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Notice of Phonological Architecture

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**Publication Date**

2024-06-30

Peer reviewed

**Phonological Architecture: A Biolinguistic Perspective.** By BRIDGET D. SAMUELS.  
(Oxford Studies in Biolinguistics.) Oxford: Oxford University Press, 2011. Pp. xii, 252.  
ISBN 9780199694365. Paperback \$55.

Reviewed by NATALIE OPERSTEIN, *California State University Fullerton*

*Phonological Architecture* by Bridget D. Samuels [BS] is concerned with the interface between generative linguistics (primarily phonology, and to some extent also syntax) and selected aspects of evolutionary biology. The book consists of five substantive chapters, an introduction and a conclusion.

The introductory chapter provides a brief but detailed preview of the book's contents. Chapter 2 'A Minimalist Program for Phonology' sets the scene for the substantive discussion by outlining BS's views on the aims of a minimalist type biolinguistic phonological theory. A significant portion of this chapter is devoted to a discussion of Evolutionary Phonology, which BS views as complementary to the synchronic theory of phonology she argues for. The chapter is supplied with a wealth of bibliographical references on the minimalist syntactic framework and allied topics.

Chapter 3 'Phonology in Evolutionary Perspective' is the most accessible for readers interested in evolutionary linguistics but without necessarily being versed in the intricacies of minimalism. The aim of this chapter is to determine how many of the cognitive abilities necessary for the phonological module of human language are present in non-linguistic domains and in species other than our own. With this aim in mind, BS examines a range of studies in animal cognition, and finds that each of the building

blocks of phonology – categorical perception and the abilities to group objects, extract patterns from data and learn arbitrary associations – are found in the animal kingdom, particularly among birds and primates. This leads BS to conclude that human phonology may be explainable through a combination of properties of general cognition and the sensory-motor system.

The remaining chapters are devoted to outlining the place of phonology within the architecture of the language faculty. This part of the book is more technical in nature and less accessible to the general reader. Chapter 4 ‘The Syntax-Phonology Interface’ considers in detail how phonology interfaces with morphology and syntax. The discussion offered here is provisional, in the sense of being dependent on the latest proposals of syntactic theory, and consequently subject to change. Chapter 5 ‘Representations and Primitive Operations’ argues for a non-hierarchical (“flat”) organization of phonology at different levels, including sub-segmental and syllabic. This chapter introduces the primitive operations SEARCH, COPY and DELETE; demonstrates how they may account for selected phonological processes, such as vowel harmony; and attempts to identify evolutionarily equivalent operations in other cognitive domains, such as foraging for food, and other species, such as chimpanzees. Finally, Chapter 6 ‘Linguistic Variation’ discusses the sources of linguistic variation, while the concluding chapter briefly recapitulates the main points.

This study raises interesting and worthwhile questions, however, it would have benefited from a more theory-neutral approach by providing more lasting solutions that would be less susceptible to the vicissitudes of rapidly changing theoretical perspectives.

Formulating the hypotheses in theory-neutral terms would also have made the book more accessible to the general reader.