

Gervais & Fessler (G&F) suggest that “contempt,” a cultural-level folk concept, is on the decline in American culture. This change is evident in a decline in the frequency of the word *contempt* in the American English corpus, which, the authors argue, reflects a shift to a dignity culture (Leung & Cohen 2011), one in which all people are assumed to have inherent rights and dignity, and expressions of contempt are viewed as illegitimate. But why might such a shift have taken place? We propose that changes towards a dignity culture represent shifts in values that are often responses to changes in socioecological conditions. Previous work has linked variations in ecological factors such as pathogen prevalence and climatic stress in interaction with resource levels to cultural variations in a host of behaviors, attitudes, and other psychological tendencies (e.g., Fincher & Thornhill 2012; Thornhill & Fincher 2014; Van de Vliert 2013). In our work we have explored how *changes* in socioecological variables are also linked to cultural-level shifts in culture’s value systems and associated practices and behaviors. For example, higher socioeconomic standing (as well as the prevalence of infectious diseases, and decreasing frequency of natural disasters) are associated with cultural-level shifts towards products and practices reflecting individualism in the United States (Grossmann & Varnum 2015), with similar patterns occurring across a variety of other societies (Santos et al. 2017). Similarly, reduction in prevalence of infectious diseases has been associated with reduction in cultural-level gender inequality (Varnum & Grossmann 2016). It is, therefore, possible that cultural change in the prevalence of contempt may also be linked to shifts in social ecology.

To test this idea, we analyzed archival data on the frequency of the use of the word *contempt* and its synonyms *disdain*, *disgrace*, and *despised* in the American English corpus using Google’s Ngrams database (<https://books.google.com/ngrams>), from the beginning of the 20th century until the emergence of digital readers like Amazon Kindle (1900–2006). We also looked at the frequency of the word *contempt* and its synonyms in the Bookworm Movies database over the same period (starting in the 1930s; see: movies.benschmidt.org), which provided uses of the word per million words of dialogue in thousands of American movies and television shows and archival data on pathogen prevalence, socioeconomic status (SES), urbanization, deaths resulting from natural disasters, and climatic stress (Grossmann & Varnum 2015), as well as unemployment (U.S. Department of Labor) in the United States during this period. All data are available at the Open Science Framework (see: osf.io/k6ec8). Pathogen prevalence was positively correlated with the use of contempt-related words in books, $r = 0.69$, whereas socioeconomic development (tracked through urbanization, less unemployment, and median shifts in occupational prestige) was negatively associated with the use of contempt-related words in books, $r_{\text{urbanization}} = -0.78$, $r_{\text{less unemployment}} = -0.43$, $r_{\text{level of SES}} = -0.92$. The number of deaths due to natural disasters was weakly positively associated with the use of contempt-related words in books, $r = 0.22$, whereas the relationship between climatic stress and contempt-related words was negligible, $r = -0.10$.

Similar patterns were found in analysis of movie and television dialogue. Pathogen prevalence was positively correlated with the use of contempt-related words in movies and television, $r = 0.25$, whereas markers of socioeconomic development were negatively correlated with contempt-related words in these media, $r_{\text{urbanization}} = -0.43$, $r_{\text{less unemployment}} = -0.18$, $r_{\text{level of SES}} = -0.68$. Natural disasters and climatic stress were only negligibly related with use of contempt-related words in movies and television, $-0.02 < r's < 0.11$.

To explore the lagged relationships between these variables, we also analyzed the data using cross-correlation functions (CCFs). We found that decline in pathogen prevalence is lagging, rather than causing, the decline in contempt-related words in books and is unrelated to contempt-related words in television and movie scripts. In contrast, socioeconomic development (standardized average of SES, urbanization, and reverse-scored

unemployment) was bidirectionally associated with the frequency of contempt-related words in books, and predicted the frequency of contempt-related words in television and movie scripts 20 years later.

