

FOUR PHASE TRANSITIONS IN LANGUAGE EVOLUTION

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ABSTRACT

How language emerged uniquely in our species is a central issue toward understanding the basis of our humanity. Giving the issue a name, such as ‘language organ’, and attributing it vaguely to some genetic mutation is not productive. Rather, the issue should be examined from the perspective of evolution theory. Here I suggest that the first phase transition, the trajectory toward language, started when we first assumed bipedal posture. This first phase transition occurred with the Australopithecine over 3,000,000 years ago. The second phase transition occurred with the emergence of our genus *Homo* over 2,000,000 years ago, when our ancestors exhibited symbolic behavior by producing and maintaining a variety of stone tools. The third occurred when primary communication changed from gestures and prosodies to sequences of syllables made up of vowels and consonants, which provided an efficient signal space; this occurred some 20,000 years ago with the emergence of our species *Homo sapiens*. The fourth phase transition was the invention of writing some 6,000 years ago, with numerous far reaching consequences.

KEYWORDS

Language evolution

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语言演化的四级相变

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提要

要想理解人之所以为人的基础何在，那么探索语言如何独一无二地在人类涌现是个核心议题。把这个议题取个像「语言器官」(language organ)一类的名字，并把它含糊地归因于某种基因突变，是无济于事的作法。这个议题理应从演化论的观点加以检视。在此我主张，语言涌现的轨迹，始于我们首次采取双脚直立的姿势，这比科学分类上我们「人属」(*Homo*) 的出现还要早。第二个相变出现在当我们的祖先制造各类石器工具展现了象征行为时。促成语言涌现的第三个相变，出现在当口语沟通从手势和韵律的模式转变为主要依靠元音、辅音构成音节串时，这种转变为人类提供了有效的信号空间。第四个相变则是文字的发明，也造成了若干深远的影响。

关键词

语言演化