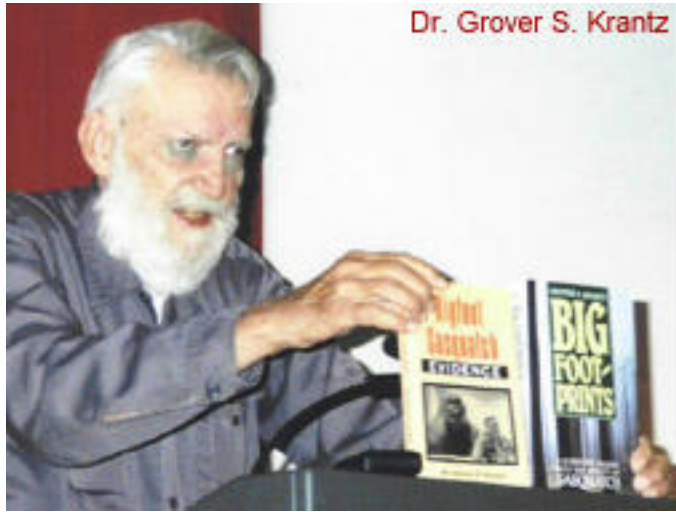


# Krantz: The Origin of the Sasquatch



*In this article, the late Dr. Grover Krantz, a physical anthropologist, suggests that there was a greater difference between the Neanderthals and modern man than is generally assumed today. Furthermore, he suggested that the Neanderthals*

*were less than human modern man. Krantz also discusses various theories as to the possible (fossil) ancestors of sasquatches and other unknown hominids...*

The lack of physical remains might not be quite as certain as often indicated above. If the Sasquatch is real it must have an evolutionary history just as long as any other living species. It is at least possible, in fact probable, that fossil remains of its ancestors are already known to science. Three major theories have been advanced in recent years as to which fossil form is the one: Neanderthal man, a robust australopithecine, and *Gigantopithecus blacki*.

Scientific opinion on the human status of the Neanderthals has swung like a pendulum since the famous discovery in 1856. At first the most common view was that the Neander Valley skull was from a pathological, but modern, man. The even earlier discovery of the Gibraltar skull in 1848 passed almost unnoticed at the time. With the publication in 1912 of Boule's description of the skeleton from La Chapelle-aux-Saints the pendulum moved to the opposite extreme, and Neanderthals were thought of as beasts. Then scientific thought swung slowly back to the original position, and by 1960 the Neanderthals had gained fully human status again. This ~has been formalized by distinguishing them only at the sub-species level as *Homo sapiens neanderthalensis*, while living humanity is *Homo sapiens sapiens*.

Since about 1970 the pendulum has begun to swing back yet again as new studies have raised serious questions about the Neanderthal's ability to use fully human speech.

It is interesting to watch these slow swings of scientific opinion, as they often bear little relationship to the discovered facts. Rather they reflect contemporary thought, in each time period, of what an old human-like fossil ought to be like. The factual knowledge on which each extreme view is based has grown steadily and with no dramatic shifts. At present I detect a collective sense of insecurity in much of the world, which gains comfort from the thought that humankind is very old. If humanity is to be more than 40,000 years old, then Neanderthals must be admitted into our species with full credentials. The newest view, that Neanderthals were limited in their ability to speak, must contend with more than just some scientific opinion, but with emotional opposition as well.

Some assessment of the Neanderthal's humanity must be made as it may have a direct bearing on our problem of unknown hominoids. As a beginning we must understand what it means to be human.

People are not just culture-bearing animals, but animals which are completely dependent on their culture for survival. More than that, human cultures do things that are not just the total of the actions of all the people involved. To show that chimpanzees can teach other chimpanzees how to make and use tools does not make them human. Recent demonstrations that chimpanzees can manipulate some symbolic concepts, with a limited vocabulary and making an incredible number of mistakes, does not mean they use language. If these apes were somehow stripped of all learned behavior it would be a great shock to them, and some would perish, but most would be able to carry on and in a generation there would be nothing to show that this had happened.