Why might pathogen prevalence and socioeconomic conditions be linked to changes in contempt? As G&F note, contempt as a sentiment serves as a guide to action; as such it may cause people to avoid contact with others for whom they feel contempt. Objects of contempt are often out-groups, as G&F note. Previous work has consistently linked xenophobia and in-group bias to higher levels of pathogen prevalence (Fincher & Thornhill 2012; Huang et al. 2011; Schaller & Park 2011). Given that the sentiment and the folk affect concept of contempt are interrelated, it may be possible that pathogen levels influence how the notion and the utility of the folk affect concept contempt will change, too.

G&F also suggest that contempt is inferred from disrespectful, irreverent behavior. Appraisal of behavior as disrespectful may be more pronounced in societies emphasizing social stratification (e.g., between the working, middle, and upper classes). As U.S. society continues to move from industrial to post-industrial means of production (i.e., from manual labor to office work), contempt may continue to decline. Moreover, G&F suggest that contempt should be more common when there is greater competition for resources. Thus, shifts in occupational status and unemployment levels might be linked to cultural shifts in the prevalence of contempt as was seen in our data. These findings are also broadly consistent with modernization theory, which holds that as people become more materially secure, they become more tolerant and supportive of diversity (Inglehart & Welzel 2005). These relationships should be confirmed in systematic experimental work; however, our initial analyses provide support for the notion that expressions of contempt (and cultural changes in contempt) are likely intertwined with the major societal-level shifts in social ecology.

Is humility a sentiment?

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Abstract: Gervais & Fessler reintroduce the concept of a sentiment as a framework for conceptualizing contempt, a construct with both attitudinal and emotional components. We propose that humility might also fit this mold. We review recent findings regarding the antecedents, phenomenology, and functional consequences of humility, and discuss why conceptualizing it as a sentiment may advance our understanding of this construct.

Gervais & Fessler (G&F) hearken back to the formative years of social psychology to make a strong case for resuscitating the concept of a *sentiment*, or “a functional network of discrete emotions moderated across situations by an attitudinal representation of another person” (sect. 1.3, para. 1). We applaud their effort, and expect it to help bridge the largely disparate literatures on attitudes and emotions. Although it may be pragmatic for scientists to conceptualize constructs as primarily attitudinal or emotional—and carve out corresponding niches in circumscribed academic subfields—ample evidence suggests that many constructs involve components of both. For example, feelings-as-information theory suggests that individuals rely on momentary affect when making attitude-like evaluations (Schwarz 2010),

and functionalist models of distinct emotions often explicitly incorporate attitude-like evaluations of the self and others as necessary prerequisites for certain emotional experiences (e.g., Tracy & Robins 2004; Van Dijk et al. 2015).

G&F propose a provisional set of sentiments that might serve unique social affordances (i.e., love, liking, respect, hate, fear; sect. 4.3). We would add another construct to this list—one that also does not fit well with current models of emotions or attitudes: *humility*. Like contempt, humility does not meet the standard criteria to be considered a basic emotion (Ekman 1992a); for example, it lacks a cross-culturally recognizable nonverbal expression, distinct physiological signature, and evidence of manifestation in any nonhuman species. However, also like contempt, humility is clearly an affective experience (Saroglou et al. 2008), and is characterized by several features typically used to define emotions (Izard 2010), including antecedent cognitive appraisals (i.e., accurate evaluation of one's abilities) and activation of distinct cognitive-behavioral patterns (i.e., directing one's attention toward others and their accomplishments; Chancellor & Lyubomirsky 2013; Tangney 2000). Yet, alongside these emotion-like qualities, humility exhibits several features more characteristic of attitudes: it is thought to be a relatively enduring quality of persons (e.g., Kesebir 2014; Peterson & Seligman 2004) and is considered by some to be a judgment, composed of at least as much cognitive content as affective content (Davis et al. 2010).

