



Coalitional Value Theory: an Evolutionary Approach to Understanding Culture

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Abstract

In the following article, we forward the coalitional value theory (CVT) and apply it to several puzzles about human behavior. The CVT contends that humans evolved unique mental mechanisms for assessing each other's marginal value to a coalition (i.e., each other's coalitional value). They defer to those with higher coalitional value, and they assert themselves over those with lower. We discuss how this mechanism likely evolved. We note that it helps explain how human groups can expand into large, complicated, and specialized coalitions (chiefdoms and even nation states). And we combine this with strong evidence that suggests that status striving is a fundamental human motive to explain partially (1) anti-gay bias, (2) cultural signaling, (3) cultural conceptions of god, and (4) ideological conflict.

Keywords Signaling · Coalitional psychology · Cultural evolution · Fundamental motives

In 1775, George Washington was commissioned commander-in-chief of the Continental Army, an incipient, poorly trained, and poorly equipped military established to fight the British from whom America would shortly declare independence (Fischer 2006). Improbably, Washington commanded his forces to victory in a protracted war, becoming a national hero. Soon thereafter, he was elected the independent nation's first president, serving admirably for 8 years before stepping down to return to his farm (Chernow 2011). Even in his lifetime, Washington was apotheosized and inspired fervid devotion and deference. After his death, he was immortalized in a number of paintings, books, and sculptures, and today, his granite visage adorns the side of Mt. Rushmore in South Dakota. Although the reverence Washington commands is taken for

granted by most, it is a rather striking and puzzling feature of human social life. Why do humans voluntarily defer to and sometimes even make heroes out of other humans? Why do they lavish those people with praise and resources? Put in more academic and biological terms, why do humans voluntarily and energetically promote the genetic fitness of nonkin (think, for example, of the resources many today would heap upon LeBron James, Denzel Washington, or Ellen DeGeneres), often at a cost to their own fitness?

In the following article, we will argue that humans (especially men) evolved in the context of competing coalitions and were shaped by the crucible of coalitional conflict. Because of this, they are equipped with mental mechanisms that allow them successfully to build and organize large networks of cooperative social partners with superordinate goals. Of particular significance, they are equipped with mental mechanisms that allow them to assess the coalitional value (marginal productive value of a person to a group of individuals) of themselves and others and to respond appropriately; they are also equipped with mental mechanisms that allow them to assess and compare the values of competing social groups (Boyer et al. 2015). The goal of this article is to explore these mechanisms—which we believe afford an answer to our initial question—and the social dynamics that arise from them. Given that coalitional conflict is a male-dominated domain, these mechanisms and the associated behaviors should be sexually dimorphic (Geary 1998).

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First, we will briefly discuss the history and logic of human social behavior, examining the nature of coalitions from chimpanzees to humans. Second, we will introduce the concept of coalitional value and apply it to human social behavior. Third, we will synthesize and extend the existing literature on human social behaviors, specifically focusing on (1) anti-gay bias and homophobia, (2) cultural creation and signaling, (3) ideological conflict, and (4) religious narratives about god and morality.

Evolutionary History of Sociality

Short Presentation of Coalitional Value Theory

Humans are a unique social species (Bingham 1999; Hill et al. 2009). They form large coalitions of non-genetically related individuals, strive to accomplish collective goals, enforce abstract norms, punish others who violate those norms, and are generally more cooperative with nonkin than any other primate (Hill et al. 2011; Tomasello 2009). Whereas many other social primates form long-term kin-based coalitions or ephemeral alliances for “political” expediency with nonkin (De Waal 2007), humans form long lasting coalitional bonds with nonkin. Furthermore, whereas other social primates grudgingly defer to dominant males for fear of physical harm (although see Horner et al. 2010), humans often voluntarily defer to skilled or higher-status individuals for joy of expected reward (Chapais 2015; Henrich and Gil-White 2001). These individuals have access to social or material resources and thus can confer benefits onto their subordinates. Adoration enables subordinate status without invoking competitive aggression, as it does in dominance-based relations (Boehm 2009). Critically, this voluntary deference allows for the formation of expansive hierarchies because subordinates willingly adhere to the decisions of leaders and encourage other individuals to do the same (Van Vugt 2006). It also allows for the development of complicated societies with specialization and nested hierarchies (Yoffee 1979).

Many hypotheses have been forwarded to account for the unique sociality of humans (Bell et al. 2009; Chudek and Henrich 2011). Often these hypotheses appear disconnected from each other, but most are not mutually exclusive. In fact, many are dependent on each other. Increasing intelligence leads to increasingly complicated coalitions, which lead to stronger pressures to communicate, which lead to language, which increases intelligence, and so on (Flinn et al. 2005; Pinker 2010). As amply documented in the historical record, large-scale competition over control of these resources was common and the political leaders of successful coalitions extracted resources from subjugated populations and distributed them among their subordinates based on kinship and the contributions of subordinates to maintaining resource control

(Betzig 1986, 2012; Scheidel 2017). In these contexts, selection pressures on coalitional behavior and cognition almost certainly increased, including amplification of the value of individuals who would disproportionately contribute to coalitional success. In these situations, coalitional behavior was clearly based on violence and dominance, but there was still a prestige component involved in the formation and maintenance of the coalitions within which individuals were embedded.

In this article, we are not interested in the “magical bullet” that explains all of human uniqueness; nor are we interested in precisely articulating each step of the complicated concatenation of adaptations and selection pressures that led to modern humans. Rather, we are interested in presenting a general theory of human group status, on pieced together by many previous authors, and demonstrating how it might partially explain several outstanding puzzles about human social behavior.

We believe that what we will term *coalitional value theory* (CVT) provides the scaffolding for a comprehensive account of human social evolution and behavior (Boyer et al. 2015; Winegard et al. 2016). According to CVT, humans evolved mental mechanisms (coalitional value gauge, cf. Boyer et al. 2015) to assess each other’s potential value to a coalition (group). They also evolved predictable and functional emotional responses to appraisals of such coalitional value assessments. For instance, they evolved a predisposition to defer voluntarily to those higher in coalitional value, and to expect deference from those lower in coalitional value (Henrich and Gil-White 2001; Winegard et al. 2014). If people who provide more skills to the group receive more deference, they are better able to utilize those skills because of having to worry less about reproductive fitness. When this happens, those providing deference receive the benefits of the skilled person, and end up with higher reproductive fitness as well. Those who defer and are valued by dominant individuals are recompensed for their subordination—and historically those that did not were often killed—because their alliance with the higher status person increases their overall ability to procure and control resources (thus, on average, increases their inclusive fitness) and those who receive deference get priority access to resources and mates (Geary 2005). As previously noted, this system of coalitional value is expected to be sexually dimorphic. Therefore, women are expected to signal coalitional value less than men and they are expected to rely less on deference, prestige, and dominance in social relationships (Benenson 2019; Iredale et al. 2008; Taylor 2006).

What is more, humans, especially men, *expect* other humans to defer to people with higher coalitional value. And they will often punish or ostracize those who do not. Such punishment (or threat of punishment) is not altruistic, but rather increases an individual’s coalitional value because it makes them a better member of a group than someone who would

greet recalcitrance with indifference (Jordan et al. 2016; Raihani and Bshary 2015).

