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# “Emotions in Cultural Dynamics”: What Non-Humans Can Teach Us about the Role of Emotions in Cultural Evolution

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### What non-humans can teach us about the role of emotions in cultural evolution

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Abstract:	The role emotions play in the dynamics of cultural phenomena has long been neglected. The collection of articles recently published in Emotion Review provides an important first step into this necessary endeavor. In this commentary, we discuss this contribution by emphasizing the role epistemological parsimony should play in the future of this research agenda. The cultural behavior and emotions of chimpanzees is taken as reference.

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2  
3 26 2003) and even chemosensory signals (De Groot et al., 2014), which can in turn be picked up  
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5 27 by members of the audience (Dezecache et al., 2013), through so-called emotional contagion  
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7 28 or emotional transmission (Dezecache et al., 2015). This process then facilitates learning about  
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9 29 features of our environment and solutions that can be used to deal with them, through  
10  
11 30 associative learning (Olsson et al., 2020). In humans, ostensive communication (sensu Sperber  
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13 31 & Wilson, 1987) also facilitates the mutual recognition of solutions to recurrent problems and  
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15 32 their integration in publicly acknowledged group-specific behavioral repertoires (Kashima et  
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17 33 al., 2020). The attractive character of solutions (and the emotions they trigger in individuals  
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19 34 observing them) act as a force that selects cultural solutions over others, and actively transform  
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21 35 behavioral repertoires (Eriksson & Strimling, 2020).  
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30 37 While we overall agree that the above-mentioned process actively participates in the  
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32 38 construction and maintenance of cultural phenomena, at least two important aspects remain  
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34 39 unanswered and threaten the usefulness of such theoretical narrative. First, signals associated  
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36 40 with the experience of emotion (which may inappropriately be called ‘emotional signals’) are  
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38 41 probably only contingently read-outs of the affective state expressers experience (Crivelli &  
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40 42 Fridlund, 2018, 2019). Indeed, environmental challenges cause emotions in individuals which  
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42 43 can then be shared with other members of a community (Kashima et al., 2020; Rimé, 2019),  
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44 44 provided there is a match between the emotion being felt and associated expressive displays  
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46 45 (Dezecache et al., 2013, 2015). This is never guaranteed.  
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51 47 Second, this narrative is certainly very informative with regards to explaining the current  
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53 48 functioning of cultural phenomena in humans, and contributing to a comprehensive account of  
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55 49 what human culture is, yet, it remains desperately silent about the origin of culture and how  
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57 50 emotions may have themselves helped in setting cultural evolution in motion, beyond modern  
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3 51 humans. We understand this is a different question from the one posed in Rimé (2019) and  
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5 52 Kashima et al. (2020). This question though has an important epistemological virtue: it invites  
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8 53 to parsimony. We reckon this is a valuable exercise for it can reveal the necessary conditions  
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10 54 for the emergence of cultural phenomena and ignoring more incidental features. This could  
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12 55 eventually help provide a parsimonious answer to the question of which psychological elements  
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14 56 are necessary for a species to show culture, or for culture to appear at all. Finally, it can  
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17 57 illuminate the role of emotions in early forms of culture.  
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22 59 Modern humans (*Homo Sapiens*) have only been around for a few hundred thousand years in  
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24 60 their behaviorally modern form (Powell et al., 2009). Among the small subset of species under  
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26 61 scientific study, humans are not the only one that show forms of culture, or group-specific  
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28 62 behaviors that cannot be explained by genetic or environmental singularities (Whiten et al.,  
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30 63 1999). Convergent evidence also suggests that cultural evolution (or ‘dynamics’, Kashima et  
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32 64 al. 2020) is also present in some animals (Whiten, 2019), at least in limited forms, with an  
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35 65 increasing number of cases documented in line with the increasing impact of humans on their  
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37 66 environment (Gruber et al., 2019). Yet, the debate on animal cultures has stalled for many years,  
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40 67 owing to often unrealistic cognitively-loaded criteria set for attributing culture to other species  
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42 68 than humans, particularly with respect to social processes, with the bar being raised each time  
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45 69 a particular species threatens to reach the imposed threshold (Gruber, 2020).  
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49 71 The consideration that chimpanzee communities display forms of culture without language and  
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51 72 without clear signs that cultural items are being mutually acknowledged and recognized as such  
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53 73 by community members (in other words: chimpanzees have culture, but may not know that they  
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55 74 do) (Gruber et al., 2015) invites us to revisit the proposals of Rimé (2019) and Kashima and  
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58 75 colleagues (2020), and appreciate that two possibilities are offered: first, neither emotional  
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3 76 sharing nor mutual recognition are necessary for cultural phenomena to appear; or, second,  
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5 77 emotional sharing is present in a larger number of species than suggested, and may even provide  
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7 78 an elegant way to come out of the conundrum of animal culture. Note that such argument can  
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9 79 also be made regarding early hominin cultures, whose brain organization may have differed  
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11 80 from ours (Bruner, 2018; Gruber, 2020).  
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17 82 The question then becomes: do emotions play any role in the emergence of non-human and  
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19 83 early human cultural forms? Beyond the largely cognitive layer attached to modern human  
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21 84 cultures, can these forms truly be considered 'primeval', not because of their seemingly  
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23 85 ancestral state, but rather because of the direct impact of emotion on their development?  
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25 86 Affective variables certainly do play a role in the display of animal cultural behavior:  
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27 87 physiological forces like thirst, hunger and other motivational forces surely make organisms  
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29 88 more likely to invest physical and cognitive efforts in solving environmental problems (Gruber  
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31 89 et al., 2016). They also likely make organisms pay attention to their conspecifics when facing  
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33 90 environmental problems, in search for solutions. In fact, the emotions of the agents - regardless  
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35 91 of whether they are being shared or not with others - may be one of the leading forces behind  
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37 92 social learning, as recently argued by Dukes and Clément (2017; 2019), with the novel  
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39 93 framework of Affective Social Learning. These solutions in turn, could become cultural,  
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41 94 without language nor mutual recognition. Elsewhere, some of us have argued that emotions  
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43 95 provide a fertile ground to study culture and communication in non-humans (Gruber & Sievers,  
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45 96 2019; Sievers & Gruber, 2020). In this light, emotions may truly be one of the leading forces  
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47 97 in the emergence of culture across species.  
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56 99 **References**  
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