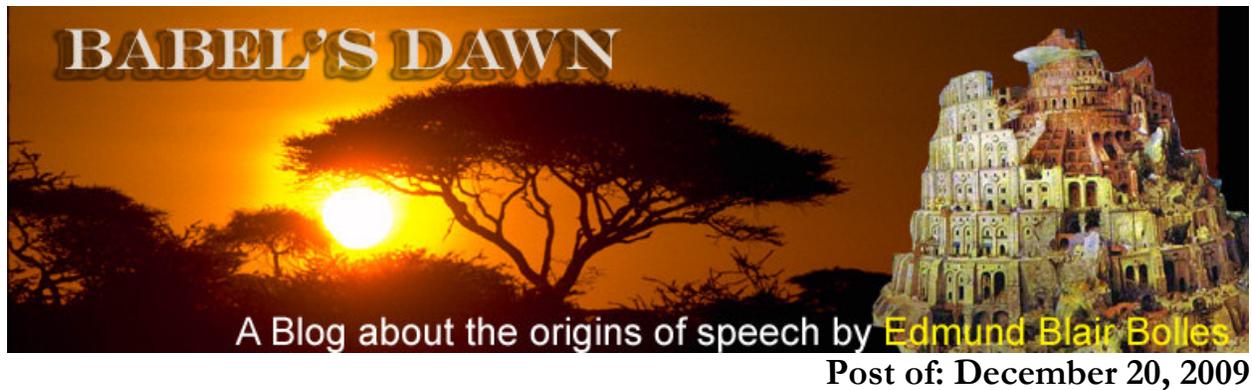
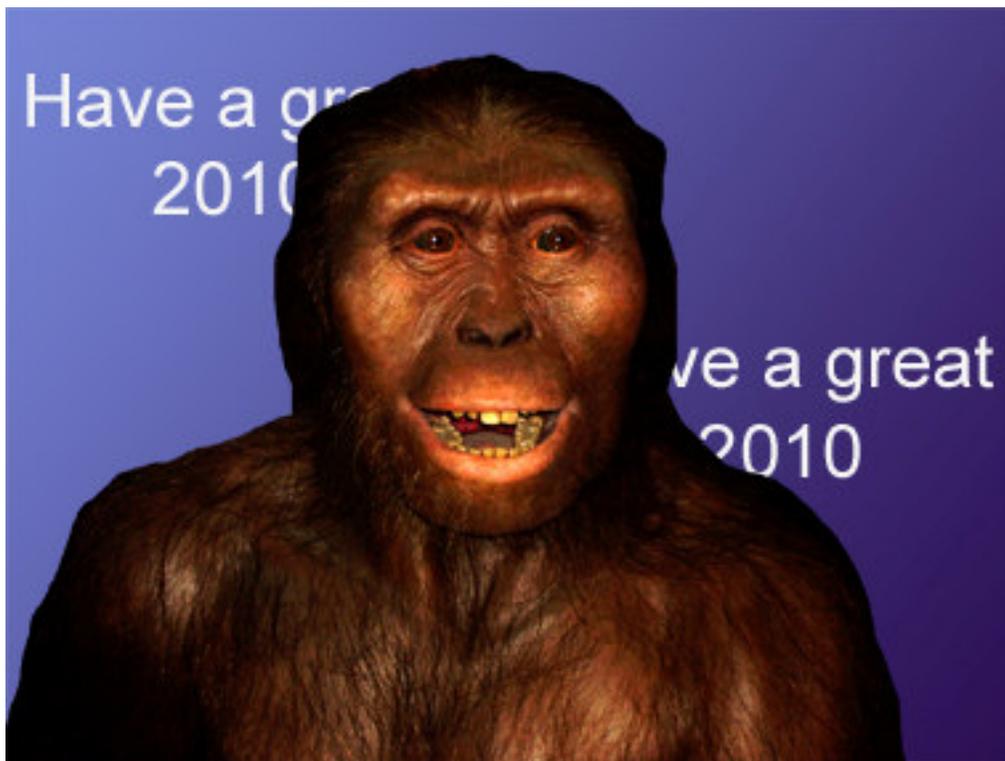


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10 Hypotheses About Language and Thought



Ardi and I wish you happy holidays.

