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Mental Time Travel and language evolution: a narrative account of the origins of human communication

F. Ferretti [a,*], I. Adornetti [a], A. Chiera [a], S. Nicchiarelli [a], R. Magni [b], G. Valeri [b], A. Marini [c,d]

[a] Department of Philosophy, Communication and Performing Arts, Roma Tre University, Rome, Italy
[b] IRCCS Ospedale Pediatrico "Bambino Gesù", Rome, Italy
[c] Department of Languages and Literatures, Communication, Education, and Society, University of Udine, Via Margreth, 3, 33100 Udine, Italy
[d] Claudiana - Landesfachhochschule für Gesundheitsberufe, Bozen, Italy

A R T I C L E   I N F O

A B S T R A C T

In this paper we propose a narrative account for the origin of language. Such a proposal is based on two assumptions. The first is conceptual and concerns the idea that the distinctive feature of human language (what sets it apart from other forms of animal communication) has to be traced to its inherently narrative character. The second assumption is methodological and connected to the idea that the study of language origin is closely related to the analysis of the cognitive systems at the base of narrative. Research on narrative abilities of subjects with Autism Spectrum Disorder has shown that story-telling requires the capability to link events causally connected to one another, and especially events which are remote from one another on the temporal axis of a story. Based on this research, we hypothesize that an important cognitive device involved in narrative is Mental Time Travel (MTT), that is, the system that allows humans to project themselves into the past and future. We show that such a system is present (to a greater or lesser extent) even in non-human animals. By virtue of this, we argue that MTT is independent of language and that it may be considered a cognitive precursor for the origin of language. Specifically, we propose that MTT allowed our ancestors to develop a form of pantomimic communication that might be considered as the foundation of the narrative origin of language.

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1. Introduction

We treat the topic of language origin in reference to two assumptions. The first is conceptual and related to the idea that the distinctive feature of human language (setting it apart from other forms of animal communication) has to be traced to its inherently narrative character. Since the question of language origins is closely related to identification of its distinctive features, our hypothesis states that the ability to tell stories represents the basic condition of language. The second assumption is methodological, as well as conceptual, and concerns the adoption of a cognitive approach to the study of

language evolution. In adopting such an approach, we adhere to the idea of a distinction between language and thought and specifically to the idea of the primacy of thought over language. On this view, thought has ancient roots and evolved gradually over aeons of time, whereas the capacity to communicate thought is much more recent (for a similar perspective, see Corballis, 2016). Based on this approach, the study of language origin is closely related to the analysis of the cognitive systems that had to be in place in our ancestors to make the emergence of human communication possible. Given the narrative nature of human communication, our aim is twofold: showing which cognitive systems underlie the human narrative capacity and showing that these systems were already present in our ancestral relatives even before human beings began to communicate through language.

2. Uniqueness and specificity

There is a great variety of communication types in the animal kingdom, but language is present only in the representatives of our species. Why is this ability only present in humans? This question is the focus of a debate between two opposing factions. On one hand, there are proponents of the idea that language is qualitatively different from animal communication and that it is meaningless to study the origins of language in reference to simpler forms of communication (Chomsky, 1988; Hauser et al., 2014), such as, for example, vervet monkeys' alarm calls (Seyfarth et al., 1980). On the other hand, there are the proponents of the idea that it is precisely this unique nature of language that compels us to face the riddle of the transition from animal communication to language (Origgi and Sperber, 2000; Scott-Phillips, 2014, 2015; Tomasello, 2008). In this work, we adhere to the second theoretical hypothesis: the study of the origin of language is strictly connected to the analysis of the traits that distinguish human language from animal communication. That said, what makes the way humans communicate so unique?

The prevalent idea is that the uniqueness of human language is founded on properties such as syntax (Chomsky, 1988; Pinker and Bloom, 1990), the symbolic nature of linguistic expressions (Deacon, 1997; Donald, 1991), and the ostensive-inferential nature of human communication (Sperber and Wilson, 2002; Scott-Phillips, 2014). Although the topic merits further and deeper discussions, there are good reasons to argue that these attempts are not the best roads to follow. In fact, the study of syntax (even recursion) in non-human animals (from birds to great apes; Abe and Watanabe, 2011; Greenfield and Savage-Rumbaugh, 1990, 1991), the investigation of symbolic abilities of non-human primates (e.g., Lyn and Savage–Rumbaugh, 2000) and the analysis of the ostensive character of great apes' communication (Moore, 2016) have greatly undermined the idea that such properties of language can be used to mark a difference between human language and the communicative systems of other animals. As the question of the origin of human language is closely related to the study of the properties that distinguish it from animal communication, it follows that these properties cannot be considered useful for the purpose. We need a stronger—and less controversial—criterion of differentiation (Ferretti, 2016).

Our proposal is that the distinguishing feature of human communication can be identified in the fact that language is a tool for storytelling. Niles (1999) defined the representatives of our species as *Homo narrans*, and Thompson (2010) argued that, unlike all other animals, only human beings are capable of telling stories. Scholars belonging to diverse theoretical traditions support the idea that the peculiarity of language is related to narrative capacity. Specifically, this idea has been proposed both by authors who invoke the Darwinian tradition (e.g., Corballis, 2015) as well as by authors in the neo-culturalist tradition, such as Everett (2012). One of the fundamental points that distinguishes these traditions is connected with how they consider the relationship between language and narration. The analysis of this relationship is a privileged point of view when investigating the narrative origins of language.

According to some scholars, language is a necessary condition to tell stories; narration is an ability humans have because they have language (Bruner, 1991; Collins, 2013; Scalise-Suyiama, 2005). Although highly intuitive, such a hypothesis represents an obstacle to the study of language origins: assuming the existence of language as a starting point is equivalent to assuming (from an anti-Darwinian point of view) – without justifying it – what has to be explained (Knight, 1998). Contrary to this assumption, our idea is that the ability to tell stories represents the basic condition for the origin of language. How is it possible to substantiate this (counterintuitive) hypothesis on the origins of human communication?

To answer this question, it is necessary to analyze the representational systems and cognitive architectures involved in storytelling ability. Supporting the narrative origin of language means recognizing that our ancestral relatives had cognitive devices as the basis for constructing narrative representations of facts and events of the world before they were able to communicate these through language. With these premises, we aimed at identifying the cognitive systems that allowed our ancestors to invent language upon the ability to build narrative representations of reality. Before we explore the details, a preliminary analysis of selective pressures is needed.

3. Selection pressures

Although it is largely speculative, we have to identify and analyze the ecological and social contexts in which human communication arose before identifying the specific properties of language. Many theoretical models (cf. Számadó and Szathmary, 2006) have addressed the issue of the selective pressures for language origin. We will not enter into the details of the discussion (for a criticism, cf. Scott-Phillips, 2014); for our purposes, it is sufficient to refer to the interpretative hypothesis that is the basis for a large number of the models proposed in the literature: the idea that selective pressures for human communication concerns the social role of language. For example, according to Dunbar (1998a, 1998b, 2009),