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Sasquatch and the Intermembral Index Based on the Patterson & Gimlin Film

By John Morley, BSc
(Revised May 11, 2020)

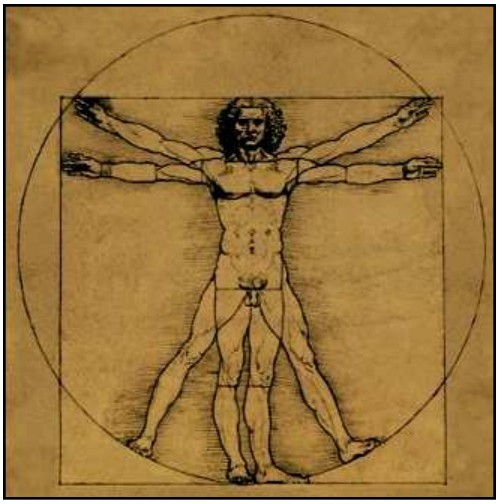
Sasquatch arm/leg length has in the past been the subject of limited analysis and discussion. The ratio of arms to legs in sasquatch and other primates is referred to as the Intermembral Index (IM). Mathematically, it is the total length of the bones of the arm (from shoulder to wrist) divided by the length of the bones of the leg (from hip to ankle) x 100. Or:

$$\frac{\text{Arm Bone Length}}{\text{Leg Bone Length}} \times 100 = \textbf{IM INDEX}$$

To help us understand this calculation and its application to the beings called sasquatches, we must review the IM index for humans, gorillas, and the single sasquatch seen in the Patterson/Gimlin (P/G) film, fondly called Patty.

To begin, it is important to note that an IM index of 100 % or less means that the forelimbs are shorter than the hind limbs (arms shorter than legs). Indices greater than 100% means that the forelimbs are longer than hind limbs (arms longer than legs). Thus the 100% figure represents a boundary between the higher percentages and the lower percentages. In gorillas the IM index, as determined from the measurements of many subjects, varies between 117 to 120 percent. In orangutans the IM index is even greater, being 134 to 138 percent. What then can a comparison with the broadly estimated IM index for the P/G film subject tell us about that sasquatch. Let's find out.

One estimate of the IM index of the P/G film sasquatch is between 80 and 90 percent as determined by Dr. Jeffrey Meldrum of Idaho State University. The average would thus be 85%. This is in comparison to the human IM index of 70 to 72 percent with the average being 71%.



Leonardo da Vinci (1452–1519) created this study of human proportions in about 1490. He studied male models in Milan, Italy, to determine the parameters. We now have standards, which are used in various scientific and artistic applications.

To further understand the source of this "Patty" IM index, it is appropriate that we review Dr. Meldrum's quote in addressing the P/G film subject.

> The intermembral index is a significant measure of a primate's locomotor adaptation. The forelimb-dominated movements of the chimp and gorilla are reflected in their high IM indices of 106 and 117 respectively. Identifying the positions of the joints on the film subject can only be approximate and the limbs are frequently oriented obliquely to the plane of the film, rendering them foreshortened to varying degrees. However, in some frames the limbs are nearly vertical, hence parallel to the film plane, and indicate an IM index somewhere between 80 and 90, intermediate between humans and African apes. In spite of the imprecision of this preliminary estimate, it is well beyond the mean for humans.

It is important to note that Dr. Meldrum acknowledges "...the positions of the joints on the film subject can only be approximate…". This is further confirmed by the broad estimate given for Patty's IM index of "…between 80 and 90 percent…". While we would not accept such a broad measurement for our human IM index, the film clip of the P/G sasquatch was all that was available to work with. Of course it would likely be inaccurate to conclude from Patty's approximate index that such could be representative of all sasquatch in North America, or to use the approximated index of this single sasquatch to enhance the claim that sasquatches are apes.

When we apply mathematics to Dr. Meldrum's interpretation that Patty's IM is "…intermediate between humans and African apes," we find that it is not. According to Merriam Webster, intermediate means "between extremes". Based on the below calculation that index would need to be 94%, not the 85% cited by Dr. Meldrum.

