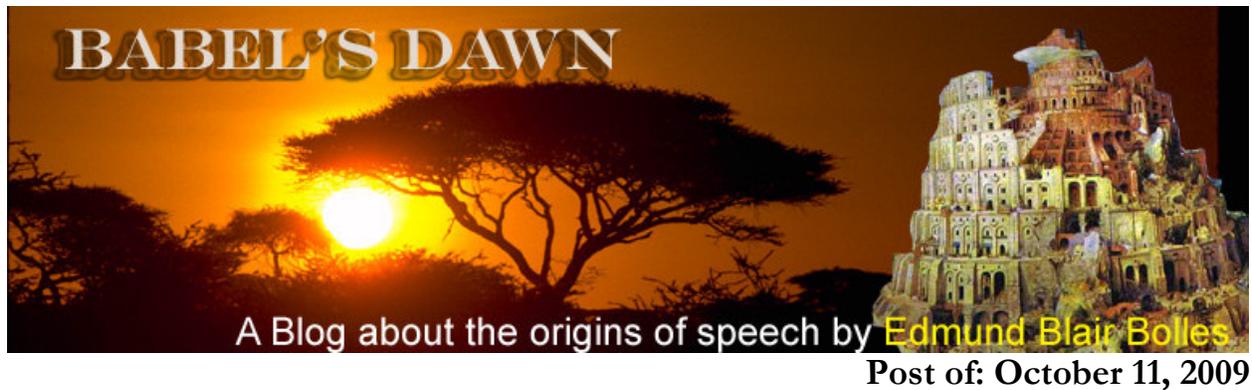


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## How Old Is Language?



**Rene Descartes** was probably the last great thinker to try to explain the universe on the basis of definitions and logic alone, but he was not the last savant to explain the mind that way.

I had thought I would skip reporting on [Bart de Boer](#)'s presentation in Torun. I have already covered his work on the loss of air sacs (see: [Fossil Evidence of Speech?](#)) in the human lineage. In Torun he presented experimental evidence that strengthens his case for the idea that as precision of speech sounds became more important, the air sacs used for ape vocalizations became a problem, but much of the presentation matched the one given in Barcelona. I changed my mind about

reporting, however, after I began looking at the new online issue of [Biolinguistics](#). One of the papers directly contradicts de Boer's conclusion, so I thought this might be a good time to take a look at the different approaches.

One of de Boer's slides (available [here](#)) said:

Hypothesis: —Neanderthals could speak, Australopithecines not —(proto) speech is at least 500,000 years old.

Meanwhile a *Biolinguistics* paper by [Dennis Ott](#) (available [here](#)) proposes:

It therefore seems reasonable to assume that the human I-language trait is *at most* 100,000 years old, its emergence having facilitated the 'Upper Paleolithic Revolution.' [257; italics author's]

We seem to have a disagreement of, at a minimum, 400,000 years.

But there is a catch. De Boer is talking about speech while Ott is talking about "the human I-language trait." What is the difference?

Ott's paper, based on definitions and logic, defines I-language as "the [cognitive] system that yields the specifically linguistic knowledge of the competent speaker." [256] An I-language, Ott tells us on the same page, is "a generative procedure" that combines words into sentences. So can Ott possibly be telling us that sentences are at most, 100 thousands years old?

I asked Ott why he didn't write, language is "at *least* 100,000 years old, its *presence* having facilitated the 'Upper Paleolithic Revolution'" [italics indicate words I changed]. He responded:

By all we know (or I at least), the Great Leap Forward occurred around 50.000 yrs ago. Assuming that I-language (presumably including externalization) was a necessary precondition for this, it seems to be a reasonable bet that the I-language as such is roughly 100.000 yrs old -- meaning it got into the world and immediately led to the cultural revolution. If it were much older than that, why did the Great Leap not occur earlier? Of course the I-language could be older, not having been put to use for a long while; but that seems implausible. 100.000-50.000 yrs is really the time frame where all kinds of things kick in that are hard to imagine without a computational system that gives you discrete-infinite thought structures. It might still be older while externalization (what I call mapping to the systems instructing the articulators in the paper) only arose much later, but that is really hard to tell.

