

CLASSES 17–18: MORE MINDS

DEFINING THOUGHT

- philosophers haven't really made any progress on what thought is since the Sci Rev
- psychologists have been focusing on whether animals think ('yes')
 - since Darwin (*Descent of Man*), difference is just one of degree
 - language is the best probe of thought (Fodor 1975, 2008)
 - Hauser (*Wild Minds*), Cheney & Seyfarth, etc.

CORE KNOWLEDGE SYSTEMS

- modularity of mind (Fodor 1983); Swiss Army Knife model
- properties of modules
 - domain-/task-specificity
 - automaticity
 - speed
 - information encapsulation
 - fixed schedule of development/critical period
 - neurologically isolable (hasn't held up so well: "Granularity Mismatch Problem")
- language, morality — only ours?
- ubiquitous
 - object/tool use
 - number sense: subitizing; ratio comparison
 - geometry/navigation: other species far better than us; dead reckoning (NSEW vs. landmarks: hard to combine)
- less widespread
 - self-identity: Tamarin hair; mirrors
 - learning via imitation: birds yes, apes not much (but some) (Mithen, *The Singing Neanderthals*)
 - planning: only a few steps in nature; nested cups
 - theory of mind (→ deceit): Sally / Anne task; baboon call to avert fight; grab banana if dominant monkey can't see it; mindblindness → autism, Temple Grandin

HUMANIQUENESS

- (A) ability to combine and recombine different types of information and knowledge in order to gain new understanding
- (B) to apply the same “rule” or solution to one problem to a different and new situation
- (C) to create and easily understand symbolic representations of computation and sensory input
- (D) to detach modes of thought from raw sensory and perceptual input

LANGUAGE AND THOUGHT

- now we’re starting to think that language is what gives concepts a common currency
 - doesn’t give you new concepts, just helps you combine them:
contra Saussure → Sapir/Whorf
(if the core knowledge systems are shared and the combinatory system of Merge is shared then *potentially* all languages can express all the same concepts — though culturally they may not be relevant)
 - connect to Shannon: for information to be transmitted, this is necessary
- supports Chomsky’s idea that language is for *thought*, not communication
 - but language is *not* thought (tip of the tongue, “not what I meant to say” ...)
- language helps us to count
 - subitizing is individuals, no sets — ratio is sets, no individuals
 - Merge → assign individuals to sets → counting principle
 - experiment on small precise vs. large precise vs. large approximate in 2 languages
- Berlin & Kay: language helps us to remember colors *but* hierarchy is universal and focal points are very narrow (due to visual system?)
 - on the other hand hierarchy could be explained by dyes (probably why blue is in 6th)
- Korean vs. English *in/on*
- language facilitates combination of NSEW & landmark navigation

References

- Berlin, B. & P. Kay. 1969. *Basic Color Terms: Their Universality and Evolution*. Berkeley, CA: University of California Press.
- Cheney, D. & R. Seyfarth. 1990. *How Monkeys See the World*. Chicago: University of Chicago Press.
- Darwin, C. 1871. *The Descent of Man, and Selection in Relation to Sex*. London: John Murray.
- Fodor, J.A. 1975. *The Language of Thought*. Cambridge, MA: Harvard University Press.
- Fodor, J.A. 1983. *The Modularity of Mind: An Essay in Faculty Psychology*. Cambridge, MA: MIT Press.
- Fodor, J.A. 2008. *LOT 2: The Language of Thought Revisited*. Oxford: Oxford University Press.
- Hauser, M.D. 2000. *Wild Minds: What Animals Really Think*.
- Mithen, S. 2006. *The Singing Neanderthals: The Origins of Music, Language, Mind, and Body*. Cambridge, MA: Harvard UP.
- Poepfel, D. & D. Embick. 2005. Defining the relation between linguistics and neuroscience. In A. Cutler (ed.), *Twenty-First Century Psycholinguistics: Four Cornerstones*. Mahwah, NJ: Lawrence Erlbaum Associates, 103–118.
- Spelke, E.S. 2003. What makes us smart? Core knowledge and natural language. In D. Gentner & S. Goldin-Meadow (eds.), *Language in Mind: Advances in the Investigation of Language and Thought*. Cambridge, MA: MIT Press, 277–311.