117% (Ape) – 71% (Human) = 46% Difference.
46% /2 = 23%
23% + 71% (human) = 94% INTERMEDIATE

We can see that Patty's estimated IM of 85% is 9 percentage points below the 94% required to be "…intermediate between humans and African apes."

Jeff Glickman's analysis of the P/G film likely provides the best measurements of Patty's arm and leg lengths. Jeff is a registered forensic examiner. He determined in a very detailed analysis, that the length of Patty's arms was 43" and the length of her legs was 40". However, his measurements included the length of the hands and the height of the feet (i.e., from ankle down), so can't be used for an intermembral index. Nevertheless, it is seen that arms with hands are longer than legs with feet. This may very well explain how a sasquatch can go down on all fours and run with the speed that has been observed and reported in that form of locomotion.

For some this is likely startling data. My own research reveals that sasquatches possess numerous anatomical characteristics which are homologous with extant human primates. The length of its arms with hands and legs with feet, however, essentially fall outside the human range.

Arms with hands of 43 inches occur in only one out of every 52.5 million people, and legs with feet of 40 inches occur in only one of every 1,000 people. All of this is according to Jeff Glickman ("Toward a Resolution of the Bigfoot Phenomenon," NASI, 1998).

Using an intermembal index to estimate closeness to great apes or humans may be somewhat misleading when you have the type of data provided by Glickman.

It is not unusual for sasquatch research to lead to more questions which require more evidence and the further application of innovative scientific analysis. In truth, basing everything on one (1) sasquatch is hardly scientific. Also, keep in mind the sasquatch we have measured is a female, so is likely smaller than a male. We would need many individual sasquatch measurements for a fully credible index of any sort. Nevertheless, I have shown that based on Meldrum's estimate of 80–90 for Patty's IM, that such was not intermediate between humans and African apes.

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About John Morley

John Morley, seen here, has contributed several scientific articles to Sasquatch Canada and this publication. He has kindly provided the following background material on himself for your information.

I grew up walking in the woods of NE Texas, where I developed a love for wildlife and the environment. I graduated from Arlington State College, now the University of Texas at Arlington, with a Bachelor of Science degree in biology; minor in geology. Later I completed the course requirements for a Master of Arts degree in Communications and Human Relations. I retired from the USAF in 1983 as a Lt. Colonel with 21 years of service, 12 years of which were in an intelligence command, including two exciting years on the Command Inspector General's team where I traveled to numerous countries of the world.

I began my sasquatch research in 2005, and was later appointed a regional director with a Texas based organization. It was my job to investigate sighting reports in some 20 plus counties in NE Texas. I later resigned from that organization and established my own independent research unit under the name of Texas Hominid Research, a primary goal of which is to educate people and protect the species.

My interest focuses on the application of known science to the primates known as sasquatches. In 2008 I began an analysis of the scientific characteristics by which human and nonhuman primates are identified and classified. This included the study of vocalizations made by sasquatches to determine what they could reveal to us about the sasquatch vocal apparatus. Included was the need to determine the type of vocal tract required for sasquatches to possess a morphological articulated language. My research extends to the analysis of the morphology and comparative anatomy of human and nonhuman primates in order to form objective hypotheses and theories as to the true nature of sasquatches. While the scientific world operates on hypotheses and theories, each must have a foundation in some plausible evidence which appears to recur and correlate over time. RECUR and CORRELATE are the operative and necessary words.

More recently I have concentrated on the anatomy of the sasquatch foot and how it supports the locomotion functions of standing, walking, running, and sprinting, all of which have been observed and often documented in footprint photos and casts. The anatomy of primate feet is a defining characteristic by which scientists have for years identified and classified human and nonhuman fossil finds, as well as for the identification of newly discovered living primates. The comparative application of this knowledge to sasquatch foot anatomy has already revealed that the feet of sasquatches are homologous with the feet of human primates, only larger.

