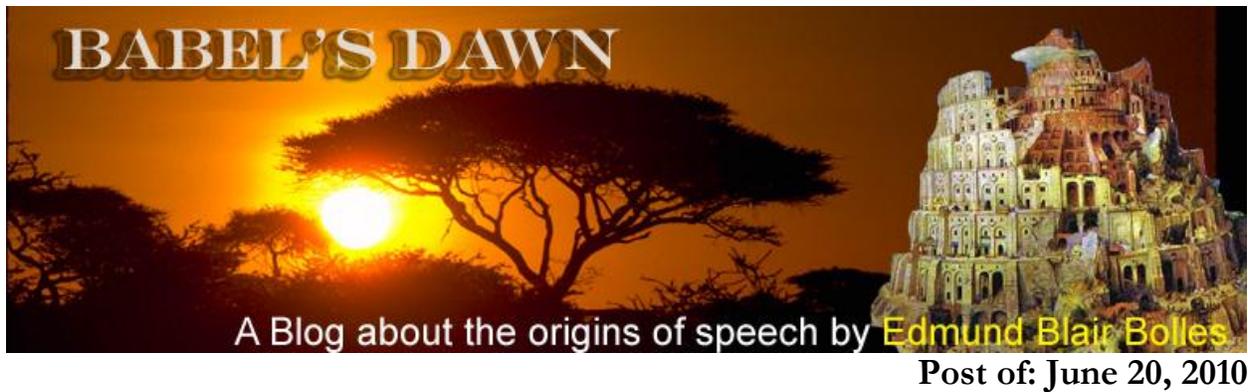
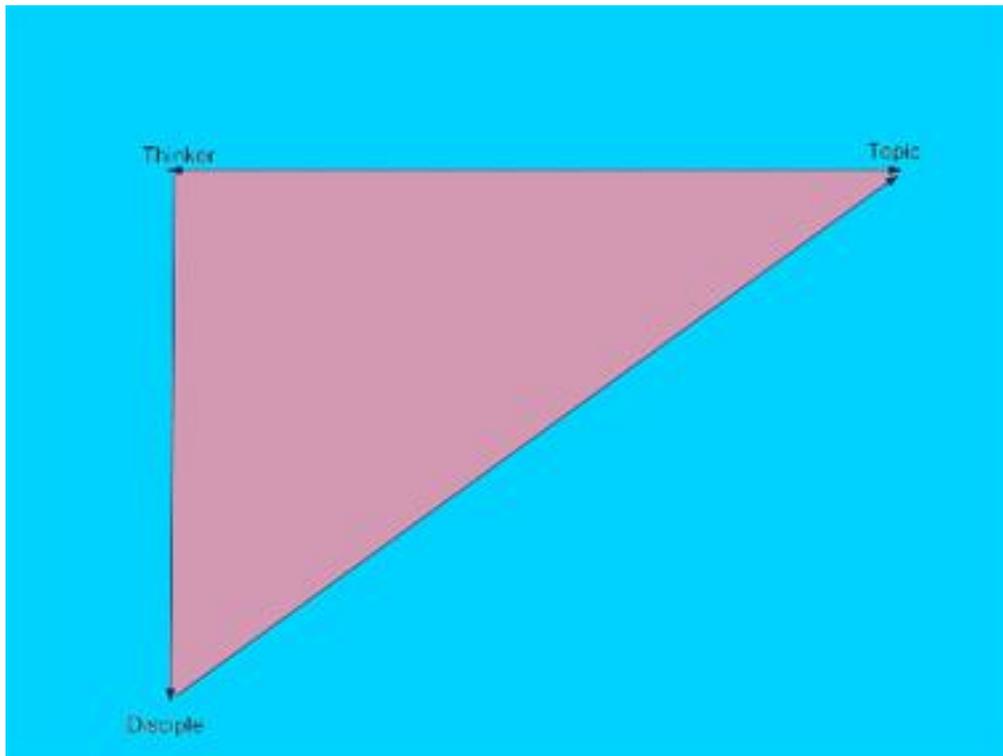


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## The Topic is *Topics*



**The Think Triangle.** Could this portrait of individual genius replace the more communal speech triangle as the key to speech origins? A thinker (replacing the speaker of the speech triangle) muses upon a topic and learns something. The thinker then informs the disciple (replacing the listener) of the discovery.

One of the heroes of this blog is [Michael Tomasello](#), anthropologist at the Max Planck Institute. He is a strong proponent of the idea that humans are uniquely cooperative. A forthcoming paper in *Pragmatics & Cognition* surveys Tomasello's thinking, and is [available online now](#). Titled, "Cooperation and competition in apes and humans," it is by a French scholar, [Anne Reboul](#). She raises a number of objections to Tomasello's work which deserve attention.

She focuses on a recent publication of Tomasello's, [Why We Cooperate](#), based on a series of lectures which were based on a book discussed on this blog, [Origins of Human Communication](#). My verdict on that book was that it was very important, although tediously written. I take Tomasello so

seriously because a central idea on this blog is that of the speech triangle and Tomasello is very instructive in exploring the rise of the speaker-listener relationship. He is less useful in understanding the choice or source of topics, and that is where Reboul directs her most powerful criticism.

She says that Tomasello's explanation of human uniqueness rests on two processes: biological evolution and cultural evolution. Reboul's counter argument to this idea is implied rather than stated, but basically she seems to hold that human uniqueness is explicable through non-social cognition: reasoning, problem solving, etc. Her complaint is against social arguments in general, and her argument can be made against people like Robin Dunbar, whose theory differs from Tomasello's, but emphasizes humanity's social nature.

