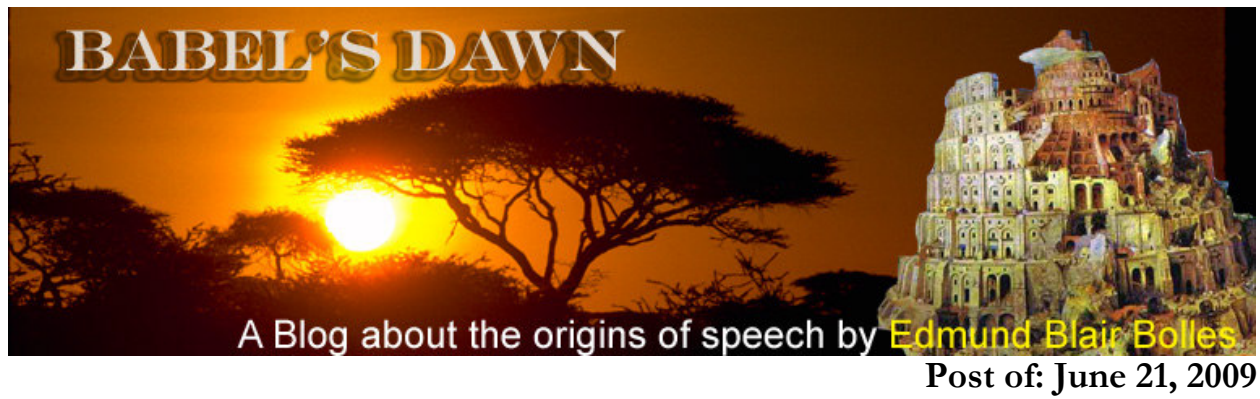


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Interfering with Metaphorical Thinking



Lady Death by [Jin Devil Kazama](#) seems surprising, but perhaps the author speaks a language in which the word "death" is a feminine noun.

The relation between speech and thought is an old and contentious topic, but it got a new push in an *Edge.org* essay ([here](#)) by [Lera Boroditsky](#) that summarizes work she has been doing for years. One point that struck me was that the analysis was very much in keeping with previous discussions on this blog about the relation between speech and attention (see, e.g., [Benjamin Lee Whorf Revisited](#)).

The most visible opponent of Boroditsky is Steven Pinker whose book, *The Stuff of Thought*, is devoted to the proposition that thought shapes language and not vice-versa. In that book Pinker acknowledges the importance of language in focusing attention, but he considers the results trivial. Language, he says, affects the way we describe things, but we can still think about them in other ways. For example, Korean distinguishes between tight and loose fitting relations, while English does not. But of course, if we ask an English speaker with no knowledge of Korean to make the distinction, the English speaker can do it.

Boroditsky's point is more subtle than the one Pinker tries to refute. It is not that people cannot get beyond the biases of their mother tongues, but that these biases are present and require some conscious effort (i.e., attention) to overcome. If a language really has no way of speaking about something, it may require a very serious effort to find a way to describe the matter. In short, it takes a poet to expand a language's capacity to address the previously unaddressed, and it takes an imaginative audience to grasp the new subject.

Taking guidance from Pinker, it is useful to ask just what kind of thinking is evidenced by Boroditsky's examples. She tells the fascinating tale of speakers of Kuuk Thaayorre, a native Australian language. Instead of distinguishing between right and left, the speakers refer to cardinal points (east, west, north, and south). Incredibly, they seem to always know which way they are facing. When asked to display a series of pictures in chronological order, they don't set the pictures out left to right (as English speakers do), or right to left (as Hebrew speakers do), but east to west. I found it amazing to think a people could keep themselves oriented on an absolute map, but does it affect thinking? Maybe it affects perceiving. Am I quicker to perceive things moving from left to right? Are Kuuk Thaayorre speakers quicker to perceive things moving from east to west? In short, are there ways these differences assist or impede thinking beyond simply the arbitrary way we organize an argument? I would love to see an experiment that shows language affects the perception of concrete objects.

