

The Phonological Mind

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Humans instinctively form words by weaving patterns of meaningless speech elements. Moreover, we do so in specific, regular ways. We contrast dogs and gods, favour blogs to lbogs. We begin forming sound-patterns at birth and, like songbirds, we do so spontaneously, even in the absence of an adult model. We even impose these phonological patterns on invented cultural technologies such as reading and writing. But why are humans compelled to generate phonological patterns? And why do different phonological systems – signed and spoken – share aspects of their design? Drawing on findings from a broad range of disciplines including linguistics, experimental psychology, neuroscience and comparative animal studies, Iris Berent explores these questions and proposes a new hypothesis about the architecture of the phonological mind.

“...it is a brilliant and fascinating analysis of how we produce and interpret sounds, which will give phonology its proper due as a major topic in cognitive science.” –Steven Pinker, Harvard College Professor of Psychology, Harvard University, and the author of *The Language Instinct* and *The Stuff of Thought: – Language as a Window into Human Nature*.

“With the goal of demonstrating to a cognitive science audience that phonological patterns consist of abstract equivalence classes – whose members are treated in terms of across-the-board generalizations whether they are familiar or novel – Berent has formulated a compelling line of argumentation, both grand in scope and profound in empirical depth.”

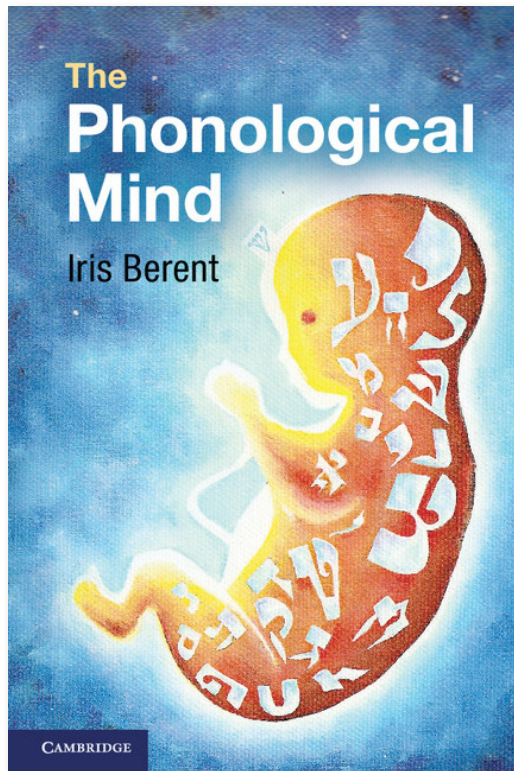
–Andrew Nevins, Professor of Linguistics, University College London

An amazing achievement, this book is to be read and enjoyed by anyone with a deep curiosity about the fundamental nature and source of nature’s biggest gift to our species: language.” –Paul Smolensky, Krieger-Eisenhower Professor of Cognitive Science, Johns Hopkins University

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“With this book, Berent cements her position as a major contributor to the research on speech processing and phonological theory, and the interface between these two fields.”

–Andries W. Coetzee, Associate Professor, Department of Linguistics, – University of Michigan

“This is an important book that does a major service to several fields. With engaging and thoughtfully chosen examples ranging from development to brain science, the reader is treated to a great example of linguistics as cognitive science. The book succeeds in developing a view that offers productive linking hypotheses between language research, psychology, and biology.”

– David Poeppel, Professor of Psychology and Neural Science, New York University

Key Features

- The first book to integrate the discussion of phonology into an interdisciplinary setting, including literature from the fields of experimental psychology, formal linguistics and neuroscience
- Accessible to non-specialised readers in related fields
- Presents a novel hypothesis regarding the origin of phonological patterns, which integrates diverse phenomena from linguistics, cognitive science, neuroscience and animal behaviour

Contents

Part I. Introduction: 1. Genesis; 2. Instinctive phonology; 3. The anatomy of the phonological mind; Part II. Algebraic Phonology: 4. How are phonological categories represented: the role of equivalence classes; 5. How phonological patterns are assembled: the role of algebraic variables in phonology; Part III. Universal Design – Phonological Universals and their Role in Individual Grammars: 6. Phonological universals: typological evidence and grammatical explanations; 7. Phonological universals are mirrored in behavior: evidence from artificial language learning; 8. Phonological universals are core knowledge: evidence from sonority restrictions; Part IV. Ontogeny, Phylogeny, Phonological Hardware and Technology: 9. Out of the mouths of babes; 10. The phonological mind evolves; 11. The phonological brain; 12. Phonological technologies: reading and writing; 13. Conclusions, caveats, questions.