focuses more on the benefit of the community and less on individual relationships (see Kim, 2013). With this in mind, such divine forgiveness would only be a quick-fix for the sake of the community; it is not the victim forgiving the offender for their personal betrayal. *Shame* which focuses on one feeling badly about being seen in amoral terms by others tends to drive individuals to hide, downplay, or deny their wrongdoings (Pivetti et al., 2015), and does not provide a reason for the victim to forgive the offender. *Apathy*, or, in other words, the lack of an emotional response, also does not provide a reason for the victim to forgive the offender due to the offender neither feeling nor expressing dissonance or remorse over his or her own actions (Roşan & Costea-Bărluţiu, 2013). Another possible response that an offender might show on the heels of the victim expressing outrage would be *spite*. Spite would occur if the offender felt that the victim deserved the betrayal and would leave no room for reconciliation (Lansky, 2009). Such a scenario would be very unlikely to lead to forgiveness on the part of the victim.

Thus, based on the model presented here, genuinely expressed guilt is the only social-emotional pathway that can lead to forgiveness because it is the only emotional response where the offender feels bad about what he or she did and recognizes his or her own actions as morally wrong (Shen, 2018). Once the offender can identify his or her wrongdoings and express genuine remorse to the victim, an actual act of forgiveness may be possible (Hannon et al., 2010). If the victim finds that forgiveness is not emotionally possible, then the offender will be rejected (and the victim will, thus, be demonstrating the act of grudging).
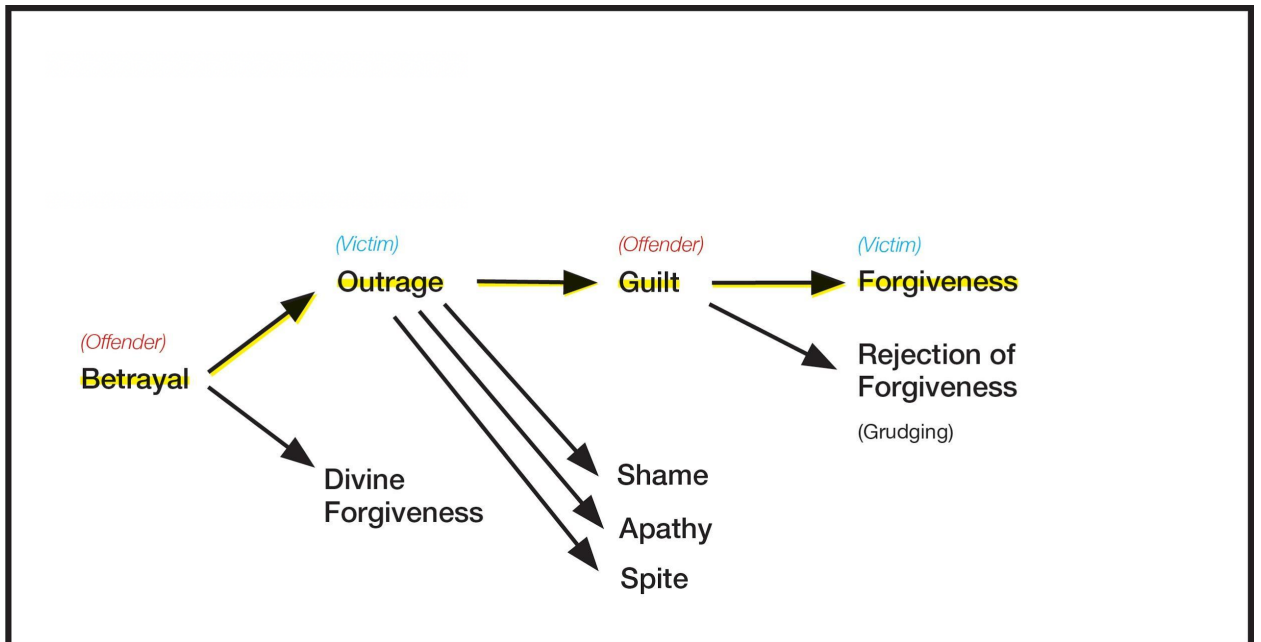
Figure 1. The Path to Forgiveness

