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Speech across species : on the mechanistic fundamentals of vocal production and perception

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Stellingen

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Speech across Species

On the mechanistic fundamentals of vocal production and perception

door Verena R. Ohms

- 1) The production of the wide variety of zebra finch note types requires complex coordination of both sound source and vocal tract filter (*This thesis: chapter 2*).
- 2) There are fundamental similarities in the vocal tract filter of humans and parrots which might explain parrots' renowned ability to mimic human speech (*This thesis: chapter 3*).
- 3) Zebra finches exhibit a capacity for speaker normalization; a trait which therefore can no longer be considered uniquely human (*This thesis: chapter 4*).
- 4) Human speech has likely exploited pre-existing properties of the vertebrate auditory system (*This thesis: chapter 5*).
- 5) The recent discovery of synchronization to a musical beat by a parrot is not too surprising given the many parallels between human speech and bird vocalizations on the one hand and music and speech on the other (*c.f. Patel 2008, Patel et al. 2009*).
- 6) The more parallels we discover between human and animal cognition the more we have to accept that abstract, philosophical concepts such as emotions also might occur in animals.
- 7) Interdisciplinary scientific discussions about the evolution of speech and language often suffer from poorly and/or differently defined terms and concepts.
- 8) Recent scientific studies have focused on the proximate mechanisms underlying birdsong filtering while largely neglecting ultimate causes accounting for this phenomenon.

- 9) The roots of US property law can be explained by evolutionary theory. (*Stake 2004*).
- 10) In order to truly understand a culture speaking its language is inevitable.
- 11) The enormous pressure to constantly conduct cutting-edge research in order to secure one's existence due to inadequate funding policies and publishing guidelines demanding appealing results might encourage scientific misconduct.
- 12) Geocaching is a good example of how advances in technology and the development of entertainment software can combine to bring people back outdoors and let them appreciate the natural world.