PsycCRITIQUES
November 21, 2007, Vol. 52, No. 47, Article 2

Was Talking Adaptive Because It Was Attractive?

A Review of

Why We Talk: The Evolutionary Origins of Language
by Jean-Louis Dessalles (James Grieve, Trans.)
New York: Oxford University Press, 2007. 384 pp. ISBN 978-0-19-927623-3. $55.00

Reviewed by

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Human language remains one of the most enduring mysteries in science. It is remarkable that children, regardless of where they are born, acquire their native tongue (or tongues) so quickly, usually within 36 months after birth. It is perplexing why other species fare so poorly in mastering the rules of human language. It remains unclear how the brain develops in such a way that the left hemisphere becomes specialized for language processing. Perhaps the most intriguing question is how did language come to be at all? In the book *Why We Talk: The Evolutionary Origins of Language*, Jean-Louis Dessalles attempts to answer this question.

Jean-Louis Dessalles is an associate professor at the École Nationale Supérieure des Télécommunications, Paris. His prior research has focused not only on evolution and communication but also on computational approaches to evolution and learning. *Why We Talk* is a translation of Dessalles's *Aux Origines du Langage*, which was published in 2000 in French. In this book, Dessalles worked closely with the translator James Grieve. Grieve is an emeritus reader at the Australian National University, Canberra, who has translated a number of other books for popular audiences. Dessalles states in the foreword that Grieve's close attention to detail resulted in some clarifications of statements appearing in *Aux Origines du Langage*; thus, there may be slight differences between the translation and the original work. Readers will be pleased to find that the prose in *Why We Talk* does not contain any of the clumsiness of sentence structure or odd word choice that can be found in some translations. In fact, there is nothing about the prose that would lead the reader to suspect that the book has been translated.

Dessalles has organized the book into three sections. The first two sections provide a somewhat breezy overview of the basics of human language, theories of general evolution, and human biology. The first section describes how human language differs from communication systems in other species, details the attempts to teach nonhuman primates human language, discusses the linguistic abilities in neonates, and reports the case of Nicaraguan deaf children who appear to have developed a novel language. For readers

already familiar with these topics, the first 100 pages may be frustrating. For readers who are not familiar with these topics, the gentle introduction may be appreciated initially; however, they are likely to find that the ideas in subsequent sections of the book become increasingly inaccessible. It is the unevenness of the book that is its biggest weakness.

When the discussion of evolution begins in earnest in the book, the material is compelling. Dessalles lays out two views of how language might have evolved in either a process of "macroevoluation, a very slow process working itself out over millions of years" (p. 118) or a process of microevolution, which would involve "chance macromutations or genetic changes which, though possibly slight, have major phenotype consequences" (p. 118). The former possibility is described as most similar to Darwin's view of general human evolution (Darwin, 1871/1981), and the latter possibility is described as most similar to Gould's and

[illegible] other view, mutations occur randomly, and some mutations survive, but others do not. It is in this section that Dessalles describes his computational model of evolution, which he reported in a previous book (Dessalles, 1996). The results of the model indicated that the mutations in the simulated evolutionary environment were not merely random but tended the direction of progress.

Much of the second section of the book, which is titled The Functional Anatomy of Speech, reviews the basic facts about the sounds of language (i.e., phonology) and the biological aspects of spoken language. The section also discusses the relationship between the gestural system of communication and spoken language. The most interesting part of the second section is the discussion of the semantic and syntactic aspects of language. Dessalles weaves an account of how syntactic structure of human language may have evolved. His ideas have been greatly influenced by Bickerton's notion of a protolanguage, which Bickerton proposed was the communication system used by human ancestors *homo erectus* (Bickerton, 1990).

The reader finally locates Dessalles's theory of the evolution of language in the final sectior of the book, which is titled The Ethology of Language. He states that language evolved

> because [there was] a fortuitous change [that] profoundly altered the social organization of our ancestors, who found themselves faced with the necessity, if they were to survive and breed, of forming sizeable coalitions. Language then arose as a way in which individuals might show off their value as members of these. (p. 363)

This conclusion appears to follow from the notion that when language first appeared, the individual(s) having the ability came to be more highly valued than those who did not. In the subsection The Political Origins of Language, he describes *prestige theory*, which refers to the fact that "the behavior of some animals is motivated by the fact that it affords them prestige among their fellows" (p. 342). Dessalles traces the theory back to the work of Zahavi and Zahavi (1997). Their theory was developed in a study of the altruistic behavior of birds.

Readers with a background in linguistics and cognitive science may be left wondering why Dessalles did not include more discussion of the paleontological evidence of early *homo sapiens* and their ancestors. There is also no discussion of the mitochondrial Eve (Cann, Stoneking, & Wilson, 1987; Sykes, 2001) and the theories of where in the world modern humans first emerged. Most surprisingly, there is no discussion of the recent research that

has identified specific genes involved in language, such as the FOXP2 gene (Vargha-Khadem, Watkins, Alcock, Fletcher, & Passingham, 1995; see also Enard et al., 2002), and the DNA studies of individuals with language and other developmental disorders (see Rice, 1996).

In sum, the book *Why We Talk* does a good job pointing out what aspects of language are the most challenging for evolutionists to explain. The author presents some promising ideas that may one day come to be part of a theory of how language evolved. For now, the book falls short of providing a completely convincing account.

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