It is important to note that this theory is not particularly novel and has been forwarded, in slightly different iterations, by a number of scholars. In an early article on prestige from an evolutionary perspective, Barkow et al. (1975) noted that prestige systems often serve the interests of society by offering status to those who benefit the larger social group, e.g., by allocating status to successful hunters. It is not entirely clear, but it seems that he believed this alignment of individual desires for prestige and social flourishing resulted from cultural evolution. Presumably, more successful groups allocated status more wisely (i.e., for behaviors that helped the group), therefore perpetuating the group and the group's norms. More recent scholars have proposed theories that envision the link between prestige and group enhancement as a direct result of natural selection. For example, Henrich and Gil-White (2001; see also, Cheng, Tracy, Foulsham, Kingstone, Henrich, 2012) contended that prestige evolved as a mutualistic system: People with valuable skills allow others to watch while they deploy the skills (e.g., make an arrow) in exchange for prestige. The people who defer therefore gain access to crucial skills, and the people who have the skills gain prestige. Somewhat similarly, Van Vugt and his collaborators have proposed that leaders provide a service for a group which is recompensed with prestige (2006). A charismatic leader can benefit a group by making it more coherent and cooperative (using narratives and charm to create group bonds); in exchange, the members of the group defer to the charismatic leader, allowing him or her priority access to coveted resources. These differ slightly from the CVT in ways that will become clear, but they are similar enough to belong to the same family of theories (and to discourage the authors from declaring anything resembling novelty).

Chiefly, what all these theories, including the coalitional value theory articulated in this article, have in common is that they are *status exchange* accounts of prestige and dominance. That is, they suggest that status (deference) is exchanged for something (e.g., leadership, proximity, immediate resources); in evolutionary context, this something had to correlate with survival or reproductive prospects, but the same biases may still emerge in modern contexts and be disconnected from these prospects. This solves the puzzle of voluntary deference and status because it sees them as parts of a mutually profitable exchange.

It is worth noting that coalitional value and status *are not the same thing*. Coalitional value is the marginal fitness value a person adds to a coalition; status is the amount of power via deference he or she wields over subordinates. Researchers generally divide status into prestige: status in which subordinates defer because they desire rewards from the prestigious person, and dominance: status in which subordinates defer because they fear punishment from the dominant person

(Henrich and Gil-White 2001; Maner and Case 2016). Although coalitional value often leads to status, a person's coalitional value and his or her status can be discrepant. In general, when a person strives for status that he or she does not deserve (i.e., status that is higher than his or her coalitional value would predict), then that person will have to resort to tactics of dominance such as coercion, insults, threat of force, etc. (Anderson and Kilduff 2009). In fact, coalitional value theory offers a way to think about the distinction between prestige and dominance: Prestige is freely conferred *because* the person's coalitional value is high and therefore they provide commensurate rewards to a coalition; dominance, on the other hand, is not freely conferred because the dominant individual is usually trying to garner more status than his coalitional value would suggest he should have.

Phylogenetic History

We assume that coalitional value mechanisms, which we will explicate in greater detail in the next section, evolved over many millions of years, and may be present to some degree in chimpanzees. Henrich and Gil-White (2001), as noted above, contended that humans voluntarily defer to others in exchange for proximity so that they can learn crucial skills (e.g., how to make an arrow) from more experienced people. Researchers have found that chimpanzees preferentially imitate prestigious conspecifics, suggesting that at least the rudiments of a status exchange system may operate in chimpanzees (Duffy et al. 2007; Horner et al. 2010). Even more primitively, many animals defer to other, more dominant animals to avoid costly and potentially deadly agonistic encounters (Maynard Smith and Price 1973). In some sense, even a crude dominance/pecking order follows the logic of a status exchange system. The beta animal defers to avoid death and the alpha accepts to avoid potentially costly injuries and to secure the benefits of helpful subordinates in future coalitional conflicts, which increase the alpha's reproductive success (Gilby et al. 2013). However, the human coalitional value system is much more sophisticated, enabling the formation of large coalitions comprised of specialized individuals who (generally) willingly defer to superiors and expect others to do so as well.

Tomasello and colleagues (Tomasello 2016; Tomasello et al. 2012) have forwarded an account of the evolutionary progression of human cooperation and morality that is germane. According to their account, the first important step on the path to human "super sociality" was the development of obligate collaborate foraging (Tomasello et al. 2012). At that stage, humans were compelled to collaborate with partners to collect the calories necessary to sustain themselves. Without such partners, humans would have perished (or have been outcompeted by other groups of humans) (see also the Stag Hunt, Skyrms 2001). This means that each human had a stake in his or her partners; they benefited

if their partner was healthy and good at hunting/collecting calories, and they were hurt if their partner got sick or was bad at hunting/collecting calories. This is a species of interdependency and is a more powerful system of cooperation than reciprocal altruism because there is no time delay between helpful favors (Trivers 1971).

This obligate foraging variety of cooperation likely already contained prestige and deference relationships because humans had disparate hunting and gathering abilities (Gurven and Von Rueden 2006). So, if three people partnered up to hunt, let us say, then the best, most skilled hunter probably received deference from his or her partners. However, it is doubtful that there were third-party expectations about deference, which is a key adaptation for creating broad and complicated coalitions. We suspect there was not a full-blown coalitional value system at this stage; however, humans probably possessed mental mechanisms that allowed them to assess the relational value of other potential partners.

At the next stage, according to Tomasello and colleagues, humans, spurred by coalitional competition, began to form larger and more complicated groups with “collective intentions” and group norms, conventions, and institutions (Tomasello 2016; Tomasello et al. 2012). This argument is consistent with Richard Alexander’s ecological dominance and social competition (EDSC) theory of human uniqueness (Alexander 1990; Geary 2005). According to EDSC, at some point in human evolution, humans achieved an unprecedented level of control over their environment, dramatically reducing extrinsic mortality rates. Instead of competing against the vicissitudes of nature, humans began to compete against each other, becoming, in Alexander’s phrase, their own “hostile forces of nature” (Alexander 1990, p. 4). Of course, they still competed for resources and still died from accidents and predators; but the key point is that the relative strength of those selection pressures declined, causing a concomitant increase in the strength of the selective pressures of coalitional combat. As noted, the selective pressures associated with coalitional aggression were almost certainly amplified once humans could produce and store resources beyond those needed for subsistence. These excess resources enabled the development of larger groups, with some differentiation of labor and skill development, as well as an incentive for other groups forcefully to expropriate them (Scheidel 2017).

One of the chief predictors of success in defending resources or expropriating them is the number of coalitional members: the coalition with the most people typically has advantages over—and historically has taken advantage of—smaller coalitions (Betzig 1986; Scheidel 2017; Wrangham and Glowacki 2012). An arms race likely followed that selected for mental mechanisms that supported coalitional formation, benefiting men who were better able to navigate and create large groups of coordinated social partners (Flinn et al. 2005; Winegard et al. 2018).

One important challenge a large group faces is coordination: Who defers to whom? Who listens to whom? The solution to this coordination problem, we believe, is the coalitional value system. The person who most benefits the group, the best leader or warrior, receives deference from others. But, not only does he receive deference but also people believe that other group members *should* defer to him. They regulate other people in the coalition, urging them to defer to the leader, because if the leader has maximum deference (and therefore maximum resources) the leader will best be able to benefit the group as a whole. This likely led, after many generations, to the psychological capacities and propensities that make human social life so unique in the animal kingdom: “we intentionality,” exquisite theory of mind, complex groups with specialized roles, social norms, and on and on (Smaldino 2020; Wellman et al. 2001).

Coalitional Value Theory

In this section, we propose the proximate cognitive mechanisms that support the evaluation of coalitional value. We will lay out the basic psychological constructs required by the theory and forward predictions that directly follow, many of which are supported by existing empirical studies, some of which we summarize in Table 1.