IMPLICATIONS FOR MODERN LIVING

Based on the model presented here, betrayal, outrage, guilt, and forgiveness are the four horsemen of the human social-emotional experience. The previous sections provided detailed ways regarding how each of these factors can be understood. This is in relation to how both ultimate and proximate evolutionary functions could have increased the chances of one's survival in ancestral conditions. In this section, we will talk about how betrayal, outrage, guilt, and forgiveness have certain implications in the modern world.

Betrayal under Modern Conditions

One consequence of an interpersonal betrayal in human evolutionary history was rejection and banishment from one's group. Today, our minds still respond strongly to betrayal. This point reflects our evolved small scale societal responses to the social-emotional experience. In many ways, we still are surrounded by small-scale social conditions (such as within families, intimate relationships, and work relationships). Betrayal, in forms such as lying to a close friend or cheating on a romantic partner, has the same social-emotional consequences that would have been presented in our ancestors. In terms of increasing one's likelihood of survival, even just in terms of reputation, it would be best to refrain from betraying someone in one's

close social circle. This would also help remain in the good graces of the broader community (see Spikins, 2015).

Importantly, the evolutionary purpose of betrayal still pertains to maintaining one's status within the group, in the 21st century. However, we now have technologies, such as social media, and environments, such as workplaces. This has changed the face of betrayal and how we respond to it in substantial ways. Today, we may see situations such as a coworker sabotaging another via social media to take advantage of a promotional opportunity.

Outrage in the Modern World

The social-emotional experience of outrage has served many functions throughout our evolutionary history, but what role does it play in modern society? An implication of outrage in our modern living environment goes by a concept called *Viral Outrage* (Wittle, 2018). Viral outrage is a type of outrage that is publicly expressed through a community of people using online social media platforms (Wittle, 2018). With an immense amount of technological advancements that exist in our modern society, we are able to connect with people from all over the world. While there are advantages to this connection, liabilities also exist. Today, people are able to voice themselves very publicly, instantaneously. Social media platforms, such as Facebook, Instagram, and Snapchat allow us to spread feelings of outrage to one another, leaving the open possibility for others to do the same in response. Because social media is so public, a person's behavior or comments has the capability of being spread globally (Wittle, 2018). Viral outrage can lead to intense mass-shaming of an individual who has betrayed someone or has transgressed in some manner. The bottom line is this: Modern social-media technology allows victims of betrayal to express outrage and concomitant feelings in a way that is extremely amplified. The effect of being vicariously offended has also been amplified even if it is between strangers (Wittle, 2018). As such, all elements of the four horsemen model are potentially brought to extremes in the modern world, which likely has various adverse consequences.

Guilt in the Modern World

As previously discussed, guilt from the evolutionary perspective serves to motivate reparative behaviors and maintain social bonds. Guilt is the most feasible path to forgiveness for an offender. We are motivated to do certain things for others to avoid feeling guilty. This idea plays out differently in our modern worlds, filled with such entities as social media and the modern workplace. For example, you might invite a coworker whom you do not know very well to an event because you would feel guilty if he or she found out everyone else had been invited. Therefore, the avoidance of guilt would motivate you to invite that co-worker to maintain a positive relationship.

The implication of the ultimate evolutionary function of guilt in modern-day society can also give us insight into our expectations of friends and family with regard to the advances in technological communication. For instance, not responding to a text from a friend within an hour may make you a potential offender! People may

completely withdraw from someone who constantly ignores his or her texts unapologetically. There is a social expectation, especially for young people, to be in almost constant communication with their friends. Those affected by this expectation would feel guilt in realizing that they had neglected to respond to a friend. They would then apologize for doing so and would be motivated to make sure to respond in a timely manner to maintain a positive social bond with this person from then on. This is just one specific example of how the adaptive function of guilt applies in relation to modern-day technologies. Yet when you consider guilt as a function of maintaining social bonds in the context of the digital age, it can illuminate almost everything we do in the public sphere.