Reboul raises four main objections to Tomasello:

1. "cumulative artifacts, at least since the industrial revolution...rest...more and more on fairly impersonal cognitive skills." [p. 431]
2. "Other primatologists do not agree with the notion of nonhuman primates as uniformly competitive...On the other hand one might wonder whether Tomasello does not paint too rosy a picture of human interactions." [431-32]
3. Apes do collaborate, as in the well-documented case of chimpanzees in Thäi, Ivory Coast.
4. "Shared intentionality [on this blog, that means speaker-listener interactions] ... presupposes content of some sort, but ... cannot account for content.[435]

These objections fall into two categories:

- There is no social discontinuity between apes and people. The difference is one of degree rather than of kind. [Objections 2 and 3]
- There is, however, an intellectual discontinuity between apes and people. {Objections 1 and 4}

Reboul laments that Tomasello has not responded to his critics, and I agree that it is regrettable. However, this blog is willing to step in and suggest possible responses.

## Social Discontinuity

On this blog the critical discontinuity lies in the dominant basis for selecting a behavior, At least, two levels of selection are available.

- **Gene level selection:** This level allows

*kin-altruism*, i.e., doing unselfish things for one's kin who likely share your genes).

*Non-kin altruism* (e.g., helping an unrelated acquaintance) can be a collateral effect of one's general makeup, so long as the effect does not pose more of a risk to the survival of one's genes than would be the loss of whatever supports that collateral effect. For example, a sympathetic intelligence may make one a shrewder competitor, but may have the collateral effect of making one supportive and helpful. If the price of losing the shrewdness is greater than the price of being helpful, then gene-level selection is perfectly capable of supporting unselfish actions toward genetic strangers.

- **Group level selection:** This level allows

*non-kin altruism*, i.e., doing unselfish things for a member of one's group.

*Selfishness* may be a collateral effect and is tolerable, so long as it does not undermine group survival. For example, a logical intelligence may be useful in competing against rival groups, but may have the collateral effect of making one a shrewd competitor against members of one's own group. If the price of losing this rational ability is more harmful to the group's survival than the price of being competitive within the group, then group-level selection is perfectly capable of supporting selfish actions toward others in the group.

Any single trait in apes and humans may be selected at the gene or group level; however, the dominant selection level in apes is gene level, while in humans it is the group level.

That's the great discontinuity and Rebutl's objections stride past this point. It is not enough to say that apes can be unselfish or that humans can be greedy; those observations are to be expected. Collaborative actions, especially in cases where everyone's interest is aligned, is no rebuttal to the difference in levels of selection.

Group-level selection explains the presence of white sclera in human eyes and emotions like shame and guilt. It is very hard to find a gene-level explanation for any of these traits, and while Rebutl mentions the traits she offers no attempt to explain them.

When group-level selection is the dominant mode, it is to be expected that the species will develop a means of sharing knowledge, but a dominant gene-level selection species will keep mum. Chimpanzees tend to be silent because gene-level selection dominates their history. Why do they signal at all? It appears that there has been the odd bit of group selection in their past.

Technically speaking, the discontinuity is not between competitive societies and cooperative communities; it was a switch from gene-level selective dominance to group-level selective dominance.

## Intellectual Discontinuity

The other argument woke me up a bit, because despite its reliance on ancient positions it asks the interesting question of where the topic in the speech triangle came from. Tomasello stresses pointing, and it seems perfectly reasonable to suppose that during the early days of speech, the environment supplied all topics. By saying things like, "at least since the industrial revolution," she appears to be skipping over the question of origins.

Rebutl favors the classical idea that the great difference between humans and other species is our reasoning ability. I thought that [David Premack](#)'s work showing that chimpanzees are capable of symbolic logic had undermined that old boast, and that efforts to train chimpanzees, bonobos, and gorillas in sign language had established that apes are smart enough to speak at least a little. Thus—and this is a point that I have made so often on this blog that I'm a little tired of writing it—the origins of speech cannot rest on intellectual differences, but something else. Apes are smart enough to sign one another, but they don't.

At the same time, I'm not going to pretend there aren't intellectual differences between apes and us. Apes make tools to satisfy immediate needs; *Homo habilis* made tools to make other tools that could satisfy their immediate needs. That intermediate step seems to be a discontinuity. I also think the ability to unite subject plus predicate into a whole is another discontinuity between apes and us, and probably a discontinuity between *Homo habilis* and *Homo erectus* (as suggested by *erectus* bifacial tools).

Rebutl finishes her discussion by saying, "Sharing does not precede and explain pedagogy (leading to culture), rather pedagogy precedes and explains sharing." [438] [Note: The pedagogy she refers to is 'natural' (i.e, adult kin to juvenile) and therefore does not require group-based sharing. ]

But she puts forth no argument or evidence showing how family-based training could lead to sharing. On the other hand, it is easy to explain how sharing can lead to increased competitiveness. As the number of topics increases, so do the opportunities for individual advantage. Group selection is always at risk of subversion by gene selection, and an increase in individual competitiveness is no mystery.

Links:

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

Online paper: <http://l2c2.isc.cnrs.fr/en/publications/files/08reb.pdf>

Anne Reboul: <http://l2c2.isc.cnrs.fr/en/members/annreboul/>

*Why We Cooperate:*

<http://www.amazon.com/gp/product/0262013592?ie=UTF8&tag=tellingitcom-20&linkCode=xm2&camp=1789&creativeASIN=0262013592>

*Origins of Human Communication:*

<http://www.amazon.com/gp/product/0262201771?ie=UTF8&tag=tellingitcom-20&linkCode=xm2&camp=1789&creativeASIN=0262201771>

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