The primary construct of the CVT is a mental gauge that estimates and tracks one’s own and others’ values to the coalition. For simplicity, we will call this a coalitional value gauge (gauge for evaluating self and for evaluating others). The gauge that evaluates the self’s coalitional value is likely strongly related to what social psychologists have traditionally called self-esteem (e.g., Mahadevan et al. 2018). The information from the gauge is fed into a number of other mental systems, causing a variety of physiological, behavioral, and cognitive responses. For example, if the gauge calculated that another person in one’s coalition has higher value than one’s self, then the gauge, through interactions with other systems, would produce predictable emotional and cognitive responses such as awe, admiration, deference, increased blood pressure, reverence, visual attention, etc. (Keltner and Haidt 2003; Long et al. 1982). Of course, these aspirational and positive emotions might be tinged with envy and bitterness, especially if the high-status person is rude or dismissive (Buss 2001). If, on the other hand, the gauge calculated that another person was lower, then it would produce assertion, contempt, erect posture, expected subordination, etc. These responses are likely heightened in coalitionally relevant contexts.

Another important construct for the CVT is that of an overall group status gauge, which assesses the status/fitness of entire groups and produces relevant outputs in conjunction with other mental systems. Myriad social scientists have noted that humans often identify with broad coalitions (sports’

Table 1 Summary of some hypotheses which have been supported with data

Prediction	Summary	Citations
People defer freely	People defer voluntarily because they receive benefits from having a competent leader or skilled coalitional member and in return the leader is better able to maintain or improve status and resource control	Anderson et al. (2012b); Henrich and Gil-White (2001); Hollander and Julian (1969); Price and Van Vugt (2014); Richerson and Boyd (2004); Tyler (2006); Tyler and Lind (1992); Van Vugt et al. (2008)
People who excel at skills (or who appear to have competence) relevant to the goals of a group that typically increase reproductive success of the group will obtain high status.	People who are talented or who appear competent or confident in a specific task the group is attempting to accomplish will receive deference because they have high coalitional value. The deference in turn is compensated by gains associated with retaining this individual within the group.	Anderson et al. (2012a); Anderson et al. (2001); Anderson and Kilduff (2009); Barkow et al. (1975); Barkow et al. (1975); Berger et al. (1972); Chapais (2015); Cheng et al. (2012); Den Hartog et al. (1999); Driskell et al. (1993); Garandeanu et al. (2011); Hastings and Shaffer (2008); Henrich and Gil-White (2001); Loch et al. (2000); Martens et al. (2012); Patton (2005); Price and Van Vugt (2014); Ridgeway (1987); Ridgeway and Diekema (1989); Tracy et al. (2013).
People who signal commitment and who behave pro-socially should have high status	People who display generosity and helpfulness, thereby signaling loyalty to others in the group, tend to have more social power.	Anderson and Kilduff (2009); Flynn (2003); Henrich and Gil-White (2001); Hardy and Van Vugt (2006); Rosen et al. (1961).
Self-esteem should function as a gauge of acceptance and coalitional value.	Self-esteem is generally highest in people who are the most accepted by their group and who have the highest status in their group. People often attempt to increase their usefulness to a group if trying to increase their self-esteem.	Anthony et al. (2007); Barkow et al. (1975); Brown and Lohr (1987); Leary (2005); Leary and Baumeister (2000); Leary et al. (1998); Leary et al. (1995); Mahadevan et al. (2018); Mahadevan et al. (2016); Poorthuis et al. (2014); Sloman et al. (2003).
People with high status should have higher reproductive success than people with low status	People with high status have access to more resources and therefore can provide for more partners and offspring successfully.	Gurven and Von Rueden (2006); Mulder (1987); Smith (2004); Turke and Betzig (1985); Voland (1990); Von Rueden et al. (2011).

teams, ethnic groups, countries) and obtain positive feelings when such a coalition succeeds or increases its status and negative feelings when it fails or lowers its status (Berreby 2005; Hogg 2001; Tajfel and Turner 1979). Therefore, there must be some kind of mental mechanism that divides the world into ingroup and outgroup and assesses this up or down shift in group status. It seems likely that the coalitional value gauge is turned off by the group gauge *if the person is assessed to belong to an outgroup*. We are not aware of experimental data that confirm this suspicion; however, observational and theoretical data are overwhelming. People in one coalition do not feel as though they need to defer to people in another, unless they are interacting in a broader context in which groups are working toward a common goal.

The relation between group status and coalitional value is complicated by potential trade-offs between status within a specific ingroup and potential changes in that status should one become part of a higher-status group. In general, we can assert that (1) humans strive to increase/maximize their coalitional value and (2) humans strive to maximize their group status. Sometimes these two desires conflict because coalitional value is *context dependent*, i.e., one's coalitional value is determined by one's value to a specific coalition. *Ceteris paribus*, we would expect evolution to have fashioned

mental mechanisms that lead to higher fitness (or would have in some kind of environment of evolutionary adaptiveness) on average (Crawford 1993).

In more extreme cases, however, a more universal pattern usually plays out. During human history, especially after the emergence of agriculture and resulting wealth differentials, coalitional conflict was often a zero-sum game (Scheidel 2017). Smaller groups were often dominated by and subsumed into larger ones, and in these instances the higher status individuals in the smaller groups often paid a steep price when subjugated; if not outright killed, they were typically stripped of their wealth and status. Very few people want to belong to groups that are destined for persistent failure and incredibly low status even if doing so would guarantee high (relative) coalitional value, e.g., most people would not choose to be the best engineer for a destitute company. This becomes more clear the higher the stakes of the coalitional competition. When the competition is potentially mortal, as in warfare, then group status matters more than individual status (and, therefore, than coalitional value) (Boyer et al. 2015); people, therefore, become more accepting of rigid hierarchies, so long as those hierarchies increase the group's odds of triumphing in combat (Hastings and Shaffer 2008; Kessler and Cohrs 2008). One cannot afford to be a big fish in a small pond when the

entire pond might get destroyed. When competition is less ferocious between coalitions, then people may seek to join smaller groups so as to maximize their coalitional value (i.e., they can afford to become big fish in small ponds). This is almost certainly one reason people in modern industrial societies value freedom and autonomy over conformity and submission (Inglehart 2018). Freedom means the ability to pursue one's own interests, which likely translates to *the ability to maximize one's potential coalitional value by doing what one is good at and joining a coalition in which one can achieve status for one's unique skill*.

The basic contention in this article is that the coalitional value gauge evolved in a species' specific way such that it facilitated the creation of successful coalitions. Specifically, we hypothesize that it evolved in such a way that (1) people defer to those who have higher coalitional value than themselves; (1a) people assert authority over those who have lower coalitional value; (2) people expect others to defer to those with higher coalitional value; and (2a) people expect others to assert authority over those with lower coalitional value. We hypothesize that people are able to recognize coalitional value by recognizing the group's goals and noticing competence relevant to those goals, even across goal variation.

Recall that according to Henrich and Gil-White's model of status (2001), people freely defer to those with special skills such as arrow making or rhetoric so that they can learn them and thus increase their fitness by developing capacities that directly allow them better to control resources (e.g., by hunting better or persuading social partners). In Henrich and Gil-White's model, the person who freely defers does not need to calculate coalitional value; rather he or she just needs to calculate the fitness value of the skill. People who possess skills that provide large fitness returns should, therefore, attract more people who are willing to defer.

