

## Setting the Record Straight on Vestigial Organs

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Vestigial organs are often used as evidence to argue in favor of Darwinian evolution. These organs are allegedly left over from our ancestors but are no longer useful or needed. Evolution proponents typically contend that such structures are best explained as remnants of evolutionary history. Supposedly, the best explanation for these non-functional traits is that they once served a purpose in our ancestor but now no longer do.

In a recent article for *New Scientist*, Laura Spinney discusses five vestigial organs in the human body and refers to them as “useless relics of our evolutionary past.”<sup>1</sup> Five organs that humans no longer need are provided to counter the claims of creationists who supposedly deny that vestigial organs exist at all.

Before addressing the specific organs that are covered in her article, it is necessary to clarify how creationists should view vestigial organs. The classic definition of a vestigial organ is an organ or structure in an organism that is not functional, but is derived from an ancestor that had a use for that organ or structure. Creationists understand that there has been degeneration and mutation since the Fall. We also expect that there would be a significant loss of information for many genes. The loss of genes for organs that do not significantly impact survival in a negative way could be quite prevalent. Thus, for the creationist, there should be no problem with an organ or structure in man that has lost some functionality. However, another possibility is that we have just not determined or understood the function properly yet.

Creationists that I know do not deny that there are organs in man that have lost some of their functionality. However, they do reject the notion that those organs were inherited from a common ancestor with apes or other animals. Evolutionists typically point to these presumed non-functioning organs and insist that they are evidence that we evolved from a common ancestor with more primitive organisms. Just because humans have organs with reduced functionality does not really count as evidence of common ancestry. This is perhaps because God created Adam and Eve with those organs, but they have lost some functionality in their descendants.

Before really discussing the examples of non-functional organs, Spinney sets up a straw man argument about what creationists believe about vestigial organs and then shoots it down with her list. The list of five organs that humans don't need is then meant as a refutation of creationists as well. Here are the organs on the list:

### Vomeronasal Organ

The vomeronasal organ (VNO) is a pair of pit-like structures in the upper part of the inside of the nose. In many mammals, this is a sensory organ that is used to detect pheromones (chemical signals that trigger behavioral responses such as reproductive responses). While the chemosensory role of this organ is fairly well established in mammals such as mice, the exact function for humans has been more elusive. While it is expected to serve a sensory function, it appears to lack neurons that connect it to the brain. Still, during fetal development, there is a neuroepithelium that is present.<sup>2</sup> Witt and colleagues performed a careful study of the organ and observed an organized and highly differentiated structure.<sup>3</sup> A new study has also revealed that human vomeronasal receptors are operational, although they appear to operate with different intracellular messengers than those in mice.<sup>4</sup> Therefore, the possibility remains that there is a unique function for the human vomeronasal cavity which is distinct from other mammals.

While it is also possible that the traditional function of the vomeronasal organ has been lost in humans, the evidence is equivocal because there can be a yet unknown function. Evolutionists are usually quick to suggest that creation is a “science stopper.” In this case, evolution becomes the science stopper. If one assumes that the structure is a vestigial organ, then one generally stops looking for a function. Perhaps what is needed is simply more creativity.

Even if this organ turned out to be functionless, this would only demonstrate that the function was lost in the human lineage. It would not prove common ancestry between man and animals.

### Goosebumps

The second vestigial organ on the *New Scientist* list of vestigial organs is goosebumps. In many animals, this reflex that causes hair to stand erect is used to generate warmth. It can also make the animal appear larger as happens when a cat's fur stands on end when it is frightened. Goosebumps are a natural response to cold or high emotions. There is nothing really wrong or dysfunctional about the small erector pili muscles that cause the bulge of skin as the hair stands erect.

The classification of goosebumps as a vestigial organ stems from a revised definition of vestigial. According to the *New Scientist* article, it is not necessary to be completely functionless. If an organ or response is reduced compared to its ancestral version or takes a slightly different form, it can be considered vestigial. Under the revised definition, because human hair is "puny" and the thermoregulatory impact reduced, goosebumps can be considered vestigial.