The "externalization" he mentions is jargon for *speech*. In the Chomskyan theory of language origins, first there was a mutation [I thought that was what Chomsky meant by 'the Great Leap Forward'] that produced syntax for thought and later developed an "interface" that enabled speech. (See: [Chomsky's Theory of Language Origins](#)) This I-language-first is what Ott refers to when he says I-language "might still be older while externalization... only arose much later." In other words, in the Ott/Chomsky view of things, speech came *after* I-language. Instead of closing the gap between Ott and de Boer, we have widened it. If I-language is 100,000 thousand years old and externalization took, say, 50,000 more years, the difference between Ott and de Boer grows to at least 450,000 years.

After last month's Torun presentations, where speculations about speech being two-million years old were rife, and where de Boer presented empirical evidence that speech must be at least half a million years old and [Lijljana Progovac](#) gave one of her typically detailed studies of linguistic fossils

(see: [A Protolinguistic Fossil](#)), it comes as quite a shock to find somebody still focusing on the 50 to 100 thousand year range.

Ott's paper is also notable for syntax theorizers because it breaks with the notion that recursion is the lone key to a hypothetical [Narrow Language Faculty](#). At one point I thought Ott was even going to toss out recursion altogether in favor of words, but he does not go that far, concluding:

... the sudden addition of recursive syntax, paired with a capacity for lexicalization [i.e., word making], plausibly led to the explosive emergence of symbolic thought that paved the way for modern human behavior. [267]

In particular he has noticed something about words that is old hat on this blog, but which is quite a problem if you don't think of words as pilots for attention. Specifically, you can learn a word in one context, and then use it in another. For example, I can hear the sentence, "He followed the map to the treasure," in which map is used in a spatial context, and I can then say, "Bush followed Karl Rove's map to the presidency," in which map has a procedural context. I would say that words can become metaphors, but if Ott wants to say that words "can freely and systematically compose, *regardless of the conceptual subsystem from which they are drawn*," God bless him [italics his]. But remember that in this theory, lexicalization took place before words were spoken aloud.

There might be a way to make more sense of this. In his reply to my query, Ott spoke of "symbolic thought that paved the way for modern human behavior," so that this may not directly contradict, say, Hurford's presentation in Torun (see: [The Word-Sentence Continuum](#)) in which words become phrases and then become more complex phrases. It is easy enough to develop scenarios in which the communal use of sounds and signs to direct attention began, say, two million years ago but only reached a level of power able to support "modern human behavior," say 150 thousand years ago. (Ott is a bit old-fashioned in sticking to the 50 thousand year date for culture; see e.g., [Neanderthals had Language](#)). But that line of thought does great damage to the Chomskyan package—universal grammar, narrow language faculty, the primacy of syntax, and i-language itself. In the end you have to choose which side you are on; there is no compromising on this one.

#### Links:

Bart de Boer: <http://home.medewerker.uva.nl/b.g.deboer/>

Fossil Evidence of Speech?: [http://ebbolles.typepad.com/babels\\_dawn/2008/03/fossil-evidence.html](http://ebbolles.typepad.com/babels_dawn/2008/03/fossil-evidence.html)

*Biolinguistics*: <http://www.biolinguistics.eu/index.php/biolinguistics/issue/view/13/showToc%29>

de Boer's slides: <http://uvafon.hum.uva.nl/bart/trans/Airsacs.ppt>

Dennis Ott: <http://people.fas.harvard.edu/~dott/>

Dennis Ott paper: <http://www.biolinguistics.eu/index.php/biolinguistics/article/view/90/109>

Chomsky's Theory of Language Origins:

[http://www.babelsdawn.com/babels\\_dawn/2008/02/chomskys-theory.html](http://www.babelsdawn.com/babels_dawn/2008/02/chomskys-theory.html)

Ljiljana Progovac: <http://www.clas.wayne.edu/faculty/progovac>

A Protolinguistic Fossil: [http://www.babelsdawn.com/babels\\_dawn/2009/09/a-protolinguistic-fossil.html](http://www.babelsdawn.com/babels_dawn/2009/09/a-protolinguistic-fossil.html)

Narrow Language Faculty paper:

<http://www.linguistics.pomona.edu/lcs11fall04/readings/hauser2002.pdf>

The Word-Sentence Continuum: [http://www.babelsdawn.com/babels\\_dawn/2009/10/word-sentence-continuum.html](http://www.babelsdawn.com/babels_dawn/2009/10/word-sentence-continuum.html)

Neanderthals Had Language: [http://www.babelsdawn.com/babels\\_dawn/2008/03/neanderthals-1.html](http://www.babelsdawn.com/babels_dawn/2008/03/neanderthals-1.html)