Iconicity and the origins of symbolism and grammar

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Keywords: language evolution; iconicity; ostensive-inferential; symbolisation; grammaticalisation.

The emergence of symbols and the inception of grammar are commonly conceptualised as two distinct explananda in evolutionary linguistics (Tomasello, 2003). We claim here that both emerge from the same process of repeated communicative interaction. Our account is built on the pillars of ostensive-inferential communication (Scott-Phillips, 2015) and the memorisation of shared communicative experience (Langacker, 1987), which rely on cognitive capacities supporting both the recognition of common ground (Clark, 1996) and communicative relevance (Sperber and Wilson, 1995), and the ability to use existing knowledge to interpret behaviour as indicative of something meaningful.

Icons are communicative tools whose forms are motivated to such an extent that an observer can infer their intended meaning without prior specialist linguistic or cultural knowledge (Keller, 1998). Many behaviours can be iconic, from onomatopoeic mimicking of natural sounds (Dingemanse, 2012) and gestural mimicking of salient actions (Perniss and Vigliocco, 2014), to representations of abstract semantic properties such as the number of participants or temporal structure of an event (Dingemanse, 2011). Iconic associations are created when ostensive behaviour is sufficiently conspicuous to be unmistakably intended as a deliberate communicative act, and sufficiently similar to a salient property of the intended meaning.

Memorisation of successful interactions establishes associations as common ground, and repeated usage leads to their entrenchment (Langacker, 1987) and conventionalisation (Barlow and Kemmer, 2000). Repeated communicative interaction gradually transforms icons into symbols with apparently arbitrary relationships to their meanings, via either the simplification of their forms (Fay et al., 2010) or the metaphorical extension of their meanings (Smith and Hoefler, 2017). This cycle of innovation and conventionalisation is an example of the ratchet effect of cumulative cultural evolution, whereby complex cultural artefacts arise through the accumulation of innovations maintained through faithful social transmission (Tomasello, 1999).

We demonstrate that the same mechanisms underpin the emergence of grammaticalised constructions from ad-hoc discourse strategies (Givón, 1979). Lexical and grammatical items differ in productivity, complexity and schematicity (Gisborne and Patten, 2011), and grammatical material is created gradually through the development of increasingly schematic forms, via the interpretation of discourse-related effects as intentionally communicative cues to meaning (Hurford, 2012), and increasingly functional meanings, through innovative invited inferences (Traugott and Dasher, 2005). In both cases, memorisation and repeated usage lead to entrenchment and conventionalisation of linguistic innovation, and thus to the gradual accumulation of increasingly grammatical material in interlocutors' construction inventories.

The widespread assumption of different origins for symbolism and grammar is thus unwarranted: both are best accounted for as emergent from the same processes of repeated acts of ostensive-inferential communication and cumulative cultural evolution, in which iconicity plays a pivotal role.

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