The learned, patterned behavior of humans is entirely different. If a group of people were similarly deprived of all knowledge of their learned behavior it is

unlikely that any would survive. But if some extraordinary circumstances permitted a few to continue, they would have to begin again from a rudimentary subsistence level to build a society. There would be no continuity between the new behavior and what went on before our imaginary catastrophe. Aside from the more obvious examples, one might think of what it would be like if we forgot that plants grow from seeds, how to break a stone to give it a sharp edge, or even that infants can grow into people!

The difference between the chimpanzee and man is their degree of culture-carrying capacity; we individually carry much more than they do. But it is much more than that because man has passed a critical threshold, which has permitted his culture to grow beyond the ability of particular individuals to have a major effect on it. At some time in the past, man's ancestors moved from being highly intelligent tool-using animals into social beings who communicated and co-operated to accomplish tasks that a collection of individuals could never have done before. At this point culture became cumulative and developed according to laws of its own.

One of the most important problems in paleoanthropology is to identify in the fossil record this final critical step in the evolution of man's culture-carrying capacity. Something very fundamental happened between the time of the Neanderthals and the rise of modern man. There is no confusion between the skulls of the two types. The disappearance of the Neanderthals, whether by transition or by replacement, shows that some major advance was involved in this change. I must agree with the late Boris Porshnev that no matter how intelligent and resourceful Neanderthals were as individuals, they were still somewhat less than modern human. If one grants this point, then it makes less difference than might be supposed just which fossil form, or forms, might be surviving today. All suggested candidates for this position are bipedal primates, who differ from each other merely in their degree of intelligence and tool-making skills; none of them is fully human in the modern sense.

*Gigantopithecus blacki* is the largest primate that ever lived, being considerably larger than the gorilla, and about the right size to fit the usual description of our North American Sasquatch. This size estimate is based on the sizes of the teeth and lower jaws, which are all we have of this fossil form. It has been questioned by some authorities whether the tooth to body-size ratio is reliable because it does not hold well for individuals within a species. But between species of broadly similar adaptations it is a good guide to body size. Chimpanzee jaws and teeth are smaller, on the average, than orangutan jaws and teeth; these in turn are smaller than gorilla jaws and teeth; and the *Gigantopithecus* chewing apparatus is the largest of all.

Both Neanderthals and australopithecines are demonstrably erect bipeds, while *Gigantopithecus*, for which we have no postcranial bones, at first thought might have had any mode of locomotion found among primates. Some of these can confidently be eliminated simply because of size, such as vertical clinging and leaping, arboreal quadrupedalism, and brachiation or arm swinging. This leaves only terrestrial bipedalism or quadrupedalism, whether on knuckles or on fingers, if bipedalism actually was the first trait that separated hominids from pongids, then the semi human dentition of *Gigantopithecus* indicates that they are on the hominid side of this locomotor split. The extraordinarily great breadth of the back of the jaws also suggests that the head was carried vertically so the neck was largely between the two halves of the lower jaw rather than well behind it. These observations do not prove, but they do strongly argue for erect, bipedal locomotion.

The suggestion of an especially close relationship between *Gigantopithecus* and *Australopithecus robustus* is improbable, as it is based only on the sixth cusp in the lower first molars of both. This cusp is a function of absolute size, not of close relationship, and is found on the first molars of some often-misidentified jaws of *Australopithecus africanus* of large size. Other dental traits, such as relatively large canine and slightly ape-like lower first premolar design set *Gigantopithecus* somewhat apart from all other hominids.

These fossil giants would also explain a contradiction in reports of Sasquatch teeth which sometimes refer to an even set of human-like teeth, and which sometimes mention projecting fangs. *Gigantopithecus* canines fit both descriptions. They are large teeth but are variably ground down by use. In some cases they are worn flat and even with adjacent teeth, and sometimes they are worn at an angle leaving part of the tooth projecting a considerable distance. In all, the physical description of *Gigantopithecus* fits the Sasquatch best if one assumes it had bipedal locomotion, and that is a big "if."