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IMPORTANT

John Morley has performed detailed research to support his findings and has presented those findings in a formal and proper manner for publication. Some or many of his conclusions may not agree with what you have thought or been given to believe in past years. You may certainly express your views, but they must be provided in the same formal manner, with full understanding that everything will be published.

Maya Bykova, seen here, was a prominent Russian hominologist in the early years. She died in 1996. Dmitri Bayanov recorded her main experience in his book, *In the Footsteps of the Russian Snowman* (1996). It was a highly remarkable event, which has now been turned into a narrative by Sasquatch Canada (Lynn Smyth) and is provided on YouTube. Here is the link. Please copy and paste.

https://www.youtube.com/watch?v=tuPlOcBDv4c&feature=youtu.be

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Loren Coleman reminded me that the information I provided (B&P No. 105) on the alleged yeti skeletal hand bones is not correct. I do recall reading the additional information (and shaking my head), but it somehow escaped me. As it happened, Dr. Bryan Sykes found that the modern human DNA determined from the bone (or bones) seen here, was the DNA of PETER BYRNE. In other words, when Peter handled the bones back in 1958, he left his DNA on them. The bottom line here is that the bones are still a mystery.

Of course, one would immediately think that the bones would be cleaned and a proper analysis performed. However, as far as I know, that was not the case. If I had to guess, I would say that the bones have again been lost and won't come to light for another 50 years or so. This time we will get Dr. Sykes' DNA and around and around we will go.

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Continuation of illustrations from* Abominable Snowmen: Legend Come to Life *by Ivan Sanderson.

43: Reproduction of the above [No. 42, previous *B&P*] in a later Chinese manuscript. (Prof. Emmanuel Vlec)

Comment: Illustrations No. 42 and 43 are fully explained as follows:

We can see from these images that Sanderson simply took the two hominoid-like figures on the left for his illustrations. Obviously, the Chinese copied and modified the Mongolian/Tibetan image. Nevertheless, in both cases we don't see the figures on the right, which are far more monkey-like and have tails. It appears they are shown to imply the habitat of the hominoid, which is essentially described in the Tibetan text (originally Mongolian, I believe) as follows:

> The man-animal lives in the mountains, his origins are close to that of the bear, his body resembles that of man and he has enormous strength. His meat may be eaten to treat mental diseases and his gall cures jaundice.

Whatever the case, there is a monkey (now endangered) in Asia called the snub-nosed monkey, which looks like a miniature yeti (certainly noticed by journalists). This monkey can grow to about 33 inches tall, with a 38-inch tail. Monkeys of all sorts have been hunted by humans and used for consumption since time immemorial, so obviously a hominoid that looked monkey-like or ape-like (great apes are also used for food) was simply killed, butchered and eaten at least up to the late 1600s.

The snub-nosed monkey

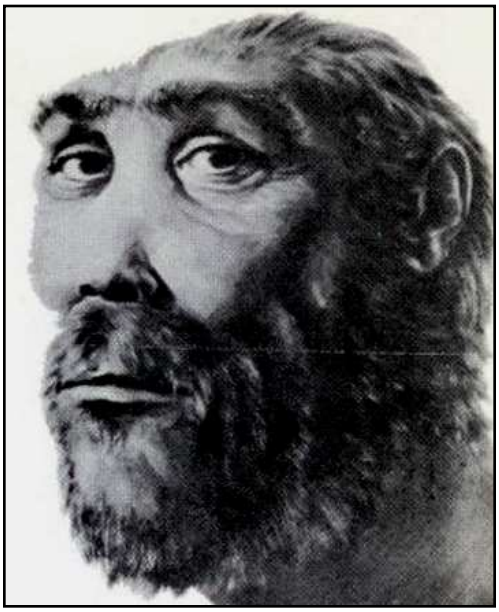
44 Reconstruction of an Australopithecine. (M. Wilson, 1950)

Comment: The current definition of australopithecine is:

> Any of various extinct hominids (genera Australopithecus and Paranthropus) that existed two to four million years ago in southern and eastern Africa and include gracile and robust forms exhibiting bipedal locomotion, near-human dentition, and relatively small brains.

We have come a long way since 1950, so here is a nice portrait (model) of what it is believed this hominoid looked like.