Our model differs from this in an important way: people are not necessarily calculating the distinct fitness value of the skill, but rather the general value that the person can provide to the overall effectiveness of the coalition. This is easier to consider with an example. Suppose that Jane belongs to a coalition with twenty people. She is not very good at making knives, and she does not care to learn. However, she sees Thomas making incredibly sharp, efficient knives that very rarely break. If knives are crucial to coalitional success, then Thomas would have high coalitional value (other things equal), and Jane would probably recognize this and defer accordingly *even if she did not want to learn Thomas's skill*. Having Thomas in one's coalition would increase the coalition's ability to compete with other coalitions because it would allow access to his knives *and keep them from other coalitions*.

This means that coalitional value is inevitably context dependent because it is contingent upon the goals of the coalition. A skill that dramatically benefits one coalition may be

useless in another. This should make people very perceptive of the ability of each individual, as well as aware of what would best assist the success of the specific group they belong to. Still, there are probably many universally (or near universally) valued traits such as commitment and sociability. It would make sense for people to be hyper-aware of these kinds of traits in others in pretty much any social context. So, some people likely would have high coalitional value regardless of what group they are in.

There is, indeed, strong evidence that those who obtain status in groups do so because they (are perceived to) enhance the group's ability to compete with other coalitions. The functionalist school of status, in fact, has long contended just this, supporting theory with evidence from laboratory studies and real-world analyses (Berger et al. 1972; Davis and Moore 1945; Hollander and Julian 1969; Mann 1959). Researchers have argued that deviations from functionalist predictions—a person gets status who is not the most competent in the group—might be explained by competence signaling (Anderson et al. 2012b). Competence, ability, *coalitional value* is not immediately visible and so must be communicated (signaled) to other group members. (Although the importance of signaling likely wanes with time as group members are able to assess more accurately each other's "true" values.) Anderson and Kilduff (2009) found that dominant individuals (those high in the trait dominance) often achieved status in a group despite not being more competent than other members on average because they appeared and acted more competent—they signaled competence and members reacted accordingly. They might also, for example nonverbally signal pride (Tracy et al. 2013) which could cause others to assume they have more competence than they do. People tend to display a prideful pose after achieving, but the pride pose could also signal competence without an actual skill. In the section on ideological conflict, we will examine another possible source of disparities between status and coalitional value.

Furthermore, in extant hunter gatherer communities, people who are better at hunting garner status, likely because hunting skills are crucial for a coalition's success (Smith 2004). And, although speculative, modern society also appears to support this thesis. Chief executive officers (CEOs) who enhance their companies' stock value and reputation are lauded (e.g., Steve Jobs), whereas those who do not are ignored or ridiculed and eventually terminated (ostracized from the tribe) (e.g., Richard Fuld). In short, laboratory data, hunter gatherer data, and real-world data all seem to support the contention that *some* mechanism in the brain calculates coalitional value and produces deferential behavior, at least in some contexts, if the other has higher value than one's self. And crucially, this deference is freely conferred and not the result of fear of direct retaliation.

Hypotheses 1a (people assert authority over those who have lower coalitional value), 2 (people expect others to defer

to those with higher coalitional value), and 2a (people expect others to assert authority over those with lower coalitional value) are not supported by many laboratory studies (to our knowledge, researchers have conducted few that would shed light on them); however, they are supported by theoretical considerations, which we'll explain below.

That people assert authority over others is obvious. In the current model, they generally do this when they have higher coalitional value because (1) the subordinate would likely consent without conflict; (2) others in the coalition would support the act of authority; and (3) this optimizes the effectiveness of the coalition. Of course, sometimes people attempt to assert authority over another who has higher coalitional value or who is simply stronger or a better fighter, with potentially disastrous results (Mahadevan et al. 2016). But, the key here is that generally speaking the output of the coalitional value gauge is deferential behavior to those with higher value and assertive over those with lower.

One potential problem with a status-exchange system is that it is vulnerable to free riders. If most of the members of a group defer to a person with high coalitional value, then a few can quietly refuse to defer, keeping the benefits of coalitional membership without having to trade the costly deference (Van Vugt 2006). The solution to this potential problem is articulated in hypothesis two: People not only defer to those with higher coalitional value but also expect others to do so and will punish them if they do not. However, this just trades one puzzle for another: Why would people engage in costly third-party punishment to discipline recalcitrant members of a coalition?

Researchers have forwarded several potential solutions to this puzzle (Fehr and Fischbacher 2004; Nelissen 2008). One plausible suggestion is that third-party punishment is a kind of social display that signals underlying trustworthiness (Jordan et al. 2016). From this perspective, the costs of punishing another member of a coalition are precisely what make it valuable as a social signal because they are too high for (most) dishonest signalers to bear. That is to say, individuals who are not trustworthy and committed partners would not expend energy, time, and potential injury (via conflict) to punish a transgressor for actions which did not directly harm the punisher. The punisher, in this case, is recompensed for his or her costly display by becoming a more desirable social partner (because others perceive him or her as more trustworthy).

The coalitional value theory suggests another solution, one that is not necessarily incongruent with the signaling account. It contends that those who engage in third-party punishment increase their own coalitional value by punishing others; therefore, they are recompensed with increased deference by other group members (Kurzban et al. 2007). In this way, the crucial behavior that discourages free riders, namely, third-party punishment, is itself a way to enhance one's prestige and to secure all the attendant advantages (resources, mates, etc.) (Singh and Boomsma 2015).

Our contention is that this dynamic, in some form or another, persisted long enough in evolution to select for people who not only deferred to superiors but also expected others to do so as well. Hypothesis 2a follows directly from these tendencies: People expect others to defer to those with higher coalitional value, and they expect people with higher coalitional value to assert themselves over others. Another way of putting it: People generally view hierarchies in which people with lower coalitional value defer to people with higher coalitional value as "fair" or "just" (Haidt 2012). Fair hierarchies are relatively stable because the members in them view them as just and generally do not try to upset them, whereas unfair hierarchies (i.e., those in which rank is incongruent with coalitional value) are unstable because members view them as arbitrary and unjust. In other words, humans may have evolved proclivities that lead toward meritocracy (Dubreuil 2010).

Brief Restatement of the Logic of the Coalitional Value Theory

To clarify the logic of the coalitional value theory, we recapitulate it briefly below. We add some new details as well.

- 1) *Humans are motivated to strive for status because status offers better access to resources that enhance fitness such as mates, food, and prestige goods.* Copious research has found that humans are motivated to obtain status (Anderson et al. 2015; Barkow 1975; Von Rueden et al. 2011; Vonasch et al. 2018). Status allows people priority access to coveted resources such as shelter, food, mates, and prestige goods that enhance genetic fitness. Therefore, this motivation is likely intrinsic and arises across all cultures.
- 2) *People freely defer to socially valuable partners and coalitional members who have high value.* For much of evolutionary history, status was determined by coercive threats (dominance). However, at some point in the hominid lineage, a new kind of status dynamic evolved, one in which humans freely deferred to others with high coalitional value (as social partners) (Henrich and Gil-White 2001), because these others disproportionately contributed to the wellbeing of other group members. Deference may serve the function of keeping these individuals in the group and providing them with more control to make often group-enhancing decisions; these of course would also be self-enhancing. Physical intimidation can certainly evoke deference from others, but physical intimidation will not get the best output from others, especially if those others are skilled in some important way. Social deference then confers status for producing outputs that benefit the deferent, without resorting to intimidation.

