

01. Commentary on Osiurak & Reynaud

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03. What Matters Emotionally: The Importance of Pride for Cumulative Culture

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## 10. ABSTRACT

Osiurak and Reynaud highlight a major omission of models of cumulative technological culture. I propose an additional problematic omission: pride. By taking this emotion into account, we can address the question of *why* humans seek to learn, teach, and innovate—three processes essential to CTC. By fostering achievement, prestige, and social learning, pride provides a pivotal piece of the puzzle.

## 11. Main Text

Osiurak and Reynaud argue that cognitive factors have been overlooked in research on the emergence of cumulative technological culture (CTC). Here, I highlight another overlooked factor also critical to CTC. Although scholars agree that social learning and innovation are essential to cumulative culture, few have asked *why* humans engage in these behaviors, at a proximate level: what motivates people to teach others what they know, learn valuable knowledge and skills, and improve upon these with new innovations? The answer to all three questions, I argue, is *pride*, the self-conscious emotion that instills in humans a desire to develop and maintain a self-concept that meets and exceeds social norms and standards.

Pride is pleasurable emotion that reinforces socially valued behaviors (Tracy & Robins, 2007; Weidman, Tracy, & Elliott, 2016). Numerous studies provide strong support for the universality of pride in humans (e.g., Tracy & Matsumoto, 2008; Tracy & Robins, 2008). At a proximate level, individuals' desire to experience pride motivates them to work toward effortful achievements and engage in moral behaviors; and their nonverbal displays of pride cross-culturally communicate to others their deservingness of high rank and prestige (Shariff & Tracy, 2009; Tracy, Shariff, Zhao, & Henrich, 2014; Witkower, Tracy, Cheng, & Henrich, 2019). From a genetic evolutionary perspective, then, it is likely that pride emerged in humans to solve the adaptive problem of social-rank attainment (Cheng, Tracy, & Henrich, 2010). Yet pride may have come to serve a secondary function in human history, facilitating three psychological processes that are critical to CTC: (1) a motivation to create, build, and discover; (2) a

willingness to teach one's creations to others; and (3) an ability to selectively learn from others who are experts (Tracy, 2016; Tracy, Mercadante, Witkower, & Cheng, in press).

Beginning with that first critical process of developing skills and acquiring knowledge, pride is the emotion that pushes people to work effortfully in ways that ensure success; feeling pride increases persistence at boring tasks (Williams & DeSteno, 2008) and achievement-building activities that yield future rewards (Ho et al., 2016), and pride is associated with creativity and innovation (Damian & Robins, 2013). Furthermore, a felt absence of pride motivates underperforming individuals to change their ineffective work habits so as to become more productive and successful (Weidman et al., 2016).

Turning to the second critical process, a willingness to teach, here pride is crucial because it facilitates the attainment of prestige. Prestige evolved in humans as a rank attainment strategy distinct from dominance, the threat-based strategy shared widely across the animal kingdom. In humans, a species with the capacity for social learning, it becomes adaptive to defer to leaders who possess valuable knowledge and skills (i.e., prestige), as doing so incentivizes these individuals to allow followers to copy and learn from them (Henrich & Gil-White, 2001). Pride is the affective mechanism underlying the attainment of prestige; in addition to motivating the achievement-orientation that results in knowledge and skill acquisition, pride motivates individuals to help and advise others, and to cooperate and demonstrate care for those in need (Ashton-James & Tracy, 2012; Cheng et al., 2010; Dorfman et al., 2014; van der Schalk et al., 2012). Further supporting this account, prestigious group members regularly feel the "authentic pride" that comes from achievements and pro-social behaviors but not the "hubristic pride" that

is associated with aggression and dominance (Cheng et al., 2010), and display the pride nonverbal expression during rank contests, presumably to signal their prestige to potential followers (Witkower et al., 2019).

The third psychological process that underpins cumulative culture is strategic copying, in the sense of choosing to learn from the wisest or most skilled group members so that high-quality cultural knowledge is passed on. This process requires individuals to determine whom is likely to be prestigious, then defer to those models and copy them (Henrich, 2017). Studies show that even two-years-olds choose to learn from social models who demonstrate accurate, rather than inaccurate, knowledge (Koenig & Woodward, 2010), and, when lacking information about a model's accuracy, seek cues of expertise in the form of nonverbal displays of certainty (Birch et al., 2010; Brosseau-Liard & Poulin-Dubois, 2014). These displays are notably similar to the universally recognized pride expression (which includes smiling, expansive posture, and head-tilt upward; Tracy & Robins, 2008), pointing the potential importance of pride in social learning.

To test whether adults, too, selectively learn from social models who display pride, we incentivized participants to correctly answer a difficult trivia question and gave them the opportunity to copy an answer offered by a peer—who was actually a confederate, posing an expression of pride, shame, happiness, or neutral. When this individual displayed pride, participants copied them 80% of the time, compared to 50% for happiness, and 20-30% for shame and neutral expressions (Martens & Tracy, 2013).

Copying those who display pride is likely to be adaptive at a genetic level, by prompting learning that increases fitness; and also adaptive at a cultural level, by increasing the likelihood that the best knowledge and skills are passed on to others who can improve upon them further (Henrich, 2017). Although people can fake pride displays, in the long run such performances are unlikely to shape social learning, a process that occurs largely in relationships formed across many different interactions, and which takes into account partners' long-term reputations. Indeed, even children eventually stop copying a social model who displays confidence but has a history of inaccuracy (Brousseau-Liard, Cassels, & Birch, 2014); and adults who are caught overclaiming what they know become distrusted and unattractive social partners (Tenney, Meikle, Hunsaker, Moore, & Anderson, 2019).

In sum, pride contributes to each of the three key psychological processes that underlie cumulative technological culture: it motivates people to work hard to achieve, thereby facilitating the development of valuable knowledge and skills; it promotes the attainment of prestige, which entails a built-in incentive to share the fruits of one's achievements with others; and it cues discriminatory social learning, informing group members which models they should copy and learn from.

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