None of these three possible Sasquatch candidates is known from fossils anywhere near to~ western North America, but Neanderthals are located the farthest north and certainly had some good winter-survival adaptations. Extending their range into North America would involve fewer problems than relocating either of the two tropical species. Also, Neanderthals occur in and around the areas of recent reports of the presumed Old World equivalents of our Sasquatch, from the Caucasus to the Himalayas. Finally, in terms of the reconstructed foot anatomy, the Neanderthals show a partial development of the same kind of modifications that are indicated for the Sasquatch foot.

The probabilities are reversed again when we consider the apparent degree of involvement of each of these fossil forms in the making and using of tools. The archeological record shows that Neanderthals had a sophisticated stone-tool inventory and the regular use of fire. Even if they didn't have a fully developed articulate language they certainly were very dependent on the lithic technology aspect of their learned behavior. If Neanderthals are the ancestors of our Sasquatch, then they must have totally abandoned this high level of material technology. I find it difficult to imagine any circumstance where this would have been advantageous.

It is also probable that Neanderthals had largely lost their body hair. All living primates, except man, have a complete covering of hair, though in the larger apes the number of hairs is similar to men but the hairs are just much longer.

Probably the most accepted theory of man's relatively hairless condition relates to the role it plays in thermoregulation. Man has the most effective cooling system of any animal. This cooling is mainly accomplished by evaporation of sweat from the skin surface, which in turn cools the large amount of blood that is concentrated at such times in the underlying layers of skin. Man has the largest number and greater diversity of kinds of sweat glands. In order for this cooling to work, the evaporation must occur directly on the surface of the skin. A hairy covering serves to enclose the body with a layer of trapped air, which would remain saturated with moisture. Any evaporation of sweat would only occur when it moves to the surface of this hairy covering, at which distance its evaporation would do little to cool the skin. For the sweating-cooling system to work well the hair need only be reduced enough for free circulation of air next to the skin.

Now the obvious question is when this adaptation first took place. Could it have been as recently as since Neanderthal times? The answer is no, most likely it occurred with the first development of *Homo erectus*, now dated to about a million-and-a-half years ago. The basis for this is the presumed reason for the evolution of the cooling mechanism in the first place. This was the development of a method of catching human-sized animals for food by a method I have called "persistence hunting" (Krantz 1968). The procedure is simply to follow the quarry, walking and making no attempt at concealment, for as long as is necessary to exhaust it so much that it can be approached and killed by hand. This method of hunting has recently been used by open-country hunters in North America, South Africa, and Australia, and it has been described in detail. The pursuit often takes an entire day, sometimes two, before the victim is too worn out to resist or to attempt any further flight. The hunter is exhausted, to be sure, but his quarry is in far worse condition because it hasn't the cooling mechanism to keep up this level of activity in the heat of the day for so long.

One other anatomical requirement for persistent hunting is a large brain, and this can be seen in the fossil record. Bernard Rensch, the neuropsychologist,

and his associates have established that mental time span, or memory and anticipation, is directly dependent on the size of the brain, regardless of all other considerations. Since there is no other obvious reason why our ancestors' brains should have increased from the 500 CC of the australopithecines to the 1,000 CC of *Homo erectus*, it has been suggested that the evolution of this hunting technique is a likely explanation. Simply to say that increased intelligence was the reason is insufficient because this should equally have applied to other species whose brains did not increase. As a check on this theory we have the archeological evidence of when game-animal bones and efficient butchering tools appear. These coincide with the first appearance of *Homo erectus*. The lack of any obvious projectile weapons, and the fact that no co-operation need be involved, makes it most likely that this was the major hunting method used million-and-a-half years ago. It follows that our nearly hairless condition is that old.

Hominid movements into the north temperate region would not necessarily involve losing this cooling mechanism and reacquiring a hairy covering. Persistence hunting would continue to be a major activity for much of the year, while artificial coverings such as the furry skins of other animals would have been employed in colder times. The early European archeological record shows great numbers of flint tools that appear to be for skinning and hide preparation.

