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.