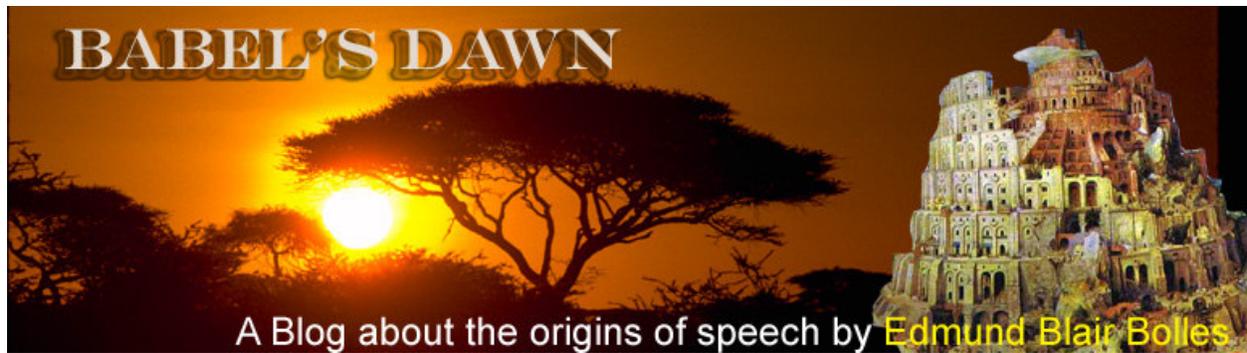


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Post of: August 16, 2009

Fifty Years On



Louis and Mary Leakey explored Olduvai Gorge for about 30 years before finding their first bipedal ape, which they named *Zinjanthropus*. The discovery pushed the story of human evolution back beyond 1.5 million years.

Three events—a death, an anniversary, and a reading—have gotten me thinking about how much our view of humanity and human origins has changed in the past half century.

- The death was that of Eunice Shriver whose most notable achievement was in changing the way people think about the intellectually disabled.
- Fifty years ago (July 17, 1959) the *Zinjanthropus* fossil (now known as [Paranthropus boisei](#)) was found by [Mary Leakey](#). The find changed the focus of where paleontologists looked for the oldest human ancestors, and pushed all the dates for human origins much further back.

- Finally, I got around to reading an article in the April *Current Anthropology* by the anthropologist/primatologist [Clifford Jolly](#) titled, "Fifty years of Looking at Human Evolution," (first page [here](#)).

Back in those days, by the way, the question of language origins was still forbidden. It was less than fifty years ago that I raised the question in a college discussion and was told that I was not allowed to ask about where language came from. The ban imposed a century earlier by the Paris Society of Linguistics was still in effect. The collapse of that ban is an indication of how much inquiry into human origins has changed.

Jolly describes the dominant view of 50 years ago:

The favored scenario interpreted the hominin fossil record as evidence of a simple evolutionary trajectory, and all hominins were the product of a single set of adaptive trends. ... the key hominin behavior was considered to be the use of artifacts. ... The accepted paradigm was therefore a single-phase scenario, according to which the first hominins were smaller, dumber, clumsier, slower, and probably hairier than us, but as soon as they stood up and started to use artifacts, they were on an unbranching highway to humanity. [pp. 187-188]

He even quotes from a classic 1953 article by [George Bartholomew](#) and [Joseph Birdsell](#) (first page [here](#)) that said:

With the assumption of erect posture regular use of tools became obligatory. [quoted on p 188].

The passage of fifty years has not changed the popular press so much. I reviewed a book a few years back, [Thumbs, Toes, and Tears](#) by Chip Walter (review [here](#)), that argued upright walking led directly to speech.

Jolly focuses on the complex path from our last common ancestor with chimpanzees to us today. The route was not

last common ancestor --> bipedal ape --> proto-us --> us.

There were many bipedal apes flowing from that last common ancestor. And many proto-us forms following the bipedal apes. But an important difference between 2009 and 1959 is that today we also recognize a lot more different forms of us.

Culturally the great difference of the last half century has been the rise of a plural view of humanity. That's where Eunice Shriver fits into the story, for she devoted much of her adult life to finding room in society for the mentally handicapped. More than women, more than black folk, the mentally disabled were excluded, generally placed in institutions to molder outside the grave. Notions of deviance and abnormality have not completely disappeared, but a much wider inclusiveness has taken hold. Without that wider view it would be difficult for me to ask a question raised more than once on this blog: *if Down Syndrome children can talk and yet are less intelligent than the smartest chimpanzees who never talk, how can we suppose that intelligence is the basis of speech?* It's thanks to the work of Eunice Shriver and many others that the question can be taken seriously. Fifty years ago (when people with

Down Syndrome were generally called Mongoloids or even Mongolian Idiots) there was no idea that such people deserved any place in thinking about what it means to be human.

Finding out what it means to be human is the part of this inquiry of deepest interest to the lay public. Fifty years ago, the favorite answers were that humans alone used reason, tools, and symbols. [Jane Goodall](#)'s of chimpanzees in the wild quickly disabused experts of the tools claim, while [David Premack](#)'s experiments with chimpanzees in the lab showed they could use logic and symbols. Those observations left two possible accounts on what is the foundation of human uniqueness. First, being human rests on something we have generally overlooked, or, second, being human is nothing special.

