"Walk Like a Man, Talk Like a Man: The Mystery of Human Speech"

A growing body of research explores why humans, but not other animals, are capable of speech.

Zoolingualism. This is the official name of the prowess many of us wished for as children, one which is usually reserved for Disney princesses and certain trident-wielding DC stars—the ability to talk to animals. Despite its extreme prevalence across media, however, this superpower still resides firmly in fictional works. But how can this be? Humans have been talking for a very long time; estimates on the origin of human language range from as recent as 50,000 years ago to almost 2 million years ago. [1] Surely, in all of those years, some other creature would evolve to speak as we do, and we would have discovered some kind of chimp chatter or dolphin dialect that we are able to understand and translate. And while we have found aspects of language in these other intelligent species, the fact of the matter is that humanity has remained an outlier in an otherwise frustratingly speechless animal kingdom.

To begin understanding the phenomenon of speech, biologists and archaeologists have teamed up to investigate at what point humans first became capable of speech. Researchers found that almost 300,000 years ago, Homo sapiens first developed to possess modern anatomy in the vocal tract—namely a lowering of the larynx to sit atop the trachea—which increased the range of sounds humans are capable of while also leaving us more vulnerable to choking than other mammals. [2] This suggests that at some point in human history, natural selection began to favor communication (the ability to produce a wider variety of phonemes) over resistance to asphyxiation, a tendency not observed in other Great Ape species. This is not the only physical adaptation for speech that sets humans apart. Over time, our mouths became smaller and less protrusive, and the human mouth, lips, and tongue became much more flexible, enabling us to make many precise sounds that our ape relatives are simply not capable of. [3] Indeed, the inclination for speech goes deeper than our anatomy--it's in our very DNA. The FOXP2 gene is found in many organisms and is a key contributor to the development of communication skills and vocal learning. [4] In the human genome, the FOXP2 gene underwent two specific mutations that cannot be found in our closest animal relatives. [5] Are those mutations the reason we became primed for language acquisition? Are these unique physical and genetic adaptations the reason we pulled away from the animal kingdom and started speaking for ourselves?

Maybe. But some researchers argue that we are not as superior to the animal kingdom as we would like to think. In her article "The Cultural Origins of Language," Christine Kenneally argues that "…almost every time researchers have proposed that humans can do something that other animals cannot because humans have language, studies have shown that some animals can do some of those things, at least some of the time." [6]. Our language abilities, though impressive, are not specifically human. Rather, they are just a more advanced version of what other animals have already been doing. But that doesn't mean that these animals that exhibit basic language behaviors will suddenly develop alphabets and poetry; in fact, it's unlikely that any creature will ever develop language as it exists among humans again. This is because human language is far more complex than what can be achieved through natural selection alone. [7] At a certain point, continued advancement in language skills did not continue to increase our chances for survival, meaning that our dazzlingly intricate language systems are much more extravagant than the practical Mother Nature is likely to create again. So, it's possible that our ability to speak is unique, but in the same way that the trunk is unique to the elephant, echolocation is to the bat, and the beautiful feather is to the peacock. [8] Perhaps our speech is simply a Darwinian anomaly, just like every other fantastic thing in the natural world.

So whether we will ever see this anomaly replicated in another lifeform, nobody knows. Whether humans will always be the only authors, poets, and playwrights in the world, it's hard to say. Whether Aquaman and Dr. Doolittle are the only men that will ever get to converse with our fellow creatures, only time will tell. For now, we must be content to talk amongst ourselves, and wonder if somewhere out there, some other species is getting ready to join the conversation.

---

[1] Avery Hurt, "When Did Humans Evolve Language?" (*Discover Magazine,* October 2023)

[2] Constance Holden, "The origin of speech: how did the remarkable ability to communicate in words first evolve? Researchers probing the neurological basis of language are focusing on seemingly unrelated abilities such as mimicry and movement." (*Science*, February 2004)

[3] Kathleen Masterson, "From Grunting to Gabbing: Why Humans Can Talk (*NPR*, August 2010)

[4] Edmund Bolles, "Case for biological origins of language grows stronger" (*Bio Science,* May 2008)

[5] Staes et al., "FOXP2 variation in great ape populations offers insight into the evolution of communication skill" (*Scientific Reports*, December 2017)

[6] Christine Kenneally, "Cultural Origins of Language" (*Scientific American*, September 2018)

[7] Terrence Deacon, "On the human: Rethinking the natural selection of human language" (*National Humanities Center*, February 2010)

[8] Sonia Shah, "The Animals are Talking. What Does It Mean?" (*New York Times Magazine*, September 2023)