That Neanderthals had hairy skins can almost certainly be ruled out. That they may have acquired this hairy covering in the last 40,000 years cannot as easily be ruled out, but is unlikely. Such a development would have to be postulated if Neanderthals are the ancestors of the modern wild hominoids.

The contrast between the lithic technology and fire use of Neanderthals and the lack of these by our wild creatures would imply the loss of these abilities, apparently to the great detriment of survival adaptation. If such a loss did occur it would at least be consistent with the need for requiring a hairy body covering.

There are other problems with the descriptions of recent wild men who have Neanderthal resemblances. Sloping foreheads, brow ridges, and projecting mouths are all found occasionally in modern man. What is missing is some clear measure of the degree to which these traits are expressed in the supposed wild men. The flat headedness and projecting rear of the skull are Neanderthal traits that are not mentioned, though they would perhaps be less obvious to the untrained observer.

One objection to the Neanderthal theory that worries my Soviet colleagues is the apparent sagittal crest on our hairy hominoids. This ridge along the top of the skull, running from front to back, is quite absent from all Neanderthal skulls. This may be no problem when one considers the results of increased body size, especially an increase to the size of the North American Sasquatch. As the body size increases, the jaw muscles increase proportionally, but the brain and its enclosing bony case would increase by only a small amount. These muscles, which attach about half way up the side of a human or Neanderthal brain case must extend their area to the top of the skull, and even farther, and so the crest is formed. This increase is both to provide more area to attach these muscles and to increase the distance from origin to insertion so the mouth can open wide and close with power. A modestly increased brain case would not provide sufficient area or distance for these muscles without the build up of this sagittal crest. In terms of this trait, at least, there is no objection to a Neanderthal ancestry for an extremely large hominoid.

Neither material cultural developments nor the presumed lack of body hair apply to *Australopithecus (Paranthropus) robustus*. The simply lithic technology of those times was more likely produced by *A. africanus* (or by a higher hominid according to some), and there is no clear evidence of the big-game remains that would imply persistence hunting. Of course, these observations are equally applicable to *Gigantopithecus*. In neither of these forms was there any more development of human-like traits than is evident in the Sasquatch.



So we still have at least these three potential fossil representatives, and an absolute decision at this time is impossible. Osteological or dental remains alone will settle this, thus my concern for collecting a specimen at all costs. In fact a lower first premolar might be enough for this identification. If that tooth is bicuspid like a human's, but also had a pronounced slope to its outer, forward surface in an ape-like manner, then our creature is *Gigantopithecus*. If the tooth is fully human, then it is one of the other two forms.

There are other possibilities for our Sasquatch ancestor; *Oreopithecus*, *A. africanus*, or *H. erectus*, or perhaps it may prove to be of a type not known from the Pleistocene fossil record. There are some, like the late Ivan Sanderson, who have expressed the opinion that there are several different kinds of unidentified bipedal primates, so there may be a number of fossil forms that are not really extinct. Again, only skeletal evidence can settle this point.

Some enthusiasts have gathered evidence of hairy bipeds from all continents except Antarctica. Outside of limited areas of North America and Eurasia, this evidence is very scanty, though not necessarily incorrect just for this reason. A single such species with virtually world-wide distribution would be very unlikely. Only man, his domestic animals, and his parasites have such a wide distribution.

It is often thought that the more widespread the evidence, the more true it is likely to be. Actually the opposite is the case here, and it only increases the likelihood of human mythology as the more obvious explanation. If there is more than one species, then a wider distribution is more acceptable. But if one "unknown" higher primate is difficult to believe in, three or four would border on the absurd.

Those who take this subject seriously would be well advised to postulate no more than is absolutely necessary.

Reference:

Krantz, Grover S.

1968. "Brain Size and Hunting Ability in Earliest Man." *Current Anthropology* 9 (5):450-451.

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