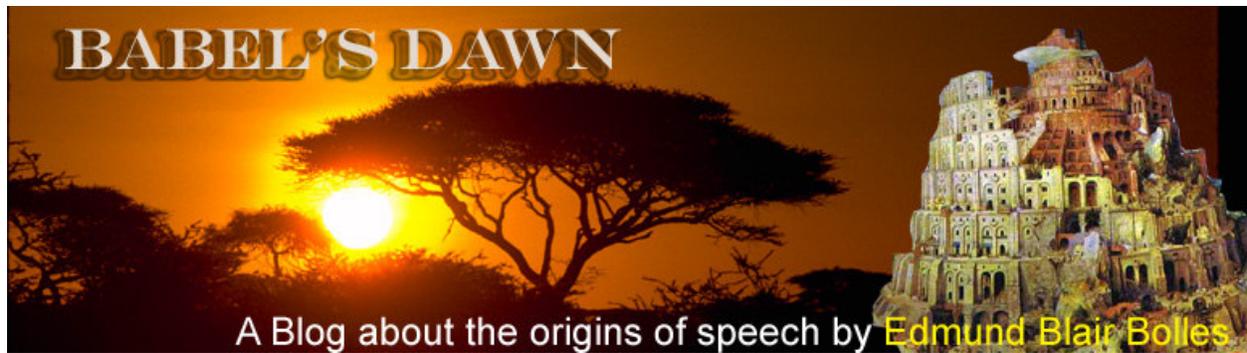


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Post of: October 4, 2009

The Word-Sentence Continuum



Run ... women run ... the women are running.

I managed to inspire a bit of a hullabaloo last week with my contention that protolanguage had done its job and it was now time to discard the term in favor of just talking about language evolution. The founder of the protolanguage concept, Derek Bickerton, posted a comment defending the word's continuing utility (comment [here](#)) and plugging [his book](#). My main point was that once speech got going, it just kept evolving, so we would do better to ask *how did it start?* and *what came next?* rather than looking for changes that prepared the way for what followed.

An example of what I mean was given in [Jim Hurford's](#) presentation at the Torun, Poland conference on protolanguage. Two of his “take-away” points were:

- There is a lexicon-syntax continuum (i.e. words evolve into syntax).
- There has been a gradual continuous evolution of syntax.

Hurford discussed the evolution of predicates, the part of a sentence that tells us something about the subject. His very rich analysis suggests that it is the social context that makes the syntax interesting, not the other way around. He then proceeded to show how predication can evolve from social situations without requiring any rewiring of the brain.

Hurford cited an argument from [Lev Vygotsky](#). Suppose you are waiting with a group of people for a bus. Everybody has been standing for some time and one person goes out into the middle of the street and peers down it. She returns and says, "Coming." That's a predicate without a subject, or really a predicate with an understood subject. The point is that predicates are at least as natural to one-word speech as are subjects.

Vygotsky also said that, "Predication is the natural form of inner speech; psychologically it consists of predicates only. It is as much a law of inner speech to omit subjects as it is a law of written speech to contain both subjects and predicates." Is that true? Inner speech is a bit hard to demonstrate, but I do know that I have often watched a baseball game and, after watching a ball sail by the batter, cried aloud, "Struck out," rather than, "He struck out." So there is a spoken predicate without a subject.

On the other hand, I can be surprised by a subject. The other day I was walking along a bock and saw newswoman Leslie Stahl coming toward me. My first thought was, "Leslie Stah," subject. I later added a variety of predicates, "carrying coffee," "looks pretty good," without repeating the subject. So I'm ready to embrace the basic premise that we can think of subjects or predicates separately and there is no reason to insist that one is older than the other.

Straying from Hurford for a moment, thirty years ago I did some extensive research into the language of small children and found that some children in the one-word stage commonly named subjects while others leaned toward predicates.

When we begin stringing words together, Hurford says, the choice of how to organize the words "is pragmatically motivated, by what the speaker thinks hearer is already aware of." Thus, if you know about some women, I will report *women run*, piloting your attention from what you know to the new situation. Or if you can see something out there running, I will report *run women*, again piloting attention from what you know to the news.

At this level of speech it seems arbitrary to say that one part is the subject and one the predicate. You have a topic—it might be the women, or it might be running—and you shift the focus to news about the topic.

Later, a language might take on a more rigid convention, requiring a speaker to say perhaps *women run* no matter what the topic. At this level of fixity we can identify a subject and a predicate in the formal structure. Now speakers depend on tone of voice to stress the news:

women RUN
WOMEN run

Once the basic subject-predicate distinction is formalized languages continue to evolve. The next step beyond subject + predicate is to categorize the words as nouns and verbs. Hurford gave many provocative examples of evolution, too many to sum up here; however, I cannot resist one example from Nicaraguan sign language because it seems to show a process of evolution from topic + focus, to subject + predicate, to noun + verb.

When the language was being invented the first group (cohort) signed things like: man push woman fall. This system could be interpreted as a sequence of topic + focus remarks. The man is a topic, shift focus to his action (push), now push is the topic, shift focus to woman, now woman is the topic shift focus to fall.

The second cohort (who had adapted the sign system learned from the first cohort) then complicated matters by putting the subjects together and the predicates together: man woman push fall. Attention shifts from the man to the woman, and then from the push to the fall.

Finally, the sentence of the third cohort is: man push woman. This seems like a simplification of the first expression, but its evolutionary history shows it is a replacement of the

second sentence. This third sentence can be understood in terms of nouns and verbs in which the second noun, woman, appears to have become the object of the verb.

A syntactician might argue that the evolution of sign language is very nice, but there is no reason to think that's how it happened a million or more years ago. After all, the deaf Nicaraguan children were born with the same brain organization that modern-language speakers have. So of course they found their way to the full system. The structure is innate.

It might seem an irrefutable argument, but Hurford was using a pragmatic analysis based on social situations, attention and perception. Hurford contends that these are enough and nothing innate is needed. What did evolve in the brain, right along with the cultural evolution of the language were "storage capacity" and "processing speed," both of which are still limited. Personally, I'd love to see some experiments testing, not chimp production, but chimp ability to understand grammatical relations. How far along the topic to subject to noun path can they go?

We can arbitrarily pick a point and call it protolanguage. (Hurford picks the point where words are first strung together), but more important is the business about a continuous evolution. That's why we can have fossil structures of the sort that Ljiljana Progovca reported (see: [A Protolinguistic Fossil](#)) which defy syntactical theory but still seem more advanced than what Bickerton had in mind when he proposed protolanguage.

Links:

Derik Bickerton's comment: http://www.babelsdawn.com/babels_dawn/2009/09/protolanguage-after-torun.html?cid=6a00d83452aeca69e20120a5aacf62970b#comment-6a00d83452aeca69e20120a5aacf62970b

Bickerton's book: <http://www.amazon.com/gp/product/0809022818?ie=UTF8&tag=tellingitcom-20&linkCode=xm2&camp=1789&creativeASIN=0809022818>

Jim Hurford: <http://www.ling.ed.ac.uk/~jim/>

Lev Vygotsky: <http://tip.psychology.org/vygotsky.html>

A Protolinguistic Fossil: http://www.babelsdawn.com/babels_dawn/2009/09/a-protolinguistic-fossil.html