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## Comment: Evidence for Basicness from Noise-like Interjections of Emotions

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### Abstract

Goddard (2014) proposes a three-partite division of emotive interjections, which is helpful in delineating this heterogeneous set of phenomena. The distinction also explains inconsistencies between Goddard's and previous findings: While his study demonstrates variability across languages in word-like primary interjections, previous work investigating noise-like interjections has found evidence for universality. Such cross-culturally consistent, categorical perception of emotional signals can be explained as emerging from bottom-up information without the need for top-down learning via language or interjections.

### Keywords

categorical perception, emotion, language, noise-like interjections, nonverbal vocalisations of emotions, voice

Emotional interjections have not received a great deal of attention from psychology and linguistics, and the focus on emotive interjections in the current issue of *Emotion Review* thus marks a welcome development. In the existing literature, generalisation

across studies has been complicated by the fact that researchers have conflated different kinds of interjections, resulting in exclamations like "good lord!" sometimes being considered part of the same class of signals as nonverbal sounds like laughter and sighs. To remedy this, Goddard (2014) makes a helpful proposal of a three-partite division of emotive interjections, located at different distances from language (see also Ameka, 1992, for an alternative typology of interjections). These range from noise-like sounds, via word-like interjections, to word interjections. Importantly, the classes of emotive interjections differ considerably, in terms of both linguistic and emotional features.

The proposed distinctions should be of considerable use to researchers of interjections, as they help to delineate this heterogeneous set of phenomena. In addition, although he does not explicitly position his own analysis within the three-partite framework, the division also helps to explain some inconsistencies between Goddard's analysis and previous findings. Goddard's study (2014) suggests variability in the emotional interjections of disgust and surprise across languages, while other work has found considerable cross-cultural consistency in these interjections across groups with vastly different languages and cultures (Sauter,

Eisner, Ekman, & Scott, 2010). This discrepancy is likely due to the fact that Goddard's analysis focuses on word-like interjections closer to language, while research that has found cross-linguistic and cross-cultural consistency has examined noise-like interjections (sometimes referred to as nonverbal vocalisations).

The finding of cross-cultural consistency also speaks to Goddard's call for empirical study of whether emotive interjections provide evidence for basicness. Certainly, the criteria for basicness in emotion research is a complex and contested issue. Nevertheless, there is little disagreement that basic emotions have recognisable signals that are cross-culturally consistent (e.g., Ekman, 1992). The finding that noise-like interjections constitute cross-culturally consistent, recognisable signals of emotional states (Sauter et al., 2010) suggests that noise-like interjections may provide evidence for the basicness of emotions in a way similar to that of facial expressions. In contrast, word-like interjections—and almost certainly also word interjections—would not, as they vary across languages, as Goddard demonstrates.

Goddard (2014) also makes the intriguing suggestion that interjections may support the emergence of categorical perception of emotions. This is an adapted version of accounts arguing that categorical perception of emotional facial expressions requires verbal categorisation (e.g., Roberson, Damjanovic, & Kikutani, 2010). Goddard's proposal is compatible with some findings that have questioned the verbal labelling account: Speakers of Yucatec Maya, a language that does not distinguish disgust from anger on a lexical level, show categorical perception of anger/disgust facial expression morphs (Sauter, Le Guen, & Haun, 2011). This result is incompatible with lexical categories underlying categorical perception, but the Yucatec Maya

speakers may nevertheless have had the opportunity to learn from noise-like interjections. However, computational models of emotion perception have lent support to non-language-based accounts of emotional face processing: Neural network models that use only perceptual information also show categorical perception of emotional faces (Dailey, Cottrell, Padgett, & Adolphs, 2002). This result indicates that perceptual factors, rather than top-down learning through language or interjections, may drive the categorical perception of emotional facial expressions.

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