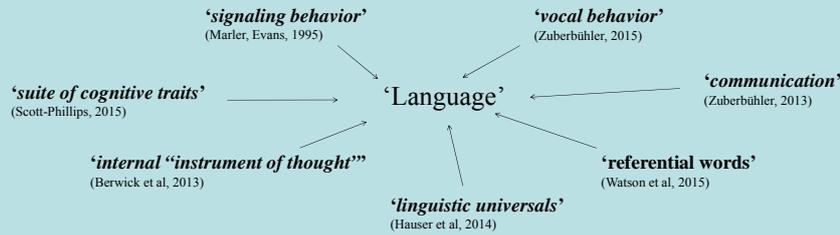


Norms for constructing language in humans and animals

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Hypothesis: 'Language' is a construct, governed by various assumptions.



Question: Which of these premisses have a normative background?

"... language is characterized in various, ontologically distinct ways." (Botha, 2000, p.150)

"...the deepest controversies in language evolution [...] result directly from foundational theoretical problems" (Waciewicz, Zywiecziński, 2015)

Input

Short selection of implicit scientific norms

Modality

Oral norm: One part of 'language' (here: modality) embraces the whole concept.

- (i) **Implicit:** "vocal-auditory channel" is the most obvious design feature of 'language' which "appear[s] so trivial that no one looking just at language would bother to note" (Hockett, 1960)
- (ii) **Normative attitudes:** "Language is human; speech is language; therefore deaf people are inhuman." (Brueggemann, 1999)
- (iii) **Majority enjoins:** "The Second International Congress on Education of the Deaf", 1880



'Immobile Hands' taken from: Looking Back, p. 325

- (iv) **Sanctions:** "we were much like the Negro at that time" (Maher, 1996)
- (v) **Shared values:** Hearing experts towards oral utterance: 'complex', 'flexible', 'precise', 'independent', 'perfect', 'efficient', 'developed'
Hearing experts towards manual sign: 'restricted', 'bound to the concrete', 'imprecise', 'not independent', 'deficient', 'inefficient', 'primitive'

Today: "Human language is a vocal behavior so a natural focus has been the study of non-human primate vocal behaviour." [...] "humans are enormously vocal primates, especially when compared with their nearest primate relatives" (Zuberbühler, 2015)

Function: Establishing a narrative of humaniqueness by singling out modality.

Words

Norm of arbitrariness: Iconicity signifies 'primitive' - arbitrarily constructed words signify a 'developed language'.

- (i) **Implicit:** "our focus on words may be partly due to a modern bias to lexical expression" (Lewis, 2009, p. 237)
- (ii) **Normative attitudes:** "The signed languages of deaf people have often been criticized as primitive because they make extensive use of iconic visible gesture." (Burling et al., 1993, p. 37)
- (iii) **Majority enjoins:** "Current views about language are dominated by the idea of arbitrary connections between linguistic form and meaning" (Permiss et al., 2010)



Communication without words? taken from: Enfield, 2010

- (iv) **Sanctions:** "According to an authoritative view, a theory of language must provide not only a structured inventory of lexical items [...]" (Zuberbühler, 2013)
- (v) **Shared values:** "Language is suitably represented in the form of words. The relationship of words and meaning is conventional." (Permiss, Vigliocco, 2014)

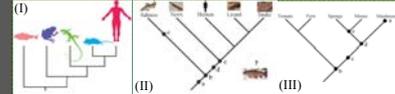
Today: A tendency to a broad perspective on 'language' "in contrast to the more familiar narrow perspective in which language is taken to be a linguistic system expressed in the rule-governed concatenation of morphological/lexical units." (Permiss, Vigliocco, 2014)

Function: Focus on words establishes discussions about phenomena like functional reference and syntax. For both cases human 'language' delivers 'most complex' examples.

Scala Naturae

Ascending norm: The taxonomic proximity to humans increases the probability of finding 'complex' traits.

- (i) **Implicit:** [see test below]
- (ii) **Normative attitude:** "birds possess highly complex instinctive endowments and [...] their intelligence is very limited" (Herrick, 1924, p.213)
- (iii) **Majority expects:** "birds should be incapable of higher cognition" (Güntürkün, Bugnyar, 2016)
- (iv) **Sanctions:** "I seem to recall some difficulty at first in getting the findings published." (Marler, 2004, p.24)



- (1) By reference to the tree (I) above, is the frog more closely related to the fish or the human?
 - (2) If you were to add a trout to the phylogeny (II) shown above, where would its lineage attach to the rest of the tree?
 - (3) Which of the five marks in (III) corresponds to the most recent common ancestor of a mushroom and a sponge?
- Source: Baum, 2002

- (v) **Shared values:** "... the common view [...] that the joint evolution of brains and minds started with diffuse nerve nets [...] and culminated in a straightforward fashion in the human brain as basis for the superior mental abilities that make humans 'unique'." (Roth, 2015)

Today: "Whereas in studying monkeys it seems natural to ask what is going on inside their heads during social interactions, with birds, this question comes less readily to mind." (Marler, 1996)
"Fish were almost completely excluded from the new wave of cognitive research and play a minor role in recent textbooks on cognition" (Bshary et al., 2002)
"Primatecentrism" (van Vaesen, 2014)

Function: Establishing a narrative of increasing 'complexity' by linking taxonomic relationship to humans to levels of cognition.

