

Language skills in early humans

It is always encouraging when predictions of the biblical creation model are confirmed by evolutionist research.

Regarding the alleged evolutionary ancestry of modern *Homo sapiens*, biblical creationists would generally have insisted that *Australopithecus* and '*Homo habilis*' were not ancestral—not human. Thus they did not have any need of human speech capabilities.

But they would see the so-called 'early humans', including *Homo erectus*, 'archaic' *Homo sapiens*, and the Neandertals as fully human, and thus having fully human speech characteristics.

Richard Kay from Duke University in Durham, North Carolina recently published the results of some fascinating work on the diameter of the hypoglossal nerve canal in various skulls.² He states that this is something which has hitherto been neglected in 'the search for anatomical evidence for the evolution of human vocal abilities'.

The hypoglossal nerve carries the fibres for the extremely complex motions of the human tongue used in speech. Kay therefore suspected that, since the number of nerve fibres needed to supply a tongue not used for speech would be substantially less, this would be reflected in the differences between the area in cross section of the hypoglossal canals in humans and apes.

He found that the mean area of this nerve canal in modern humans was:

- 1.85 times that of the common chimp;
- 2.44 times that of the pygmy chimp or bonobo;
- 1.33 times that of the gorilla.

Since gorillas have a much larger mouth cavity, hence a larger tongue, and vice versa for the smaller apes, it appeared to be appropriate to compensate for this by adjusting for the relative size of the oral cavity. When this was done, the area of the hypoglossal canal relative to oral cavity size was, in modern humans, about 1.8

times that of apes, on average.

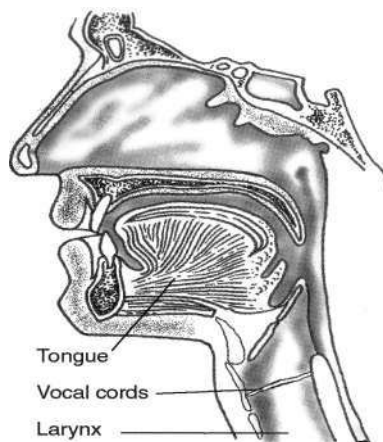
Kay then tested a number of fossil skulls. Three were from the Sterkfontein deposits, which were gracile australopithecines — with one of them regarded as *Homo habilis*. Two were Neandertals, including the classic type specimen Chappelle-aux-Saints, one was 'early *Homo sapiens*', and the other two were 'middle Pleistocene *Homo*', Kabwe (Rhodesian man) and Swanscombe. The latter two are probably best regarded as 'archaic *Homo sapiens*', with some *erectus* features.

The conclusion? In the case of the australopithecine/habiline samples, the absolute canal diameter 'falls below the sampled human range and does not differ significantly from those of either pygmy chimpanzees or common chimpanzees.'

In the case of the others, which creationists would all regard as fully human, the sizes of the canals *all* fell within the size range of modern humans, and *all* were 'significantly larger' than in the common chimp.

The same results were apparent when the measurements were compared using not absolute area, but area relative to the size of the oral cavity, as mentioned earlier.

The results are also of interest in relation to a very popular long-age view among evangelicals, which tries to accept both long-age dating and a relatively recent creation of Adam.³



Cross section of human head and throat.

When confronted with fossil evidence of early humans with six-figure 'dates' assigned by evolutionists, they are therefore forced to assign them to some pre-Adamite quasi-human category. Evidence of art, music, religion, compassion and many other human qualities in e.g. the Neandertals is brushed over, as these are supposed to be beings without any human spirit, not made in God's image. Thus, evidence suggesting fully human speech capabilities in Neandertals and other early humans is significant to assessing the credibility of this particular 'compromise' view of Genesis.

It will be most interesting to see this work extended to include the canal sizes of some more classically *Homo erectus* specimens. If the relative area of the hypoglossal canal in all skulls which are unquestionably accepted as *erectus* by creationists in the field also have the same human dimensions, it might suggest an interesting test on skull KNMR-1470.

Creationists (and evolutionists) have differed concerning this skull as to whether it is really an australopithecine or not. Much of the controversy may stem from doubts about the accuracy of reconstruction of this fragmentary specimen.

However, if its hypoglossal canal size were to fall squarely within the range shared by modern apes and australopithecines, it should help to settle this controversy.

References

1. *Homo habilis*, allegedly 'between' *Australopithecus* and *Homo erectus*, is a problem taxon — many evolutionists are themselves saying that it is a 'phantom taxon', one with no objective existence. Specimens assigned to it in the past are really either australopithecines or *H erectus*.
2. Kay, R.F., Cartmill, M., Balow, M., 1998. The hypoglossal canal and the origin of human vocal behaviour. *Proceedings of the National Academy of Sciences*, 95(9):5417-5419, April 28, 1998.
3. As typified mostly in the teachings of Hugh Ross, of *Reasons to Believe*.

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