



Evolution of Emotional Communication: From Sounds in Nonhuman Mammals to Speech and Music in Man edited by Eckart Altenmüller, Sabine Schmidt, and Elke Zimmermann

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BEHAVIOR

THE BONOBO AND THE ATHEIST: IN SEARCH OF HUMANISM AMONG THE PRIMATES.

By Frans de Waal; illustrated by the author. New York: W. W. Norton & Company. \$27.95. xi + 289 p. + 8 pl.; ill.; index. ISBN: 978-0-393-07377-5. 2013.

The author's recent effort offers a calm respite from the cacophony of hooting between the New Atheists and their religious targets. De Waal employs a subtle, nuanced, and multilayered critique with offerings for anyone interested in morality, religion, atheism, science, and animal nature. This volume is also quite *funny*; de Waal artfully uses humor to make the read as enjoyable as it is thought-provoking.

The author argues that good behavior does not require a top-down moral code inspired by religion, politics, or science. Instead, empathy, the prerequisite feature of morality, can be found quite readily throughout much of the animal kingdom; therefore, the materials necessary for good behavior are already within us and have been for quite some time. By examining and comparing anecdotal and experimental evidence, de Waal advances the view that the foundations of morality are more widespread than many are willing to admit.

Even upon reading this book with the nagging awareness of how good humans are at anthropomorphizing, how good we are at attributing other beings with mental states (including others' ability to do the same), how good de Waal is at portraying our nonhuman primate cousins as though they effortlessly reason about other minds, and how suspect anecdotal evidence can often be, I am still impressed by how convincingly the author navigates the riddle of empathy. Just because we recognize it in other animals does not mean we are *merely* projecting our own abilities onto them. Rather, it strongly suggests that their signals resonate with our own sensibilities precisely because we share cognitive systems designed by natural selection to interpret the same behavioral signals in the same way. We are animals, too.

Drawing from this, de Waal defends the argument that humans are "inherently good but capable of evil" rather than having a "veneer" of goodness or being inherently evil. I am leery of such positions, since humans—consistent with de Waal's own observations of chimps and bonobos—exhibit variation both across individuals, situationally, and ontogenetically within individuals. In other words,

while some individuals might very well have been "born bad" or "born nice," nastiness and niceness will be expressed under various conditions, and dispositions can change. We are capable of *and* inherently both. Still, the author's take-home message remains intact and this is where the volume develops the nonreligious position in ways that militant atheism has largely failed.

Devoid of chest-thumping, *The Bonobo and the Atheist* cultivates the secular position by actually examining what religion *does* for people and by delineating between intuitive moral processes and models of morality. In doing so, de Waal pushes the nonreligious movement forward by steering us not toward a world where religion is simply dismissed as illness and where reason is the cure, but rather, toward a world in which religion is *rendered irrelevant*. This book is a welcome entry into the canon of literature that resists faith and dogma. By addressing who we are and where we have come from, de Waal shows us how we are already equipped with the necessary means to arrive at a more enlightened and equitable future.

BENJAMIN GRANT PURZYCKI, *Centre for Human Evolution, Cognition & Culture, University of British Columbia, Vancouver, British Columbia, Canada*

EVOLUTION OF EMOTIONAL COMMUNICATION: FROM SOUNDS IN NONHUMAN MAMMALS TO SPEECH AND MUSIC IN MAN. *Series in Affective Science.*

Edited by Eckart Altenmüller, Sabine Schmidt, and Elke Zimmermann. Oxford and New York: Oxford University Press. £49.99. xiv + 376 p.; ill.; author and subject indexes. ISBN: 978-0-19-958356-0. 2013.

The ideas that humans and animals communicate their emotions predates Darwin, but Darwin's functional approach permeates this new edited volume, which is likely to be the "go-to" reference for years to come. This book contains 20 chapters that discuss a wide variety of topics generally related to emotional communication in mammals. Organized into six parts that discuss models of emotional communication, survey emotional communication in different mammals, explore emotional communication in nonspeech human vocalizations, and discuss human prosody and music, the volume ends by setting a research agenda for the future. Readers will quickly be immersed into this highly transdisciplinary literature that includes neuroscientists and musicians with a few evolutionary biologists and animal communication experts thrown into the mix.

