The Evolution of Reference

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Abstract

An important question in the studies of language evolution is whether there are traces of reference in animal signaling behaviors; or if, by contrast, reference is a unique feature of human language. After Seyfarth et al. (1980)'s study of vervet monkeys alarm calls, three main theories have come up in the literature, which seek to characterize animal signaling behaviors as evolutionary precursors of linguistic reference. These are: the theory of functional reference (Marler, Evans & Hauser, 1992), the meaning attribution framework (Wheeler & Fischer, 2012), and the revised version of functional reference (Scarantino, 2013).

In this talk, I will start by examining the different ways in which the theory of functional reference, the meaning attribution framework, and the revised version of functional reference conceptualize animal reference. Then, I will turn to spelling out some limits that these frameworks encounter as accounts of the evolution of linguistic reference. I will argue that functional reference can be advantageous when studying animal communication systems in their own right. As a functional framework, it groups together signals that achieve a similar referential function, allowing exploration into the diverse ways in which animals can provide recipients with information about objects. However, when the goal shifts to pinpointing the evolutionary precursors of linguistic reference, functional reference becomes less advantageous. Since it is neutral about what mechanisms underpin signal production, functional reference incorporates phenomena that aren't plausibly evolutionarily connected to linguistic reference, because they are underpinned by substantially different mechanisms. They are more likely analogous than homologous (see e.g., Scott-Phillips & Heintz, 2023).

Regarding Wheeler and Fischer's framework, I will additionally argue that their framework appears incapable of isolating phenomena that are directly relevant to an account of the evolution of reference. This is because, while the

meaning-attribution framework centers on the receiver, reference primarily constitutes an act performed by the producer.

I will show that, despite the differences between these frameworks, there exists a common thread binding them together: the idea that the mechanisms of signal production in animals are essentially different from those of humans, and thus uninteresting for understanding the evolution of linguistic reference – an intentional act of drawing someone's attention to an object (see e.g., Bach, 2008). Based on this premise, these theoretical frameworks set out to explore the evolution of linguistic reference while maintaining a neutral stance on signal production.

In the second part of the talk, I will refer to a recent study by Crockford et al. (2012, 2017) on chimpanzees' alert hoos, suggesting that at least some animal communicative acts display strong psychological parallels with linguistic reference. I will argue that, from an evolutionary viewpoint, the fact that there are signaling behaviors in chimps are psychologically similar to linguistic reference has some important implications.

Firstly, this psychological continuity leads us to consider the possibility that the mechanisms for reference may be homologous in chimps and humans (i.e., might share a common evolutionary origin). Thus, that the intentional act of drawing someone's attention to an object (i.e., human-like intentional reference) may not be an exclusive human trait, but a capacity that was present in our last common ancestor (LCA). This hypothesis is reinforced, among other things, by similar findings in bonobos (Girard-Buttoz et al., 2020). However, it is important to clarify that this claim about homology does not necessarily extend to other features of the producer's psychology in communication (cf. Moore, 2017; Bar-On, 2021; Warren & Call, 2022; Scott-Phillips & Heintz, 2023).

Secondly, the existence of animal intentional reference grants us the opportunity to go beyond functional reference and meaning attribution in the study of the evolution of reference. Drawing on the works of Crockford et al. (2012, 2017), and Girard-Buttoz et al. (2020), I will propose a novel account for the study of the evolution of linguistic reference, which focuses on the mechanisms of signal production, introducing the following constraint: (i) an utterer produces a signal with the intention to direct a receiver's attention to an object. I will show that this account is more suitable than existing frameworks (i.e., functional reference and meaning attribution) when it comes to identifying potential evolutionary precursors of linguistic reference in animal communication. Looking at the evolutionary phylogeny of our capacity for reference, I will argue, holds significant value for understanding its distinctive properties, selective advantages, and specific evolutionary history.

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