

Vocal Communication In Humans And Nonhuman Primates

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Primates are considered one of the most complex species of the animal kingdom. Among all the primates, human beings are perhaps the most complex, with high intelligence and complicated emotions. As such, communication ability is extremely important for both humans and non-human primates. While non-human primates use smells, sound and body language to express themselves, human beings have developed numerous complex languages to communicate. They rely on the vocalization of the sounds to be able to speak. This ability to speak gives humans a unique position above other primates. Vocalization is extremely important in expressing emotions in the spoken language. As such, the way a human speaks can be used to discern the emotions they are feeling.

Production Mechanism

Language is considered to be a uniquely human trait and the result of evolution. Non-human primates are in the same species group as humans, and their behaviour can be studied to understand the evolutionary aspect of the first humans. Just like human beings, primates use vocalization for communication, but unlike humans, this vocalization lacks complexity. Speech perception likely evolved in our ancestors as a result of pre-existing neural mechanisms. This mechanism can be used to extract information from conspecific vocalization (CV). Studying the neural mechanism helped in understanding the cerebral mechanism of speech, and it was identified that conspecific vocalization is used by non-human primates for “special” sounds that include alarm calls, mating calls, etc. However, as the CV gets more complex, it can carry more information, thus giving humans the ability to talk.

The bases of humans’ and primates’ vocalization are the same; the difference comes in the ability to produce sound. The larynx is responsible for the production of sound that consists of successive vibrations. The rate of vibrations produced in the larynx determines the complexity of the vocalization. Primates are unable to produce higher vibrations; thus, they cannot speak complex languages; however, the opposite is the case for human beings (Belin, 2006).

Repertoires

Human beings have developed highly complex language. Thus, their vocalization is also complex. Humans not only speak complex language but can also convey emotions through varying levels of their vocalization. Primates, on the other hand, use sound differently. Their sounds comprise auditory signals that include mating calls, distress signals, alarm calls, etc. Their vocalization consists of chattering and shrieking; the intensity of these sounds can have various meanings. Their vocalizations

are categorized as calls, and human vocalization is considered language (Stafford, 2013).

Underlying Cognitive Abilities

Just like other animals, all primates need to communicate as it gives them a sense of community and keeps them safe as well. However, there is a long debate that language is inherently a human trait and other species are and will remain incapable of developing the capability to communicate. On the other hand, the opposing argument is that humans were also once incapable of speech, but they evolved and developed it eventually. So, it is not inconceivable to think that, over time, other primates may develop the ability to use language. This debate is a long one and can neither be proven nor dismissed.

Human beings started with calls just like any other primate, but over time, their emotions, intelligence and needs became incredibly complex, to the point that they could no longer communicate through calls. Thus, they started to develop more complex sounds that eventually turned into language. The oldest known language is Sanskrit. Humans use language to describe complicated ideas that have helped in the advancement of our race, putting us on top of the food chain. It is thought that language is a genetic by-product of human evolution, and it will be an evolutionary miracle if any other species can develop this ability.

The primates like chimpanzees, gorillas, monkeys, etc., produce calls that they use to communicate with their community. They rely on these calls while looking for food, avoiding predators, marking their territory and mating. In total, twenty-five different vocal patterns that comprise complex acoustic features have been identified. However, these vocal patterns were not combined to create a different vocal pattern. Each vocal pattern identified is used for a single purpose and can be repeated numerous times. There has been no evidence that would indicate that these vocal patterns were ever used in combination. If primates ever develop complex routines, then perhaps they will develop complex communication systems. Some lab experiments have indicated that apes are capable of learning complex symbols and signals. However, there is no evidence that these apes ever used these signals or symbols while communicating.

Humans tend to communicate frequently with each other, and this is also why they developed languages as a form of communication. Other primates were observed to see if they also communicated with each other frequently, but it was discovered that they only communicated when the need arose. Maybe this is the reason that other primates have a limited set of calls, as they do not need to communicate more than necessary. This means that unless their lives and routines become complex, they will not be developing their vocal communication. Human beings, at some point in their evolution, found their communication lacking and started to make it complex, so if the same does not happen for other primates, then maybe they will never be able to speak using language.

References

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