- 3) *People expect others to defer to coalitional members with higher coalitional value.* Not only do people defer to social partners with high coalitional value, but also they expect other group members to do so. If other group members do not do so, they are often ostracized or punished. Those who punish the recalcitrant group members are recompensed for their efforts with status because promoting cooperation increases one's own coalitional value.
- 4) *People defer in these predictable ways because they have a coalitional value gauge.* To defer to people with high coalitional value, humans must have a mental mechanism that assesses coalitional value. The mechanism must interface with other mental systems that lead either to deference or assertion (or indifference). They also have a group status gauge that assess the overall fitness prospects of groups/coalitions. (This gauge is probably a part of a mental mechanism that first distinguishes ingroup from outgroup.)
- 5) *Coalitional value is not often immediately obvious, so the system must use cues, especially from the visual and auditory systems.* Like other important traits, coalitional value is not directly perceivable. Therefore, people must use cues and signals to assess another person's coalitional value. Such cues might include confident facial expressions, displays of skill, upper body strength, assertive voice, physical size, erect posture, etc. (Holbrook and Fessler 2013; Sell et al. 2012; Lukaszewski et al. 2016) For example, monarchs throughout most of history wore gaudy and extravagant clothes and diadems made of precious metals. These regalia signaled to others that the monarch was powerful and possessed high value to the coalition.
- 6) *Because people are motivated to obtain status, they are often motivated to increase their competence (which is basically an estimation of their potential coalitional value).* According to many researchers and studies, humans are intrinsically motivated to increase their competence (Ryan and Deci 2017). An increase in competence is generally associated with at least a potential increase in coalitional value (e.g., if one becomes a more competent tactician, then one increases one's value to a military unit); and an increase in coalitional value is generally associated with a potential increase in status that in turn increases social influence access to valued resources.
- 7) *Increases in coalitional value heighten self-esteem and decreases dampen it.* Numerous researchers have drawn attention to the association between self-esteem and social value (Leary 2005; Leary et al. 1995; Mahadevan et al. 2016). However, there is no consensus about precisely *what* the relation is. Some have contended that it is between self-esteem and relational value (e.g., Leary 2005); others have argued that it is between self-esteem

and status (e.g., Mahadevan et al. 2018). Our suggestion is that self-esteem might also track coalitional value such that increases in coalitional value temporarily heighten self-esteem and decreases temporarily reduce it.

- 8) *Hierarchies are more or less stable depending upon three factors: Overall group status, severity of group competition, and the degree to which the hierarchy is arranged based on individuals' coalitional value.* Other things equal, the more severe group competition is, the more people commit to a coalition, which strengthens the stability of the hierarchy. The same is true of group status. The higher a group's status vis-à-vis other groups, the more stable the hierarchy will be. Of course, the elites will still vie for control of crucial resources and status. And, last, the more the arrangement of the hierarchy is based on coalitional value rather than other features of the individuals that comprise it (e.g., family relations), the more stable the hierarchy will be, because subordinates receive the maximal resources that are possible for them to have given the skills they have to offer. If the people on top of the social hierarchy have lower coalitional value than those at the bottom, more people in the group will suffer than is necessary.

Coalitional Value Applications

In the following sections, we apply the coalitional value theory articulated above to several puzzles in the social sciences. Our contention is not that CVT alone can fully explain these, but rather than it can add explanatory value and fruitful avenues for future research. We will begin by applying it to anti-gay bias and proceed to the production and display of cultural artifacts, the belief in and dissemination of religious ideas, especially those related to a powerful god (or gods), and end with a discussion of ideological conflict.

Antigay Bias

Although bias against gay people has declined significantly in Western societies, it nevertheless persists, even in countries that have formally legalized gay marriage (Gallup 2014; Inglehart 2018). However, gay bias is not uniform. Different people exhibit different levels of antigay bias across different contexts and toward different targets (Van Leeuwen et al. 2016). Primarily, (1) men exhibit more antigay bias than do women (Cardenas and Barrientos 2008; LaMar and Kite 1998); (2) men who belong to traditional male coalitions (such as the military, the police, or construction crews) evince more antigay bias than do other men (and women) (Lingiardi et al. 2005; Whitley Jr. 2009); (3) both men and women exhibit more antigay bias against men than against women

(Cardenas and Barrientos 2008; Kite and Whitley 1996); and (4) men evince stronger antigay bias against effeminate men than against masculine or neutral men (Glick et al. 2007; MacDonald Jr. and Games 1976). We believe that this pattern of bias is at least partially understandable if we approach it from the perspective of the coalitional value theory (Winegard et al. 2016). Of course, there are other accounts of antigay bias such as a disgust response (Buckels and Trapnell 2013). Our argument is that the disgust response is not sufficient to account for the full pattern of antigay bias.

The CVT approach to antigay bias suggests that gay men are perceived as having low coalitional value (in certain contexts) because they are perceived as effeminate (e.g., weak, cowardly, and intolerant to pain), and therefore, that much of the bias against gay men is actually a bias against effeminacy—or, more abstractly, a bias against low coalitional value. From this perspective, the pattern of antigay bias is explicable. First, men display more antigay bias than women because, as noted, their coalitions are more often designed to compete physically against other coalitions than women's; therefore, physical strength, toughness, courage, and pain tolerance are necessary components of one's coalitional value in them. Women are less physically strong than men and have lower pain tolerance (Puts 2010; Wiesenfeld-Hallin 2005); in general, it is fair to say that men are more “designed” for physical combat than women, both psychologically and physically (Browne 2007; Geary 1998; Sell et al. 2012). Therefore, gay men, who are perceived as more effeminate (more “like women”) than other men, are perceived as being less strong, less tough, and less pain tolerant than other, heterosexual (less “like women”) men.

Second, men who belong to traditional male coalitions (e.g., construction crews, football teams) exhibit more antigay bias because the success of those coalitions generally depends upon traits such as strength, toughness, courage, pain tolerance, and ruthless ambition, traits on which men (on average) score higher than women (Geary 1998; Winegard et al. 2016). Third, men and women are more biased against gay men than against gay women. At first blush, this might appear odd, but it is entirely consistent with the CVT approach to antigay bias. Gay women are not perceived as *more effeminate* than other women; therefore, they are not perceived as having lower coalitional value than other women. Gay men are. Notice that some prominent alternative explanations of antigay bias would not straightforwardly predict this pattern. For example, the theory that religion is the chief driver of antigay bias does not, so far as we can tell, predict this pattern (both gay men and women are committing sin from this perspective). And, last, men evince more antigay bias than women because men more often than women are committed to coalitions that compete physically against each other and have for most of human evolution (Geary 1998; Browne 2007). In other words, males have a long and very clear history of lethal

coalitional aggression and coalition members who were unreliable put other members at risk.

A CVT approach to antigay bias also makes unique predictions such as that (1) men should care more about immediate cues of masculinity (or effeminacy), when they are available, than about sexual orientation; (2) men's hostility toward gay men should be mediated by perceptions of masculinity such that the higher the masculinity the lower the hostility; (3) in coalitions in which traditionally masculine traits are not crucial (e.g., book clubs, law firms, etc.), both men and women should exhibit less antigay bias than in other coalitions; and (4) many derogatory antigay epithets (e.g., pussy, faggot, etc.), should also (or even primarily) refer to men who do not provide coalitional value (Pascoe 2005; Plummer 2001).

