Biology, Behavior and Cognition at the Origin of Human Language

Fabio Di Vincenzo and Giorgio Manzi

Sapienza Università di Roma, Dipartimento di Biologia Ambientale
Istituto Italiano di Paleontologia Umana, Anagni
Istituto Italiano di Antropologia, Roma

Abstract

Language has often been viewed – and in many cases continues to be viewed – as an evolutionary leap of quasi-ontological significance: a uniquely human trait that seems to justify a persistent dualism between humans and animals. This perspective frames language as a phenomenon that resists naturalistic and bio-evolutionary explanations. Further, some scholars interpret language as a purely cultural invention, even if dating back to our Paleolithic ancestors, and thus as a phenomenon largely beyond the reach of evolutionary biology. Conversely, language is both a biological and behavioural trait, whose emergence required the evolution of a complex and integrated set of anatomical and cognitive structures. These obviously include those necessary for phonation and auditory perception; nevertheless, above all, these involve sophisticated cognitive capabilities, orchestrated by a brain equipped to manage semantic and syntactic competencies. The interaction of all these components has made language the most powerful instrument of communication, socialization, and innovation that evolution has produced on Earth. The science of human origins – which brings together paleoanthropology, paleogenetics, and prehistoric archaeology – addresses all of this, combined with evidence from modern neurosciences. Thanks to recent advances in this transdisciplinary

field of interest, we now possess a comprehensive and precise understanding of the evolutionary trajectories that shaped each of these components, as well as of the differences between ourselves and our extinct and living relatives.

Keywords: Paleoanthropology, human evolution, Neanderthal, Homo sapiens, evolution of speech.