Indeed, the number of probable hominoids is now at twenty (20), fourteen (14) of which I presented in Issue No. 81 of *Bits & Pieces.*

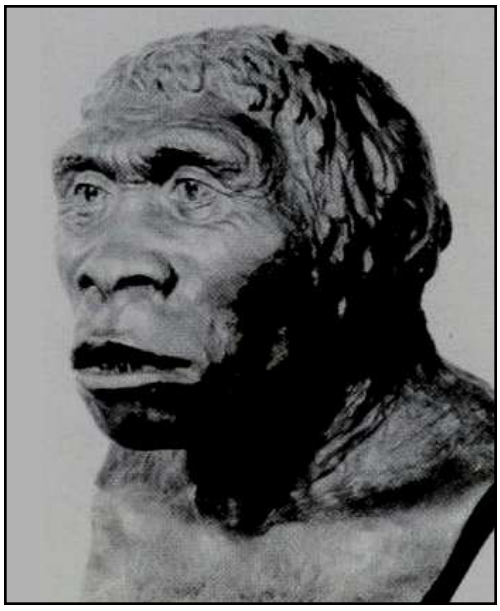


45. Reconstruction of head of Zinjanthropus. (World Wide Photos)

Comment: This individual came to light during the time Sanderson was probably writing his book. The current information is as follows:

> An extinct hominid postulated from bones found in Tanzania in 1959 and originally designated Zinjanthropus boisei by Louis S.B. Leakey. It was later shown to be an australopithecine and renamed Australopithecus boisei.

The whole subject of what we call "relict hominoids" has become very complex and continues to pile on questions, the biggest question being, did some of these known hominoids evolve into those that Ivan Sanderson and many other people believe currently exist (extant relict hominoids)?

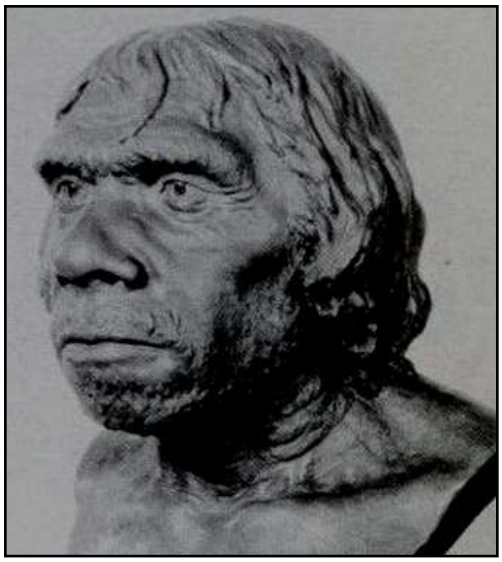


46. Reconstruction of head of Pithecanthropus. (University Museum, University of Pennsylvania)

Comment: Here is the History of Discovery for this individual:

> Eugène Dubois, a Dutch surgeon, found the first Homo erectus individual (Trinil 2) in Indonesia in 1891. In 1894, Dubois named the species Pithecanthropus erectus, or 'erect ape-man.' At that time, Pithecanthropus (later changed to Homo) erectus was the most primitive and smallest-brained of all known early human species; no early human fossils had even been discovered in Africa yet.

This hominoid in particular has been sort of referenced with regard to the sasquatch. Here is the latest artwork.



47. Reconstruction of head of a Neanderthaler. (University Museum, University of Pennsylvania)

Comment: Neanderthals are an extinct species or subspecies of archaic humans who lived in Eurasia until about 40,000 years ago. They were the first consideration as to the Russian snowman and other extant hominoids. In my opinion, they were too close to modern human and much more intelligent than other hominoids. Nevertheless, they are still in the running.

48: Head of an Australoid. (Author)

Comment: The word "australoid" is out-of-date and offensive. Here is an official statement: "Terms associated with outdated notions of racial types, such as those ending in "oid" [specific race-type names], have come to be seen as potentially offensive and related to scientific racism."

TO BE CONTINUED IN THE NEXT B&P