The second choice has always had its advocates, and they were especially strong among psychologists fifty years ago when stimulus-response behaviorism dominated the field. We've just had a controversy on this blog about whether [Noam Chomsky](#)'s famous review of [B.F. Skinner](#)'s work refuted the behaviorist position (See Poverty of the Stimulus: Parts [1](#), [2](#), [3](#) and [4](#)), but it certainly knocked it off its pedestal. Chomsky's position has been that language is the most obvious unique feature of humanity. All cultures have rich languages, while no other species has it even a little bit. Which is all very well, but pointing to language just rephrases the question: why is it that people speak and other animals do not?

Three answers dominate the scene today:

- **Recursion:** Humans have a unique ability to organize words (and perhaps other thoughts as well) recursively. This idea has been pushed by Noam Chomsky, [Marc Hauser](#), and [Tecumseh Fitch](#).
- **Symbols:** Archaeologists focus on the use of symbolic meanings that leave artistic and ornamental traces.
- **Community membership:** Language requires multiple speakers, which in turn requires individuals who are willing to report and learn what another thinks. This idea is hard to justify using the selfish-gene theory of natural selection, but [E.O. Wilson](#) and [David Sloan Wilson](#) have proposed a way around this problem (see: A Vote for Group Selection http://ebbolles.typepad.com/babels_dawn/2007/12/a-vote-for-grou.html)

Turning to face the future and consider what the next fifty years will bring, I think the hardest part is that we are facing an increasing number of oddities. Jolly concludes his essay by saying, "the rest of nature... provides analogies that... can help to clarify the processes involved with each of the phase shifts [along the pathway to modern humanity]" [196], but analogies really only help with things found elsewhere in nature. We have been stuck forever on the question of why our ancestors became bipeds, largely because there seem no analogies elsewhere in nature to suggest and it was Jolly himself who decades ago pointed out that examples of bipedal actions in living primates and other animals merely shows that that behavior cannot explain why humans became bipeds. These other animals are able to do things, like stand on their hind legs and look around, without becoming bipedal. So why did our ancestors become become uncompromising bipeds? We have no analogy with other animals.

And why did our ancestors change from having black sclera to the whites of the eyes? It lets us see where our neighbors are looking, but how did that become an advantage?

Our ancestors reduced the nursing period of young, enabling a fertile female to bear more young in a lifetime. The desirability of that change is self-evident to any Darwinian, but what happened to make the change possible?

We will find many more fossils during the next 50 years and DNA work is really going to bring detail to the story, but until we start understanding where and why these unique things came I'm not sure the story is going to tell us more about who we are than we know today.

Links:

Paranthropus boisei: <http://www.mnsu.edu/emuseum/biology/humanevolution/boisei.html>

Mary Leakey: http://www.mnsu.edu/emuseum/information/biography/klmno/leakey_mary.html

Clifford Jolly: http://www.mnsu.edu/emuseum/information/biography/fghij/jolly_clifford.html

First page of Jolly paper: <http://www.journals.uchicago.edu/doi/abs/10.1086/597196>

George Bartholomew: <http://www.eeb.ucla.edu/indivfaculty.php?FacultyKey=1222>

Joseph Birdsell:

http://www.mnsu.edu/emuseum/information/biography/abcde/birdsell_joseph.html

First page of Bortholomew/Birdsell paper: <http://www.jstor.org/pss/663779>

Thumbs, Toes and Tears: <http://www.amazon.com/gp/product/0802715273/102-1285080-2259341?ie=UTF8&tag=tellingitcom-20&linkCode=xm2&camp=1789&creativeASIN=0802715273>

Review of book: http://www.babelsdawn.com/babels_dawn/2006/12/news_from_befor.html

Jane Goodall: <http://www.janegoodall.org/>

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

Noam Chomsky: <http://www.chomsky.info/>

B.F. Skinner: <http://www.bfskinner.org/BFSkinner/Home.html>

Poverty of Stimulus 1: http://www.babelsdawn.com/babels_dawn/2009/07/poverty-of-the-stimulus-part-1-chomsky-1959.html

Poverty of Stimulus 2: http://www.babelsdawn.com/babels_dawn/2009/07/poverty-of-the-stimulus-part-ii-solutions.html

Poverty of Stimulus 3: http://www.babelsdawn.com/babels_dawn/2009/07/poverty-of-the-stimulus-part-3-nonnativists.html

Poverty of Stimulus 4: http://www.babelsdawn.com/babels_dawn/2009/07/poverty-of-the-stimulus-part-4-in-defense-of-skinner.html

Marc Hauser: <http://www.wjh.harvard.edu/%7Emnkylab/HauserBio.html>

Tecumseh Fitch: <http://www.st-andrews.ac.uk/%7Ewtsf/>

E.O. Wilson: <http://www.achievement.org/autodoc/page/wil2int-1>

David Sloan Wilson: <http://evolution.binghamton.edu/dswilson/>