Winegard et al. (2016) and van Leeuwen et al. (2016) found preliminary support for these hypotheses, suggesting that a coalitional value approach to antigay bias may prove fruitful. For example, Winegard and colleagues found that gay men were rated as less strong, less dominant, less masculine, and less good at being a soldier or a football player than were straight men. They also found that assessments of soldiering ability were mediated by ratings of masculinity, such that the higher the masculinity the higher the assessment of a target's soldiering ability. In another study, they found that participants preferred a straight masculine man or a gay masculine man over a straight effeminate man or a gay effeminate man as a partner when the task was related to traditional male activities (basketball), but not when the task was related to more neutral or even feminine activities (poetry). The idea that antigay bias is solely driven by the threat of unwanted sexual advances does not account for this, as perceived femininity appears to be driving homophobia more than perceived sexual orientation. Similarly, van Leeuwen et al. (2016) found that participants who scored high on Anger at Gays Scale associated “gay” with terms associated with coalitional defection such as “surrender” and “flee” and “coward” more than those who scored low on the scale; they also found that other participants who scored high on a Coalitional Defense Scale wanted gay transgressors punished more harshly than heterosexual transgressors relative to those who scored low on it.

Qualitative research also supports the contention that males use derogatory epithets such as “fag,” “gay,” and “pussy” to signify low coalitional value rather than sexual orientation. Pascoe (2005) found that the term “fag” was used by adolescent boys to monitor group norms. Those boys who were perceived as effeminate or weak were derogated but sexual identity was a secondary concern. Similarly, Plummer (2001) discovered, in a series of detailed interviews, that men rarely used homophobic slurs to refer to sexuality. Rather, such terms were used to refer to other men who were viewed as weak, timid, artistic, effeminate, or nonconforming.

Of course, these studies are not dispositive and more research is needed. Nevertheless, the CVT does explain many

mysteries about antigay bias, some of which are rather difficult to test, such as why has support for gay rights increased so dramatically in industrialized societies since the 1950s (Inglehart 2018; Loftus 2001). According to the CVT perspective, as society increases in peacefulness and prosperity, it generally becomes more pluralistic, allowing many different avenues for prestige such as acting clubs, chess clubs, software companies, etc. Many of these do not require traditionally masculine traits; therefore, the people who inhabit that no longer use homosexuality as a cue of coalitional value. (Of course, other forces coalesce to drive this change such as an expansion of expression values, but that is beyond the scope of this paper).

Cultural Creation and Signaling

Human cultural creations and displays have long delighted audiences and puzzled scholars (Dissanayake 1990). That many cultural artifacts do not appear straightforwardly functional has especially perplexed scholars. (Winegard et al. 2018). However, even functional artifacts such as arrows, guns, and computers are puzzling because their creators expend time and energy to create an artifact that is then appropriated by a coalition (and, at least in the modern world, spreads quickly to other coalitions), that is, quickly becomes a public good. We believe that a coalitional value approach can shed light on these puzzles. According to this approach, humans evolved propensities to make artifacts for two reasons (1) the artifacts and displays function as signals that communicate the possession of underlying traits that, on average, would benefit the coalition (thus increasing coalitional value); and (2) the artifacts and displays directly benefit the coalition (thus increasing coalitional value).

The second reason is more straightforward. According to a CVT account, people who are especially talented at producing artifacts would increase the ability of a coalition to compete against other coalitions and therefore have high coalitional value. Therefore, others defer to the person, recompensing his or her efforts with status (Richerson and Boyd 2004). This is most clearly the case in modern capitalistic societies which reward cultural creators often with immense wealth (which is, of course, related to deference) (Isaacson, 2011). But this almost certainly was the case, in different form, throughout much of human history. Those who created cultural artifacts such as arrows, forks, jars, etc., that improved a coalition's likelihood of vanquishing another would have been recompensed with status.

It is worth noting that some apparently decorative artifacts and displays such as poems (especially epic poems), songs, novels, and dances probably increased a coalition's cohesiveness and therefore increased its ability to compete. For just one example, Virgil's epic *The Aeneid* was written to glorify and legitimize the Augustan regime (Durant 1944). Although it is

hard to know, it seems likely that legitimizing narratives persuade more fervid devotion from average people to the coalition, and therefore make the coalition and its hierarchies more stable. (At minimum, *it appears that many rulers certainly thought that such narratives lead to increased stability*).

The first reason is more complicated and probably more speculative. But it is elegant and parsimonious and should, at minimum, provide researchers with ample testable hypotheses.

Signaling accounts of cultural artifacts and displays are not novel. In the late 1990s and early 2000s, Geoffrey Miller (2000) forwarded perhaps the most elaborate and well-argued version of a signaling account of culture, called the cultural courtship model (CCM). The CCM argued that most of culture is not a functional system, but rather a signaling system, primarily used to flatter, impress, and allure the other sex. Courted people pay attention to such displays and artifacts because they signal underlying genetic fitness. (Importantly, this does not mean that people consciously understand that the displays signal fitness.) Specifically, according to Miller, they probably signal underlying mutation loads (Prokosch et al. 2005).

The cultural courtship model is impressive and its insistence that cultural displays are signals designed (ultimately) to increase their sender's fitness is most likely correct. However, we believe that the coalitional value theory suggests a slightly different theory about cultural signaling.

Because status striving is probably a fundamental human motivation (Anderson et al. 2015), because status increases (or increased) reproductive fitness, and because people in coalitions sedulously inspect each other's coalitional values, it is likely that men and women have been motivated to signal underlying traits that were beneficial for coalitions to each other. And, as noted, men have faced stronger selection from coalitions and, therefore, produce more costly signals than women. Some traits are difficult to detect, such as intelligence, commitment, creativity, etc., but they can be communicated via easily perceivable displays (i.e., signals) (Cronk 2005; Winegard et al. 2018). Members of a coalition benefit from attending to such cultural displays because they provide invaluable information about the person. And people who possess valued traits benefit from communicating those to others. The problem: Cheaters, i.e., those with low valued traits, would be motivated to "lie" about possessing coveted traits.

The solution to this dilemma is costly signals (Cronk 2005; Zahavi and Zahavi 1999). Costly signals are signals that honest communicators can display but that dishonest communicators generally cannot. Cultural artifacts and displays that are admired seem to function as costly signals because they are difficult, often impossible, for deceptive signalers to create. A brilliant work of history, say by Thucydides, displays a prodigious intellect and profound coalitional understanding; therefore, very, very few people can produce it. A great history

book, then, is, *inter alia*, a signal of its author's underlying intelligence; and intelligence is a valuable trait for most coalitions. Thus, those who write insightful works of history are given status, which motivates others to create and display valuable cultural artifacts.

A straightforward prediction of this account of cultural creation is that coalitions will largely ignore signals that communicate traits that are irrelevant to them. Men on a National Football League (NFL) team, for example, probably would not pay much attention to signals of intelligence, but they would pay attention to signals of pain tolerance, strength, and coordination (Cook 2013). On the other hand, a psychology department *would* pay attention to signals of intelligence while assiduously ignoring signals of strength and pain tolerance (perhaps even mocking those) (see Table 2 for more predictions).

Conceptions of God

Studies into the psychology of religious belief, supernatural representations, and the social consequences of religious commitment have burgeoned in recent years (e.g., Atran 2004; Boyer 2008). Cognitive psychologists have explained that certain supernatural concepts are “sticky”—appealing to the mind and easy to remember—and therefore are more likely to elicit belief than others (Bering 2006; Boyer 2003). Another line of research has suggested that religious belief facilitates group cooperation because it provides a powerful identity narrative, forces believers to display signals of commitment, and

often posits the existence of a supernatural judge who can see everything and punishes the wicked, even if other humans are unaware of their dastardly deeds (Norenzayan 2013; Sosis and Bressler 2003). The coalitional value theory, we believe, can add to this exciting line of research.

Specifically, according to our approach, conceptions of god are designed to appeal to people's propensity to defer to others who are high in coalitional value (see, for example, Kirkpatrick 2001). God (or gods) is often depicted as having *really high* coalitional value (this changes across time, as we will note). And by providing believers with a common “leader” to whom they can defer, conceptions of god potentially create a more cohesive, competitive coalition. Mortals, all of whom accept that god has the highest coalitional value of the group, submit to god, but also compete to be seen as especially approved and close to him or her, increasing their own coalitional value and legitimacy.