This is my last post of the year. I'm taking Christmas and New Year's weekends off, so barring some unexpected heaven knows what, I'll be silent. I thought I go out with a list of hypotheses that I'd like to see tested

This blog disagrees with mainstream linguistics in a fundamental way by having a functional definition of meaning. For most people, meaning is a bit mysterious. It seems to be some kind of content that is passed from speaker to listener, but all sorts of paradoxes appear when you investigate that idea closely. Meaning becomes as mysterious as mind. On this blog, the meaning of words comes from their ability to pilot the attention of both the speaker and listener (Thanks to [Giorgio Marchetti](#) for that insight.), and the meaning of sentences comes from a series of focused points of attention (provided by words) that create a perception. In short, language is perception by other means. This view of language and meaning has left me with a different question from many other people who ask how language began.

I want to know how the ability to pilot one another's attention began and developed, while many people want to know how we came to have the ability to express and understand strings that carry meaning. Thus, many of the technical questions that underlie orthodox quests for language origin have no testable answers. For example, the question of how we evolved a parser that lets us interpret a sentence is stymied by the fact that we have no idea how said parser works in the brain. Thus, orthodox researchers are forced to fall back on assertions that the parser did evolve and shrugged shoulders over what kind of system must exist to transfer these meanings. It is very rare to see theories of meaning that are specific enough to allow for hypotheses that let us get into the brain and see if the structures are there and how they differ from non-human brains.

It occurs to me that I'm in a different position. I don't have a mysterious definition of meaning so I ought to just lay out a series of hypotheses about how this non-mysterious power arose and suggest what might be sought in order to disprove the hypothesis. So here is my list of what I'd like to see tested.

1. **All apes perceive well enough to understand language at the single-word level.** That is to say, apes can recognize things and actions just as well as human toddlers can. Since chimpanzees, gorillas, and bonobos have been taught to sign one-word remarks, the evidence is already good on this point.
2. **Apes can direct one another's attention.** This point comes from [Michael Tomasello](#) who has observed apes catching one another's attention by, say, slapping a hand on the ground and then making a begging sign.
3. **The critical difference between apes and humans at the single-word level is that humans are motivated to share attention in a triangle of speaker, listener, and topic.** Tomasello notes that apes in human company will spontaneously use signs with humans (presumably because humans can be relied on to care), but for the most part apes do not cooperate and have no motivation to do so, even though we can think of reasons why they might. We have plenty of growing experimental evidence that even very young humans are motivated to cooperate and help. We could use more experimental evidence on apes and observations on this point in the wild. It will probably be a long time before the neurology of this kind of motivation is understood and testable.
4. **We have evolved special mechanisms that give us more control over our powers of attention.** Although apes have some control over their ability to attend things, our dependence on joint attention should have led to the evolution of special powers of voluntary control over attention. This blog has reported evidence of exactly this increased control. (See: [How the Brain Supports Conversation](#))
5. **The power to attend to absent things (remembered or imaginary things) is not exclusive to humans but is probably much more common to them and we probably have special brain mechanisms that facilitate it.** Not everything we say is a direct perception. Surely, more common is talk about absent things. "I saw a horse galloping without a rider down Broadway," is perceptual but it directs attention toward imagined objects rather than something right in front of the listener. Again, I am confident that animals have an imagination and sometimes recall perceptions, but language provides a way to evoke those imaginary perceptions. It also seems reasonable to expect powers to perceive what is not physically present would co-evolve with language. That's something to look for.
6. **The ability to speak in metaphors came after speech was established because metaphors require an ability to pay attention to two things at once—the perceivable world the metaphors point to, and the invisible world the metaphor is about.** For

example, in the sentence, “Joe found the mathematical arguments very obscure, and he squinted through the haze in an effort to see them more clearly,” the words *obscure*, *squinted*, *haze*, and *see them more clearly* all point toward a struggle to see, while the sentence itself is about the effort to understand. Understanding a figure of speech of this sort requires a special ability to point attention in two directions at once. Not everybody can do it. Some people with autistic spectrum disorders cannot follow a metaphor. According to this hypothesis their problem is an inability to focus their attention on two places at one time. [George Lakoff](#) is the metaphor guru.