Scientific norms prompt a value-laden narrative, leading to a construct of a unique human 'language'.

"Human language is a **vocal behaviour**, so a natural focus has been the study of non-human primate vocal behaviour." (Zuberbühler, 2015)

"Human **words** and concepts **differ sharply** from those in the rest of the animal world in just about every relevant respect" (Berwick et al., 2013)

"The ability to assign **arbitrary acoustic labels** to categories of visual stimuli is hence viewed as **uniquely human**" [However] "The alarm calls [...] **function like words** in the sense that they are arbitrary acoustic labels [...]" (Marler, Evans, 1995)

"One notable capacity is our ability to label external objects and events with **acoustically distinct, referential words**." (Watson et al., 2015)

Animal codes and linguistic codes are both used for communication, and so, it is often assumed, it is parsimonious to conclude that one grew out of the other. But this is not right. (Scott-Phillips, 2015)

"language is clearly **independent of crude brain mass**. It is presumably the product of a complex and specific internal wiring, and not simply some slowly - evolved gross by-product of increasing encephalization." [...] "the gap between us and them is simply too great" (Hauser et al., 2014)

"[...] language **evolved gradually** from a nonlinguistic precursor in ancestral human population that also underwent an unprecedented **increase in relative brain size** and mental capacity." (Zuberbühler, 2013)

"Language relies on a suite of cognitive capacities that make it **far more complex** than any other animal communication system" (Watson et al., 2015)

Output

Baum et al. (2005), 'The Tree-Thinking Challenge', Science; Berwick et al. (2013), 'Evolution, Brain, and the Nature of Language', Trends in Cognitive Sciences; Botha (2000), 'Discussing the Evolution of the Assorted Beasts Called Language', Language & Communication; Brueggemann (1999), Lend Me Your Ear (Gallaudet Univ. Press); Bshary et al. (2002), 'Fish Cognition: A Primate's Eye View', Animal Cognition; Burling et al. (1993), 'Primate Calls, Human Language, and Nonverbal Communication', Current Biology; Evans, Marler (1995), 'Language and Animal Communication: Parallels and Contrasts', in Comparative Approaches to Cognitive Science, (MIT Press); Güntürkün, Bugnyar (2016), 'Cognition without Cortex', Trends in Cognitive Sciences; Hauser et al. (2014), 'The Mystery of Language Evolution', Frontiers in Psychology; Herrick (1924) 'Neurological Foundations of Animal Behavior' (Henry Holt and Company); Hockett (1960), 'The Origin of Speech', Scientific American; Lewis (2009), 'As Well as Words: Congo Pygmy Hunting, Mimicry, and Play', in The Cradle of Language (Oxford Univ. Press); Maher (1996), Seeing Language in Sign (Gallaudet Univ. Press); Marler (2004), 'Science and Birdsong: The Good Old Days', in Nature's Music (Elsevier Acad. Press); Marler (1996), 'Social Cognition: Are Primates Smarter than Birds?', in Current Ornithology (Plenum Press); Permiss et al. (2010), 'Iconicity as a General Property of Language: Evidence from Spoken and Signed Languages', Frontiers in Psychology; Permiss, Vigliocco (2014), 'The Bridge of Iconicity', Phil. trans. of the R. Society of London. Series B, Biological sciences; Roth (2015), 'Convergent Evolution of Complex Brains and High Intelligence', Phil. trans. of the R. Society of London. Series B, Biological sciences; Scott-Phillips (2015), 'Nonhuman Primate Communication, Pragmatics, and the Origins of Language', Current Anthropology; Taylor (1997), 'The Origin of Language: Why It Never Happened', Language Sciences; Vaesen (2014), 'Chimpancentrism and Reconstructions of Human Evolution', Studies in History and Philosophy of Biological and Biomedical Sciences; Waciewicz, Zywiecziński (2015), 'From the Narrow to the Broad: Multiple Perspectives on Language Evolution', Theoria et Historia Scientiarum; Watson et al. (2015), 'Vocal learning in the functionally referential food grunts of chimpanzees', Current Biology; Zuberbühler (2015), 'Linguistic Capacity of Non-Human Animals', Cognitive Science; Zuberbühler (2013), 'Primate Communication', in New Perspectives on the Origins of Language (John Benjamins Publishing)