Coordination is often a challenge that plagues groups. The more people a group has, the more difficult it is to coordinate people's efforts. A legitimate leader, one whom most people accept and voluntarily submit to, helps to solve coordination problems because group members readily follow his or her orders (Van Vugt 2006). The higher a leader's coalitional value, other things equal, the more legitimate he or she will be. Most modern concepts of god have supremely high coalitional value. The Greek gods, for example, although prone to all-too-human foibles, were depicted as immortal and capable of many impressive powers that could help one coalition vanquish another (see, for example, the behavior of the gods in

Table 2 Some hypotheses that follow from a coalitional value approach to cultural displays and artifacts

Hypothesis	Explanation
There is a relation between cultural displays that people care about and coalitional value.	Signals must be connected to what they communicate, otherwise organisms would cease to pay attention. If cultural displays are signals, then they must be connected to the traits that they signal.
People should be motivated to display cultural artifacts that signal traits that are important to the group.	Different coalitions value different traits. People should signal possession of valued traits to specific coalitions. For example, people should not be motivated to signal intelligence to a soccer team. They should, however, signal athletic abilities and coordination (perhaps through dance).
People should defer to and possibly admire people who display high quality artifacts.	If cultural displays and artifacts indicate coalitional value, then high quality ones indicate high coalitional value. Therefore, people should defer to others who create and display high quality cultural creations just as they would to people who in some other way display high coalitional value
Many (perhaps most) cultural artifacts and displays will appear designed to appeal to potential coalitional partners and not romantic partners.	One distinguishing feature of a coalitional value account of cultural signaling is that it contends that many displays are designed to enhance status, not attract mates. Therefore, cultural displays and artifacts should be designed to communicate to potential coalitional members.

Homer's *Illiad*). The Abrahamic god is even more powerful than the Greek gods, i.e., higher in coalitional value, capable, according to theologians, of accomplishing literally anything (Armstrong 1993). Therefore, god can function rather effectively as a powerful group leader and legitimizer, coordinating coalitional activities and providing a singular identity.

Of course, in smaller communities, such as hunter-gatherer communities, coordination problems are not so acute, which likely explains why hunter-gatherer deities are often less powerful, less group-oriented than deities that arose after the agricultural revolution and rise of more complicated, organized, populated societies (Boyer 2008). What Norenzayan (2013) calls "Big gods" (what we might call, less felicitously, *super high coalitional value gods*) became necessary only as human societies became larger and faced the challenges of coordinating myriad humans. Our analysis, therefore, is entirely consistent with his culturally evolutionary account (see, also, Norenzayan et al. 2016).

That is, according to the present analysis, humans evolved myriad mental mechanisms, some of which led to byproducts that made belief in supernatural entities almost inevitable (Boyer 2008). As societies became more complicated, they faced various exigencies, which certain religious conceptions helped them face better than others. Those supernatural beliefs that worked well spread quickly either because of conquest (i.e., groups that believed in them defeated groups that did not and forced their beliefs on the vanquished) or imitation (i.e., groups saw that such gods worked well and copied).

This helps to explain several puzzles of modern religious belief. First, why are many modern believers at least explicitly monotheistic? It seems undeniable that humans are default polytheists who posit deities nearly as profligately as they do ghosts and other spirits (Boyer 2008; Braddock 2016). One problem with promiscuous polytheism, for a complicated society, is that it offers many potential leaders to whom individuals can declare their devotion, decreasing the unifying power of religion. Monotheism simply eliminates this problem: There is only *one* god; therefore, there is only one god to whom one can legitimately defer.

And, second, why have many humans fought so enthusiastically and often violently over competing conceptions of god (Asbridge 2012)? If god is, in some sense, a transcendent ruler, then coalitions that believe fervently in different gods will almost inevitably live in tension. Furthermore, as a society moves from polytheism toward monotheism, this tension will increase because another tribe's god is a challenge to one's own. If one coalition believes that it submits to the most powerful god and another coalition that it does, then those coalitions necessarily contradict each other.

This analysis also works at a more individualistic level. People vying for leadership inside burgeoning communities needed legitimacy. One way to get legitimacy would be to have high coalitional value; another might be to claim that

one is somehow close to the entity with the highest coalitional value (god), is descended from him or her, communicates with him or her, etc.. Kings from almost all known civilizations declared that they were especially loved by or associated with god (Trigger 2003).

Ideological Conflict

Ideological conflicts, or conflicts about cultural narratives (e.g., political, religious, moral narratives), are probably as old as specialized, literate civilizations; however, they have likely become more prevalent as the number of educated people has increased. Scholars in social and political psychology, especially, have begun thoroughly to examine ideological conflict between liberals and conservatives, attempting to discover personality traits that correlate with ideological commitments (Greene 2014; Haidt 2012; Jost et al. 2003). And, of course, thinkers such as Karl Marx, Friedrich Nietzsche, and others have speculated about these conflicts since at least the Enlightenment (Marx and Engels 2002; Nietzsche 1967). We believe this is another fruitful area of scholarship to which the coalitional value theory can contribute.

At root, many ideological conflicts, according to a CVT approach, are competitions about coalitional value, who should have it, and what it should mean. (Much of these conflicts are also about who gets to control and distribute resources, but these are also closely related to coalitional value and we will not focus on them in this section.) As we noted earlier, humans likely have a fundamental motive to obtain status. According to our model, status is often linked perceptions of coalitional value. There are at least three ways to increase one's status that are linked to coalitional value: (1) a person can improve/develop skills that are beneficial to a coalition; (2) a person can change the organization/goals of the coalition such that his or her pre-existing skills are more valuable to it; and (3) a person can convince, persuade, cajole others into thinking that he or she has higher coalitional value than he or she really does.

Of all the analyses of ideological conflict, Nietzsche's (1967) was probably the most insightful and the one from which we build. His goal in *The Genealogy of Morals* was to trace the evolution of morality from prehistory to the Roman aristocracy and finally through the rise of Christianity. Infamously, Nietzsche asserted that Christian morality was a kind of "slave morality" that had been foisted upon civilization by the weak, the impotent, the refuse of society. Whatever the historical truth of his analysis—probably not a lot—the broader argument is compelling. The weak became bitter and envious of the powerful; however, they were unable physically to defeat the powerful, so they were consumed with *resentment*. They created the notion of "evil," redefined "good," and invented the notions of eternal reward and punishment. The weak now asseverated that the

powerful were not merely bad but rather “evil” and that they would be afflicted with gruesome sufferings by an all-powerful and wrathful god (super high coalitional value—and he’s on the side of the weak!); the weak, meanwhile, were really righteous, spiritually elevated, and would be rewarded eternal bliss, part of which, according to some creative theologians, would consist of the delight of watching the once powerful suffer in hell.

What Nietzsche describes in profound even if inaccurate detail is strategy number three: Convince others that one’s coalitional value is higher than it is. In his telling, those with objectively low coalitional value, the weak and marginalized, eventually, with persuasive propaganda and fervid righteousness, convinced enough people that they actually had higher coalitional value than the powerful. This insight is important. People should use ideologies to exaggerate the value of their own traits to a group. Ideologies, then, can be seen as status-strategies; people forward narratives that favor their own fitness interests. For example, people who are intelligent, but not very athletic, should promote narratives that stress the importance of education and creativity to a modern economy; they also might be tempted to denigrate athletics, disparaging those who like and play sports as “jocks” or “meatheads” (Eckert 1990; Winegard et al. 2014).

