Hypoglossal Canal In Humans and Sasquatch

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Abstract

Bobbie Short (deceased), creator and owner of the superb website Bigfoot Encounters, asked that I examine the science associated with the hypoglossal canal in humans and potentially sasquatches. Here I present an application of science to the hypoglossal canal as it potentially exists in sasquatches. This paper thus discusses a significant but little known subject.

Analysis and Discussion

From the Cleveland Clinic Institutes, we read the following:

> The paired hypoglossal nerve enables tongue movement. It controls the hypoglossus, intrinsic, genioglossus and styloglossus muscles. These muscles help you speak, swallow and move substances around in your mouth. The hypoglossal nerve is one of 12 cranial nerves. It's also known as the 12th cranial nerve. This nerve starts at the base of your brain and travels down your neck and branches out, ending at the base and underside of your tongue.

Restating, the hypoglossal canal contains the 12th motor nerve which supplies the tongue muscles. It originates in the brain's medulla. More specifically, the hypoglossal nerves control the muscles of the tongue which modify the utterances produced by the vocal cords.

The muscles affected by the hypoglossal nerves include the genioglossus muscles which push the tongue forward**;** the intrinsic muscles which change the tongue's shape to include curving and narrowing**;** the hyoglossus muscles which pull the tongue back and flatten it**;** and the styloglossus muscles which move the tongue up and down.

My first research into this matter considered a hypothesis by Richard Kay of Duke University Medical Center. He postulated that the size of the hypoglossal canal in modern humans and Neanderthals was larger than that in non-human primates. Further, because the hypoglossal

canal carries the nerves which supply the tongue muscles, the size of the canal could be considered an indicator of language ability.

A later study entitled Hypoglossal Canal Size and Hominid Speech by David DeGusta,*W. Henry Gilbert, and Scott P. Turner tested Kay's hypothesis, proving it to be untrue. A more recent study entitled Hypoglossal Canal Size in Living Hominoids and the Evolution of Human

Speech by William L Jungers [1], Amy A Pokempner, and Matt Cartmill found that the size of the hypoglossal canal between human and non-human primates was not an indicator of language ability. Of course, the latter study did not take into consideration the primates known as sasquatches. This second study did however find that the bundles of nerves enclosed by the canal could vary between members of the same species even though the canal size may be the same. This was in itself a significant discovery.

In view of the more recent study, and because we are considering primates the size of an adult sasquatch, it is reasonable to anticipate that their hypoglossal canal could be larger than in any other known primates including modern humans. Given the significantly larger physical body of sasquatches, it is valid to hypothesize that they likely possess a larger hypoglossal canal.

As already mentioned, the study by DeGusta, Gilbert, and Turner notes that the hypoglossal canals of some human study cadavers contained more nerves than others. In view of this finding, it is also logical to anticipate that the more nerves and **axons** carried by the hypoglossal canal, the more innervated the tongue will be. It follows that the more innervated the tongue, the more the tongue is able to influence the modulation of sounds produced by the vocal cords. (bold by author for emphasis)

To help us understand the term axons, the following quote is from Understanding The Structure And Function Of An Axon by Michele Pugle, August 17 2023.

> Axons are thin fibers that enable communications between neurons (nerve cells). The function of axons is to transmit information in the form of electrical impulses between neurons.

We also know that some people have great singing voices and others do not. It is reasonable to ask whether people with great singing voices possess more nerves and axons within the hypoglossal canal? While all sounds begin with the vocal cords located in the larynx (also known as the voice box), the shape of the mouth, the position of the teeth, and the varying positions of the tongue work together to change the vocal cord utterances, thus determining what we actually hear.

Significantly, there is yet another reason why sasquatch vocalizations are so special. Studies by Jorge C. Lucero and Laura L. Koenig, 2005, have shown that the vocal cords of the human male are larger than those of the female. Further noted was that the larger vocal cords of the male are more easily oscillated (vibrated) than those of the human female. Thus, if both the male and female sasquatch possesses larger vocal cords than even the human male, we can further anticipate that it is easier for them to produce vibrations of the vocal cords than it is for modern humans.

Anticipating a significantly greater lung capacity in both genders of sasquatch, we can now begin to understand their greater capacity for sound production. This includes not only their long distance screams and hollers, but also the reported and recorded language sounds which science has always claimed were uniquely limited to human primates (modern humans).

Two factors need to be mentioned which relate to the identified use of language by humans as well as sasquatches (previously documented). The first is bipedality. Bipedal locomotion is essential for articulated speech; it frees the lungs for unrestricted and controlled breathing,

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especially while walking and running. In nonhuman apes, breathing is limited to intake and outflow in synchrony with their quadrupedal locomotion.

A second factor is possession of a distinctly human-like chin which differs from simian species which basically have no chin. Apes have what is called a simian shelf in the lower mandible which thickens the mandible. This thickening adds strength to the mandible but also limits muscles to the tongue thereby reducing tongue movement. The human and sasquatch chins are positioned forward, thus permitting an increase in tongue muscles and the tongue's movements which are controlled by the nerves and axons within the hypoglossal canal. The saquatch larynx and vocal cords are also anticipated to be larger

Conclusion

We are now able to understand why and how a potentially larger hypoglossal canal in sasquatches likely contains more nerves and axons than anticipated in any other primates. If our hypotheses prove true (evidence of their recorded vocalizations strongly suggest we are correct) then a more innervated tongue and larger vocal cords potentially explains the amazing vocal repertoire sasquatches are known to have. These include their documented use of screams and hollers, articulated speech, their recorded greater rapidity of interpersonal communications, and other vocalizations they are known to make. .

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