Adding to this complexity, we recently found converging evidence across a series of studies examining lay experiences and semantic conceptualizations, as well as experts' reports, that humility is experienced in two distinct forms, each of which involves both emotional and attitudinal features (Weidman et al. 2016). The first of these, which we labeled *appreciative humility* based on its most representative feelings and thoughts, typically follows personal success; it is associated with compassion, grace, and understanding, and with traits such as high self-esteem, status, and agreeableness; and it motivates a behavioral orientation toward celebrating others. The second form, labeled *self-abasing humility*, is more likely to follow personal failures; is associated with feelings of submissiveness, unimportance, and worthlessness, and with traits such as low self-esteem and introversion; and motivates a behavioral orientation toward hiding from others.

In light of this complexity, how *should* humility be understood? To date, researchers have reached little consensus; humility has variously been described as a relationship-specific personality judgment (Davis et al. 2010), a personality trait (Kesebir 2014), a hypoegoic state (Kruse et al. 2014), an emotion (Saroglou et al. 2008), spiritual intelligence (Emmons 1999), an accurate assessment of one's abilities (Tangney 2000), and a virtue (Chancellor & Lyubomirsky 2013; Peterson & Seligman 2004). In the face of such disparate conceptualizations, the concept of *sentiment* could prove useful. Consistent with the first major component of G&F's definition, each form of humility involves several narrower distinct emotional experiences; for appreciative humility these include authentic pride and gratitude, and for self-abasing humility they include shame and embarrassment. Consistent with another major component of G&F's *sentiment*, each form of humility involves the adoption of a particular attitude toward a person. Episodes of appreciative humility promote a sense of appreciation toward others' accomplishments and a desire to connect with those individuals. Self-abasing humility also fosters an attitude toward a person, but, interestingly, that person is oneself. Indeed, this form of humility leads individuals to view themselves as unimportant, unintelligent, and incompetent, all of which reflect a negative attitudinal self-evaluation. If humility is a sentiment, this last finding suggests that sentiments may involve attitudinal representations of either another person or the self, suggesting a possible minor amendment to G&F's definition.

Conceptualizing humility as a sentiment may yield a much needed, more nuanced understanding of the construct. To date,

humility has been portrayed as a universally positive characteristic, with wide ranging and somewhat disparate effects, such as attenuating death anxiety (Kesebir 2014), reinforcing gratitude (Kruse et al. 2014), fostering forgiveness (Davis et al. 2013), promoting prosocial behavior (Exline & Hill 2012; LaBouff et al. 2012), buffering against stress (Kruse et al. 2016), and facilitating self-control (Tong et al. 2016). These findings likely result from the aforementioned contrasting conceptualizations of humility, as well as the fact that most researchers view humility as uniformly positive but do not specify what exactly it is (Peterson & Seligman 2004). To date, these findings have not been integrated into a comprehensive theoretical model, leading to the conclusion that humility simply promotes a grab-bag of desirable outcomes. Yet it is not immediately clear why existential anxiety and gratitude—two entirely distinct emotional processes—would both be influenced by humility. Similarly, why would humility lead to both prosociality and increased self-control, given that the former requires focusing on others, whereas the latter involves focusing on (and withstanding) one's own desires? Crucially, conceptualizing humility as a sentiment could prompt researchers to move beyond viewing the construct as broadly and uni-dimensionally positive, toward building a more nuanced theory, as G&F have done for contempt (see their Figure 1 in the target article). This, in turn, might generate specific predictions regarding the elicitors, phenomenology, and functional consequences of humility.

In closing, we appreciate G&F's attempt to integrate constructs with both attitudinal and emotional components under the rubric of a sentiment, and believe it may foster novel insights into certain constructs that have defied proper classification—like contempt and humility.

Authors' Response

Seeing the elephant: Parsimony, functionalism, and the emergent design of contempt and other sentiments

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Abstract: The target article argues that contempt is a sentiment, and that sentiments are the deep structure of social affect. The 26 commentaries meet these claims with a range of exciting extensions and applications, as well as critiques. Most significantly, we reply that construction and emergence are necessary for, not incompatible with, evolved design, while parsimony requires explanatory adequacy and predictive accuracy, not mere simplicity.

R1. Introduction

We thank the authors of the 26 commentaries for their thoughtful and wide-ranging discussions of our target