Before proceeding, this analysis makes it clear that strategies 2 and 3 are nearly inextricably linked. One could, for example, forward a narrative that suggests that meekness and compassion *are valuable traits* (and will be rewarded by an all-powerful god). This would be strategy three. But, if enough people come to agree with the narrative, come to believe that indeed aggression and assertiveness are not noble, but that humility and empathy are, then the coalition will gradually change, probably in such a way that meekness and compassion *would be more valuable*. Hence, this would converge with strategy two.

One might wonder: If everyone is motivated to obtain status and is just using ideologies to further his or her status interests, then why does anyone pay attention? Why do some narratives work at convincing others that certain traits are more valuable than before appreciated? How can some narratives cause a “reevaluation of values?” We have two answers to this. First, ideologies that are effective appeal to pre-existing mental biases; they exploit the brain, as it were, in the way that a great painting, a moving film, or a video game might. Often, successful narratives appeal to biases for fairness, for supernatural beliefs, or for cosmic justice (Furnham 1993; Haidt 2007). Marxism, for example, probably functioned as a status display primarily for young, educated elites (Schumpeter 1942). It suggested that their traits, education, openness, fairness, should be highly valued, and that they would be a vanguard in a revolutionary government, but it worked well because it tapped into concerns for economic and status fairness and for an optimistic eschatology in which

the righteous prevail over the exploitative (Boehm 2009; Sowell 2001). And second, ideologies that are successful suggest that one’s preferred coalition will have much higher *group value* than other coalitions, so it is worth joining or committing to. For example, Marxists appealed to others by suggesting that their coalition would inevitably succeed (It was, after all, scientific!); and therefore, even if others would lose value in that coalition, it would be better to belong to the victorious coalition than to the vanquished (Singer 1980).

Let us consider a couple examples that this perspective might illuminate. First, the rise of a priestly class. Shamans—medicine men, visionaries, etc.—existed in nearly all hunter-gatherer societies (Singh 2018). These were probably the first religious specialists; and they achieved their status, their livelihood, by convincing others that they had high coalitional value because they could converse with the spirits, see the future, or bargain with the supernatural to help the prospects of the coalition. As religions became more systematic and less intuitive (Barrett 1999; Boyer 2001), their stories were written down and their doctrines became more and more abstruse (MacCulloch 2010). One cause of this, though certainly not the only, was probably a growing guild of priests who wanted to preserve and increase their own value (and thus the amount of resources they controlled) to society. To do so, they did two things: (1) they spread a powerful narrative that their special abilities were crucial to the coalition (because they, and only they, could interpret the word of god); and (2) they made the doctrines more elaborate and difficult to understand, actually increasing their importance (Milner Jr. 1994). In this way, priests became crucial to modern coalitions, irreplaceable really because they were the only ones who could understand and promulgate the true religion to the masses. (Priests probably also increased the size and cooperativeness of coalitions, also increasing their value.) This may seem like a quaint example, but it is germane to many modern, similar examples. To take one, it is likely that many lawyers try to make the law more complicated than it needs to be (Jackson 1941); when the law is simple, the value of lawyers declines.

And second, the coalitional value approach can elucidate the dynamics of political polarization in the United States. Scholars and pundits are becoming alarmed by increasing American tribalism, some calling it an imminent threat to the Republic (Chua 2018; Haidt 2012; Levin 2016). Whatever its actual level of threat, it is a remarkable feature of twenty-first century politics. According to our perspective, one driver of this polarization is increasing geographical and identity sorting, which leads to more contentious status battles between groups whose traits and talents slightly differ (Mason 2018; Murray 2012). One of the most potent divisions in American politics is between what David Goodhart (2017) calls “somewheres” and “anywheres,” that is, between people who are attached to a local community, relatively uneducated, possess a few skills, and who adhere to traditional cultural

customs (somewheres) and people who are cosmopolitan, educated, highly skilled, and who are open to new customs, norms, and cultures (anywhere) (see Jost et al. 2003 for underlying personality differences that might give rise to these divisions). Generally speaking, anywheres belong to the Democratic coalition; and somewheres, to the Republican. Both forcefully push cultural narratives that (1) suggest that they have higher coalitional value than other groups; and that (2) suggest that society should be arranged in such a way that their traits are more valuable. So, those who are educated, open-minded, capable of thriving in many environments and cities push a narrative that suggests that cosmopolitanism is morally righteous, that attachments to small communities and fear of cultural change are backward, bigoted, and ruinous to the future of the United States. Similarly, those who are attached to local communities push a narrative that suggest that cosmopolitanism is a failed project of failed elites, that it is bad for American communities, that it injures coalitional cohesiveness, and that it will ultimately lead to the demise of the United States (Goodhart 2017; Inglehart and Norris 2017; Judis 2016).

This conflict, this polarization, is so vehement and apparently intractable because it is about status (which is ultimately about resource control). Status, unlike economics, is generally a zero-sum game (Wright 2001). If one group's perceived coalitional value goes up, then another group's inevitably goes down (Milner Jr. 1994). Each tribe wants the skills and talents that it possesses to be valued by the American coalition. When those traits are not respected, the tribe's coalitional value decreases; when they are, then it increases.

Relatedly, this might provide an explanation for why people tend to become more conservative as they age (Cornelis et al. 2009; Truett 1993). Developing skills and talents (strategy one)—cultural capital—is the most straightforward and typical way to increase one's coalitional value. But it requires many years of sustained effort, generally, to pay off. One's coalitional value therefore increases with age before declining in one's late 60s and 70s. Consequently, as one maximizes one's coalitional value in the prevailing coalitional conditions, one should become more conservative, more protective of the coalition's way of doing things. It is not an accident that revolutionaries (i.e., those who pursue an extreme form of strategy two) are generally young and educated (Doyle 2018).

Conclusion

We began by telling the story of George Washington's rise from respected planter to revered saint of the USA. We puzzled that people expended so much effort to praise him, even carving his face into a mountain. Why spend effort praising another person when one could spend it hunting, fishing, gathering, or seeking out mates? We answered this by pointing to a

status exchange dynamic that has long persisted in human evolution, and led to the development of a coalitional value gauge. Humans exchange status (prestige) for service, for skills that can benefit a coalition (e.g., leadership, arrow making, dispute resolution, etc.). They generally defer to those who have higher coalitional value and assert themselves over those who have lower. But, and importantly, they also *expect* others to do the same. They punish those who do not defer to higher status people because that increases their own coalitional value—it makes them more valuable to the coalition because it makes the coalition more cohesive.

We then applied this to four areas of research. First, we suggested it might help explain anti-gay bias because many stereotypes about especially gay men depict them as effeminate and low in coalitional value. Second, we argued that it helps to explain cultural displays, many of which signal important underlying traits to coalitional members. Third, we applied it to conceptions of god, noting that god, at least in modern societies, is represented as being *really* high in coalitional value, and that this representation facilitates group cooperation and coordination. And last, we contended that it might help explain ideological conflict. Cultural narratives, according to this perspective, are designed to enhance one's coalitional value either by exaggerating it or by changing the structure of the coalition.

George Washington inspired fervid devotion and deference because he helped a ragtag army defeat (or wear out) a much more powerful army. He had very high coalitional value. And even after death, deference to him remains a sign of one's loyalty to the coalition that he helped to create. For those of us who will never achieve great status (high coalitional value), it is a satisfying recompense that natural selection made deferring to heroes almost as rewarding as being them.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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