She did took the research a major step further when she showed it affects our experience of metaphorical concepts. Boroditsky looks at how language can interfere with the way we understand time. She says "time perception," but that is a mistake. Time is not a thing to be sensed. It is a concept that is described metaphorically. English speakers tend to use metaphors of spatial distance. Time is *long* or *short*. Spanish and Greek speakers prefer metaphors of spatial size, describing time as *big* or *small*. These differences produce demonstrable effects. English speakers can be confused in their judgment of time if they are distracted by spatial-distance tasks. Thus, if we flash long lines on a screen, English speakers (but not Greek speakers) will say it lasts longer than a short line shown for the same period of time. Meanwhile Greek speakers (but not English speakers) will say a larger object appears on a screen longer than a smaller object. This finding sounds like a weird variation on optical illusions and is quite a beautiful experiment, the sort of thing the Gestalt psychologists did. It indicates that, as a minimum, metaphors can sometimes affect our judgment of the non-sensual parts of our own experience.

Boroditsky also discusses the difference in descriptions that seem to depend on the gender of the word used by a speaker. Most Indo-European languages sort words into two or three categories that are typically identified by grammarians according to gender—masculine, feminine, and neuter. I've always considered these divisions arbitrary and the gender names arbitrary as well. But Boroditsky has a series of elegant experiments in which Spanish and German speakers were shown identical pictures of things with different genders in the different languages. *Key* is masculine in German and feminine in Spanish, while *bridge* is feminine in German and masculine in Spanish. German speakers used masculine traits when describing keys (e.g., hard, heavy, useful) and feminine traits when describing bridges (e.g., beautiful, slender, fragile). The opposite was true for Spanish speakers.

This kind of work seems more provocative than conclusive. Are these traits really feminine and masculine according to the cultures of the speakers? Would a survey of the literature of the two groups support the same finding. Do German poets describe bridges as fragile while Spanish ones describe them as sturdy? How about English literature? Old English used the Germanic system of three genders, but that disappeared over the past millennium. Did the change loosen the grip of gender associations on the poets and story tellers? It does seem, however, that at least arbitrary linguistic associations can sometimes affect arbitrary verbal descriptions.

Pushing that point, Boroditsky points out that personifications of abstract concepts tend to reflect the arbitrary gender assigned by the language. Death is a masculine word in German and a feminine one in Russian. Sure enough, "German painters are more likely to paint death as a man, whereas Russian painters are more likely to paint death as a woman." But are we blinding ourselves to something more fundamental when we discover these unexpected associations? Death, after all, is neither a man nor a woman. Nor is it a tiger, nor a skeleton carrying a scythe. Sentences like, "Death comes to us all," sound banal, but death is not a localized thing that can come to something. That abstract sounding sentence is as metaphorical as a portrait of the grim reaper. On the other hand, death is not nothing either. We can describe it abstractly:

- Let L be an object while alive.
- Let D be the same object while dead.
- Let x be what exists between L and D.

The trouble is that we are no closer to understanding death when we call it x than we are when we portray it as a cruel babushka, and perhaps we are even further from being able to think about it. The x proposition is like something out of quantum physics. If we are not to understand it physically, we are left to understand it statistically. We cannot relate it to our lives or our experience. Meanwhile, the supposedly naïve thinker with a metaphor can imagine death as something that comes, something to be avoided, something to be anticipated.

Indeed, thinking itself is one of those non-sensual things that we understand metaphorically, to the extent that we understand it at all, and part of the argument between Pinker and Boroditsky is the favored metaphor. Pinker takes the computational metaphor literally, and says thinking is symbol processing. Metaphors arise from abstract concepts already built into the system (see p. 276). Language and culture are shaped by the computation, and not the other way around.

Boroditsky is closer to Aristotle, who asserted that all knowledge begins in the senses and is enriched by the community. She has strengthened this classical position through experiments and

has shown that, at least sometimes, we organize experience according to the arbitrary metaphors of our culture. The discovery of metaphorical interference is a real contribution to psychology and is worthy of serious pursuit.

Links:

Edge essay: http://www.edge.org/3rd_culture/boroditsky09/boroditsky09_index.html

Lera Boroditsky: http://www.edge.org/3rd_culture/bios/boroditsky.html

Benjamin Lee Whorf revisited:

http://ebbolles.typepad.com/babels_dawn/2007/01/benjamin_lee_wh.html

The Stuff of Thought:

<http://www.amazon.com/gp/product/0143114247?ie=UTF8&tag=tellingitcom-20&linkCode=xm2&camp=1789&creativeASIN=0143114247>