Once again, this example must assume that humans share a common ancestor with animals in order for goosebumps to be considered vestigial. In this case, there is no evidence that the goosebump response has been reduced from that of our human ancestors.

### Darwin's Point

The third organ on the list requires tortured logic to be considered vestigial. Darwin's point is "thought to be a vestige of a joint that allowed the top part of the ancestral ear to swivel or flop down over the opening of the ear."<sup>5</sup> Actually, it is a harmless congenital defect that results from a malformation as the ear folds during early development. Darwin's point is found in about 10% of humans.

In the *New Scientist* article, the rationale given for its vestigial status is the observation that it is inherited as an autosomal dominant trait. Autosomal dominant traits will be expressed if an individual inherits the gene from even one parent. Since Darwin's point is a dominant trait this is supposed to imply that it was useful. Additionally, it shows incomplete penetration which means that not all individuals that have the gene will express the trait. The incomplete penetration is supposed to mean that it has since lost its functional role.

Here, the evidence is being selectively lined up to imply that the structure is a vestigial organ. The logic does not follow. Autosomal dominance does not itself convey usefulness to the traits involved. There are plenty of autosomal dominant traits that are not useful. These would include Huntington's disease and polydactyly (extra fingers or toes). Both these and other traits can be inherited and expressed with a single copy of the gene. There are also many traits that can be dominant with no benefit such as brown eyes or widow's peak.

Rather than an evolutionary relic, the data is more consistent with Darwin's point resulting from a loss of information within the human lineage. There is no evidence to link it to common ancestors with animals, and thus, no real evidence that this is a relic of evolution.

### The Tailbone

The tailbone or coccyx has often been presumed to be vestigial and a leftover remnant to our alleged mammal and reptilian ancestors who also had tails. Evidence that is cited includes the variable number of bony segments humans can have (usually 4 but can be 3 or 5) as well as "babies born with tails." But these so called tails are not really tails at all and instead are a type of fatty tumor. There are no bones or muscles in them at all, and thus, it cannot truly be considered a vestigial organ.<sup>6</sup>

Spinney acknowledges that the coccyx now has a "modified function, notably as an anchor point for the muscles that hold the anus in place." In fact, the coccyx is the anchor point for the muscles that form the entire pelvic diaphragm. Therefore, while the coccyx has a clear function in humans today, the only reason to claim that the function has been modified is because of evolutionary assumptions. If you believe that humans descended from animals that possessed tails, then there must have been a modification of the tailbone. In contrast, if our ancestor Adam was created by God then there was no modification, and our tailbone is just as it always was. Without the evolutionary presupposition, the evidence that the tailbone is vestigial evaporates.

### Wisdom Teeth

The last vestigial organ on the list of "Five Things that Humans Don't Need" are the wisdom teeth. This is a third set of molars that erupt last. Because of crowding, the wisdom teeth often become impacted and must be removed to avoid complications. Nonetheless there are many people whose wisdom teeth erupt without incident. For those who must have the wisdom teeth pulled, there is little loss. The *New Scientist* article notes that ~35% of people do not develop wisdom teeth. If this is correct, it is an example of a loss of information, the opposite of what molecules-to-man evolution requires. It does not provide evidence that wisdom teeth are not beneficial.

Much has been written about wisdom teeth from a creation perspective. Wisdom teeth are not vestigial and

are functional in those individuals that have them and the jaw to accommodate them. They provide another example of deterioration and loss of information. One of the reasons that they are problematic is the decreased jaw size of many people today which may be related to diet. Interestingly, fossils of Neanderthal and other human fossils demonstrate that in the past, there were few problems with wisdom teeth compared to today.

### Conclusion

At best, evidence of vestigial organs in man demonstrates deterioration and loss of information since the Fall. They are evolutionary relics of common ancestors with animals only if you begin with evolutionary presuppositions.

### Footnotes

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