

Discover the amazing origins of life at our masterclass in London – book now

REVIEW 8 November

2017

Language: Unlocking the past's most powerful secret

The to and fro that happens when we talk is key to understanding language, and challenges the way we view human nature, argue two books



All modern human languages depend on fast-paced exchange

Bruce Gilden/Magnum Photos

By **Alun Anderson**

DO LINGUISTS need to get away from the library and spend more time talking? Ever since Noam Chomsky revolutionised linguistics in the 1950s, research has focused on the structures underlying grammatically correct sentences and on our astonishing ability to both generate and understand an infinity of expressions. Now two new books separately argue that the to and fro of conversation is key to understanding language. If they are right, the idea of language as a computational system needs to make some room for that of language as a tool for cooperative communication.

Daniel Everett of Bentley University, Massachusetts, and Nick Enfield at the University of Sydney start from different places. Everett's wide-ranging *How Language Began* is rooted in his 30 years working with tribal groups in the Amazon as an anthropologist. Enfield's *How We Talk* comes out of the lab and speeds through extraordinary experiments on the fast-paced, interactive flow of conversation.

Everett has already had a famous debate with Chomsky and his colleagues, related in Everett's bestseller *Don't Sleep, There Are Snakes*. He set out as a missionary to live with the Pirahã, a group of Amazonian hunter-gatherers, aiming to learn their language and translate the New Testament into it. Instead, his encounter with this happy culture, which values "immediacy of experience" over unsubstantiated tales, led him to lose his faith and to discover that their language was unlike anything studied before.

Pirahã appears not to use recursion, the way in which other languages tuck phrases inside other phrases to build more complex

sentences. That seemed to challenge core ideas about language and sparked a huge controversy. Now it is more accepted that languages can be expressive without necessarily using recursive forms.

**“*Homo erectus*,
who lived over
60,000
generations
before us, led
the way: we are
merely an
upgrade”**

Surprisingly, the hero of *How Language Began* is not modern humans, but *Homo erectus*, who lived over 60,000 generations before us. “The greatest hunter. The greatest communicator. The most intrepid traveller. Perhaps the greatest distance runner on Earth” is how Everett sees our ancestor. *H. erectus* led the way: we are merely an upgrade.

Everett’s speculative account of our forebear’s life and travels are the most remarkable parts of a remarkable book. I felt I had been born 1.8 million years too late. Although my brain would have been just two-thirds of its modern size, a pristine world would have lain before me.

H. erectus left their home in Africa and spread throughout Europe and Asia, ever onwards. Their tools, settlements, use of fire and crossing of waterways in boats or rafts all shout to Everett that it was “upright man” who first had symbolic thought and culture, and must have invented the first forms of language, too.

Everett begins his argument with the life of *H. erectus* and the origins of symbolic thought, moving through millennia of “upgrades” to our brains, vocal apparatus and language in all its varieties. We travel from *H. erectus*’s simple exchanges to our ability to pour out over 100 words per minute in conversation.

By pushing language’s origins back so far, Everett again collides with Chomsky, who sees language emerging in *Homo sapiens* about 80,000 years ago. But Everett doesn’t merely dispute the “when” of language, but also why it was invented and how it changed. By “invented”, Everett means just that: language was a creation of culture, growing out of humans’ developing social cognition and capacity to use symbols. For him, language is a communicative tool and not the product of sudden genetic change that gave *H. sapiens* new powers of thought, as Chomsky argues.

What kind of language might *H. erectus* have spoken? The earliest languages might simply have had a series of loosely ordered words and gestures. The shared context and culture would have been enough “to determine the interpretation needed”, writes Everett. More complex languages, with hierarchy and recursion, could have evolved from there.



At each step, language would have to fit our cognitive and perceptual limitations, auditory range, vocal apparatus and brain structures. At the same time, the advantages of communicating successfully would create new selection pressures on humans: brains evolved for languages, and languages evolved for brains. But, stresses Everett, language didn't begin with the first word but "the first conversation, which is both the source and the goal of language". Language is about interaction, about the simplest exchange in a shared culture.

Everett's "baby steps" version of how language evolved is at odds with Chomsky, who explains in *Why Only Us*, his 2016 book with Robert Berwick, that language did not emerge for communication, but from a "slight rewiring" giving some individuals new powers of thought. Chomsky is adamant that "there is no room in this picture for any precursors to language – say a language-like system with only short sentences". There is a clear choice: communication and conversation came first and grammar later, or a language of thought came first and was later "externalised", as

Chomsky puts it.

Conversation is central for Enfield, too. His sparkling book, *How We Talk*, sets out to show that the power of the “conversation machine” is as astonishing as any of our grammatical achievements, and that how we direct our fast-paced exchanges challenges how we think about human nature.

The action, Enfield explains, is concentrated in a 1-second window that opens as soon as someone stops speaking. Taking an average from 10 languages, an answer to a question will appear in around 200 milliseconds – the time it takes to blink. English speakers average 236 ms, while the Japanese manage it in an astonishing 7 ms and the deeply thoughtful Danes in 468 ms.

We soon discover the timing of replies can be manipulated. “Do you want to go for a drink?” Reply “yes” inside 200 ms and you are off to the bar; delay another 400 ms and you will be asked if you really want to go. But choosing “no” in the first 100 ms signals flat rejection. Say nothing in that 1-second window and you may face a frown for your lack of cooperation and be asked again.

Then there are the “uhs” and “ums” of English: “uh” says hold on for a short time (about 250 ms), while “um” indicates you should expect a longer delay (about 700 ms). Both delays can either signal “Hold on, I’m processing what you’ve said”, or warn that a negative response is coming.

Finally, there is “huh”. In 2013, Enfield and his colleagues found that this, or something sounding very similar, was the one universal “word” in all languages. It is, he explains, the

quickest, easiest sound humans can make, and a speedy sound is needed to interrupt fast when you lose track of a conversation and need help.

There is a deeper significance here, too. “This little word, like the turn-taking system it operates in, suggests a moral architecture to communication,” says Enfield. “Huh” symbolises “universal cooperation”, the commitment people make to “help each other, where necessary and possible, to stay on track in conversation”. That requires social cognitive skills unique to our species, writes Enfield, for even 2-month-old babies love to take turns in their interactions with adults.

Enfield closes his slim book with an inspiring chapter. We are, he argues, “on the verge of a full-blown scientific revolution in research on the human capacity for language”. He lays out the two current big ideas: that language can’t exist without specifically human forms of social cognition and interaction; and that language is a “private, purpose-specific computational system for operating upon information”.

For Enfield, though, there is no need for one idea to triumph over the other. Rather, we can draw on all sorts of research. We can, say, welcome what has been learned about the structure of language while looking at how the flow of conversation may have shaped grammar. Despite the dismissive and brutal arguments common in linguistics, he is optimistic a new generation will build bridges.

I suspect Everett would welcome that future too.

Book information

***How Language Began: The story of humanity's
greatest invention***

Daniel Everett

Profile Books

How We Talk: The inner workings of conversation

N.J. Enfield

Basic Books

*This article appeared in print under the headline
"The amazing power of the conversation
machine"*

Alun Anderson is an
editor emeritus of *New
Scientist*

Magazine issue 3151,
published 11 November
2017

NewScientist | Jobs

More jobs ►