The best thing about this transdisciplinary field is that it forces readers out of their intellectual comfort zone. This may make some of the chapters hard going for people steeped in one or a few

subdisciplines. However, and fortunately, chapters were often short and focused, rich with citations, and a number backed away from the details to summarize and discuss generalizations and models. Frustratingly, some of the generalizations are that there are few generalizations. Emotions may be profitably viewed as discrete or in a more continuous way, and how sounds (or other communicative signals) map onto them vary quite a bit across taxa and contexts.

I wanted a unified set of marching orders that would help structure the chapters and was surprised that although the editors ultimately called for an ethological approach to studying the topic (and the book wonderfully illustrated this), Niko Tinbergen's four questions approach was not called out as being an integrative framework to advance knowledge. I was also surprised that the editors let the authors define emotional communication in a variety of ways and only in the last summary chapter came up with a synthetic definition of emotional communication.

Notwithstanding these minor points, I learned a lot reading the book and believe that it will appeal to a broad audience interested in emotional communication and why (and how) we respond emotionally to music, as well as anyone broadly interested in neuroscience of emotions.

DANIEL T. BLUMSTEIN, *Ecology & Evolutionary Biology, University of California, Los Angeles, California*

NATIVE LISTENING: LANGUAGE EXPERIENCE AND THE RECOGNITION OF SPOKEN WORDS.

By Anne Cutler. *Cambridge (Massachusetts): MIT Press.* \$50.00. xvii + 555 p.; ill.; name and subject indexes. ISBN: 978-0-262-01756-5. 2012.

This book provides an overview of research into speech perception over the last two decades. The central thesis is that all listening is native listening: in other words, all speech perception is fundamentally dependent on the knowledge of language that the listener already has. The volume demonstrates the absurdity of the implicit assumption in early speech perception research, namely that the language used for the speech perception task was relatively irrelevant, because the speech perception process was universal. In fact, speech perception is a flexible process sensitive to a wide range of variations and regularities within and between languages. For example, English is a stress-timed language with frequently unclear syllable boundaries (due to ambisyllabicity). In contrast, French is a syllable-timed language. Cross-linguistic research suggests that French speakers rely on syllable-level information for word recognition to a much greater degree than English speakers do. This is only one

small example of the many differences described in this book.

This volume is aimed at researchers and students, especially those new to the field, who need an overview of the area as a starting point to carrying out their own research. As such, there is a very useful emphasis on experimental design and how different studies have been carried out. I will certainly recommend this book to my own students and refer to it myself when considering research in the area. This is an excellent addition to any psycholinguistics library.

JULIA M. CARROLL, *Psychology, University of Warwick, Coventry, United Kingdom*

THE BIOLINGUISTIC ENTERPRISE: NEW PERSPECTIVES ON THE EVOLUTION AND NATURE OF THE HUMAN LANGUAGE FACULTY. *Oxford Studies in Biolinguistics.*

Edited by Anna Maria Di Sciullo and Cedric Boeckx. *Oxford and New York: Oxford University Press.* \$150.00 (hardcover); \$55.00 (paper). xv + 559 p.; ill.; index. ISBN: 978-0-19-955327-3 (hc); 978-0-19-955328-0 (pb). 2011.

PHONOLOGICAL ARCHITECTURE: A BIOLINGUISTIC PERSPECTIVE. *Oxford Studies in Biolinguistics.*

By Bridget D. Samuels. *Oxford and New York: Oxford University Press.* \$125.00 (hardcover); \$55.00 (paper). xii + 252 p.; ill.; author, language, and subject indexes. ISBN: 978-0-19-969435-8 (hc); 978-0-19-96936-5 (pb). 2011.

The Biolinguistic Enterprise is a collection of papers rooted in the tradition of generative grammar. Its chapters are organized around three classical Chomskyan themes: What is the nature of the human faculty of language (FL)? How is FL compatible with variation among the vast number of human languages? And, how could FL evolve in our species? Among the six chapters directly addressing this latter question, the one by cognitive biologist W. Tecumseh Fitch deserves particular attention. In expert fashion and clear language it familiarizes noninitiate readers with relevant essentials from genetics and comparative evolutionary biology. In addition to exposing the pitfalls of exclusive concentration on primate research, Fitch lays out a grid of options for "deriving" FL, some more gradualist, some more "saltationalist." The much-discussed FOXP2 is taken as one language-related example of "deep homology" involved in an evolutionary convergence guiding vocal learning in both birds and humans. The chapter by Piattelli-Palmarini and Uriagereka adds a comprehensive discussion of the literature on FOXP2 and a cautionary note on how to avoid misinterpretations of its function based on simplistic linguistic assumptions.