7. **Informal abstractions are metaphors whose meaning has been lost.** I'm not talking about mathematical or logical abstractions here, but words like *comprehend*. It traces to the Latin word for *grasp*. *I cannot grasp the idea* is a metaphorical sentence, while *I cannot comprehend the idea* is an abstract one. According to the functional definition on this blog, *comprehend* is meaningless because it points attention nowhere. We treat such words as a kind of dummy sound, but if pressed about them, we quickly become lost. How do we comprehend? We don't know and have no clue as to how to begin. We can interpret it only by thinking of the experience itself. If we have had no such experience, or at least have not been aware of it, an informal abstraction is unintelligible and cannot be explained because there are no formal definitions or concrete experiences to point to. The existence of such abstractions, therefore, is a challenge to the blog's theory. In a sense, they shouldn't exist, yet they do. Where did they come from? I hypothesize they began as metaphors that are no longer intelligible, in the path from grasping to comprehending. Their survival depends on taste, a willingness to accept empty dummies rather than meaningful words. Some people are more open to them than others. Education, when it is bad education, commonly consists of exercises that identify and encourage a taste for dummies. Some people are so educated that they prefer dummy words, and may even coin them. A great deal of focused investigation is needed to explore this question of where dummy words come from and how they survive. What my hypothesis specifically rejects is the idea that there is a special feature of the brain that inserts meaning into the word when it is created or pulls the meaning out when heard. If such a brain function is found, the theory favored on this blog is going to require some serious revision.
8. **Speech contracts came late and gain strength through ritual.** A speech contract changes a status through the use of words. “I promise,” says Mary and is now somehow bound to honor whatever she promised. All human societies depend on speech contracts to hold them together. The words don't point, they *do*. But they gain strength through a ritual that can be pointed at as the source of the change. Wedding ceremonies, shaking hands on a deal, etc. all “solemnize” (make visible) the internal changes taking place. [Terrence Deacon](#) had done extensive work in this area and investigated the neurology that supports it.
9. **Mysterious symbols are special and came even later.** There are a series of special symbols that cannot point to something specific, but unlike dummy words they gain power by their obscurity. They arouse emotions, often by defining groups and they serve as symbols of a status defined by a speech contract. Crosses, wedding rings, stars of David, flags are attempts to symbolize the unnamable. There appears to be a late biological correlate in this status, with the introduction of adolescence into *Homo sapiens*, a period of sexual maturity but continued learning to become an adult member of the community.

10. **Logical or mathematical symbols came even later, yet rest on very old powers.** The classic example of formal symbolic thinking is found in Euclid. Axioms and definitions are asserted, and then more is deduced by logic. Euclid's axioms and definitions were persuasive because they seemed to be statements of commonsense observation. The logical rules that permit deductions appear to be older than the rules of language. Long ago [David Premack](#) showed that apes can use logical symbols, but prolonged logical thought is not for everybody. Mathematics is very removed from narrative thought.

See you next year. Have a grand holiday time and be back here on Jan 11, 2010

Links:

Giorgio Marchetti: <http://www.mind-consciousness-language.com/curriculum.htm>

Michael Tomasello: <http://email.eva.mpg.de/~tomas/>

How the Brain Supports Conversation: http://www.babelsdawn.com/babels_dawn/2008/02/how-the-brain-s.html

George Lakoff: http://linguistics.berkeley.edu/people/person_detail.php?person=21

Terrence Deacon: <http://anthropology.berkeley.edu/deacon.html>

David Premack: <http://www.psych.upenn.edu/~premack/About.html>