21st-Century Forgiveness

Depending on the relevant social dynamics at hand, the four horsemen model may or may not relate when it comes to forgiveness, today. When dealing with individuals who are close in our social and familial circles, we would expect the model to apply (e.g., we might forgive a sibling who betrayed us financially if that sibling showed clear guilt and remorse at his or her actions).

As mentioned prior, outrage is often launched not at individuals but, rather, at faceless, deindividuated entities, such as organizations or political parties. The presence of such organizations represents something of a mismatch in terms of our evolved psychology. Using modern social media, we might express not just outrage, but viral outrage (Wittle, 2018), toward an organization (e.g., the NRA) or stranger. In such a scenario, which has become very common, we do not typically expect the organization or stranger to respond with guilt. We similarly do not expect to forgive the faceless entity that has outraged us via a discord in our principles.

FUTURE RESEARCH DIRECTIONS

This paper presents a model of the path to forgiveness through an evolutionary lens. Future empirical research in the behavioral sciences can further investigate and test our model. For instance, potential studies can directly test our model by looking into the roles of remorse, guilt, and shame when betrayal has occurred and how likely the victim would be to forgive. Further, the roles of specific dispositional variables as they relate to the different elements of the model could be examined.

Some specific research paths that could follow from this model include:

- A study that explores the relationship between the Dark Triad (Machiavellianism, narcissism, and psychopathy (Brewer et al., 2015) and the different elements of the four horsemen model. Perhaps, for instance, people who score as high on the Dark Triad are less likely to forgive others after having been betrayed.
- Attachment style (Meyer & Pilkonis, 2001) may well relate to the different elements of the model and future research can be designed to examine whether those with secure attachment styles, for instance, might be more likely to forgive after a betrayal compared with others.

- The Big Five personality traits (McCullough et al., 2001) have been found to have ubiquitous effects on various classes of social behaviors. Future work could test the potential effects of each of the Big Five traits on the different outcomes predicted by the four horsemen model.
- Life history strategy, of the differential tendency to expect a long, safe life versus a short, insecure life, also has been found to have ubiquitous effects on behavior (McDonald et al., 2012). Future research could explore how life history strategy bears on the predictions of the model presented here.
- One's own personal experiences across development affect various aspects of one's responses to social situations. Future research could explore how such experiential effects, such as loss of a parent during childhood, might bear on the predictions of the model presented here.

BOTTOM LINE

Understanding the evolutionary underpinnings of the four horsemen of the human social-emotional experience, betrayal, outrage, guilt, and forgiveness, has the capacity to help us better understand the human social world. Further, in a practical sense, having a grasp on how one experiences betrayal, outrage, guilt, and forgiveness may give an individual important insight into how his or her own social ecosystem operates. Emotions function to communicate vital information to ourselves and to others, and often it is difficult to tease apart the underlying cause or function of an emotion (see Nesse & Ellsworth, 2009). The evolutionary psychology of emotions of the human social experience as presented here provides a framework for understanding the emotions that occur subsequent to a betrayal. The small-scale evolution of early human groups and the ubiquitous nature of reciprocal altruism are powerful forces in our evolved social-emotional psychology. Our proposed framework conceptualizes human social and emotional responses to betrayal with regards to these foundational evolved features of human social ecosystems.

Understanding the evolutionary roots of human emotions and behaviors allows us to engage with others with a deeper understanding. Every human being will likely betray and be betrayed at some point and, thus, experience the powerful emotions that follow a betrayal. In exploring the proximate and ultimate causes of these emotions (outrage, guilt, and forgiveness), we can apply the knowledge of evolution and human behavior to explain macro phenomena such as politics, social movements, and protests. Further, we can use the four horsemen model to explain the social interactions that occur in our own worlds, including such outcomes as personal betrayals, estrangements, and reconciliations that, for better or worse, so often characterize the human social experience.

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