The RELICT HOMINOID INQUIRY 2:1-21 (2013)

Research Article

SURFACE ANATOMY AND SUBCUTANEOUS ADIPOSE TISSUE FEATURES IN THE ANALYSIS OF THE PATTERSON-GIMLIN FILM HOMINID

Bill Munns[1]*, Jeff Meldrum[2]

[1]*Blue Jay, CA 92317*
[2]*Department of Biological Sciences, Idaho State University, 921 S. 8th Ave, Pocatello, ID 83209*

ABSTRACT. The anatomical form of the Patterson-Gimlin film (PGF) hominid has been debated for many years, in in terms of musculoskeletal anatomy (if it is biologically real), or costume material flaws (if it is a hoax). What has been neglected however, are comparisons and contrasts of equivalent surface anatomy and subcutaneous adipose features of real human and great ape bodies. Many presumed anomalies seen in the appearance of the film subject have been uncritically attributed to artifacts of a fabricated costume. It has been asserted that these attributes are inconsistent with real musculoskeletal anatomy. An examination of normal human and great ape surface anatomy reveals that the PGF hominid's anatomical features are, in fact, found in the superficial tissues of the human body that is aged, lacks superficial physical or athletic tone, or has not been altered by either surgical procedures or digital enhancement ("photoshopped"). The presence of equivalent surface anatomy features in the hominid body that are consistent with observed traits of the PGF hominid nullifies previous claims that such traits of necessity indicate a costume. Rather they are consistent with the conclusion that the PGF hominid indeed represents a novel primate species.

KEY WORDS: sasquatch, great apes, surface anatomy, skin folds, cellulite, fur costume effects

INTRODUCTION

The best known images offered as evidence of the existence of sasquatch, a.k.a. Bigfoot, is the 16mm film (PGF) shot by Roger Patterson and Bob Gimlin in 1967 in northern California. The nature of the subject seen walking across a sand bar at the Bluff Creek site has been debated and analyzed for 45 years. The objectives of this analysis address two opposing lines of reasoning. One line of reasoning tries to compare and explain the anatomical appearance of the subject in relation to human and/or great ape musculoskeletal structure, to support the position that the film's subject depicts a real novel biological entity. The second line of reasoning tries to explain the subject's appearance in relation to a fabricated fur suit, to support the argument that the film's hominid subject is merely a human performer wearing a costume, and thus conclude that the film depicts a hoax.

However, in addition to the internal framework provided by the musculoskeletal anatomy, there are variable amounts of adipose tissue distributed beneath the skin of the primate body. Comparisons to features of surface anatomy and variations in appearance of subcutaneous adipose tissue in humans and nonhuman primates, especially the closely related great apes have generally been

*Correspondence to: Bill Munns, email: wmunns@verizon.net

neglected.

Similarities in the patterns of deposition, metabolism and genetics of obesity reflect the common evolutionary ancestry of humans and apes (Comuzzie et al, 2003). They both exhibit the potential for energy storage as subcutaneous adipose tissue and even obesity in the presence of excess calories (Pond and Mattacks, 1987). A study of 53 species of anthropoid primates found that some captive specimens such as orangutans, weighed more than non-captive (wild) ones (Leigh, 1994). Primates also exhibit sexual dimorphism in deposition of adipose tissue, with reproductive demands dictating more subcutaneous adipose deposits in females than males generally (MacFarland, 1987). A longitudinal study of captive baboons revealed that sex differences in skinfold thickness appear early and become more pronounced during development (Coelho, 1985). Hominids exhibit increased deposits of adipose with age and sedentary habits, in characteristics locations on the body (Giron et al., 1981; Markman and Barton, 1987; Ayelar, 1989; Schwartz et al, 1990; Kohrt et al., 1992; Kahn and Wolfram-Gabel, 2004).

Therefore, particular features of the PGF hominid that may not be readily attributed to the framework of musculoskeletal anatomy may either be accounted for through comparison to the appearance of subcutaneous adipose tissue, rather than as implied artifacts of costume materials. The later concept forms the null hypothesis of this study: i.e., that such supposedly anomalous features do not occur naturally as anatomical features of hominid bodies and are thus indication of a hoaxed costume. The alternate hypothesis states that such features do occur naturally in human and ape surface anatomy, and defy the limits of fabricated costumes employing materials available in 1967 and created to industry standards either then or now. Therefore, these features constitute evidence of a real biological entity.

To test these hypotheses, anatomical features in question are described and compared and contrasted with examples of both human and ape surface anatomy and with fabricated costumes created specifically for the purpose of this study, as well as examples employed previously in the industry. A literature for techniques of costume design and fabrication is sparse because the costume industry does not traditionally build costumes for scientific experimentation, but rather customized commercial enterprises. The visual display of such costumes is typically in the form of edited film or video footage with the specific aim of hiding or removing evidence of costume flaws and imperfections. This field does not traditionally publish customized methodologies and competition within the industry discourages publicizing personalized techniques. However, statements addressing the features of costumes by one author (Munns) are based upon 40 years of professional practice in this arena.

FILM IMAGE DATA

The Patterson-Gimlin film consists of 954 individual image frames (*personal observation*). Of those 954 frames, about 40% of them are relatively sharp and do not contain significant motion blur. Of those relatively sharp frames, about 100 may be considered pristine in image sharpness. They depict the filmed hominid in various poses, and varying distances, and varying angles of the body in relation to the camera's true line of sight. This constitutes the sampling of image data forming the basis for study of the anatomy of the PGF hominid. The film resolution is sufficient to study the details of surface anatomy and specific aspects of body masses that are more than one inch in actual size. Features below one inch in size (eyes, lips, fingers, etc.) are below the limits of resolution provided by the film.

There are additionally 12 individual film

frames, which were printed from the camera-original film by a high quality photographic process, generally referred to as the Cibachromes. They represent an excellent quality source of data for anatomical study, but they are known to also have some types of image artifacts which would convey false data. The methodology for identifying these image artifacts and excluding them from analysis is to compare each Cibachrome image with at least two other distinct copies of the film frame in question, and determine if the trait is present in those additional reference copies. If the anatomical trait is not consistently present, the trait can be considered an image artifact and excluded from analysis. If the trait can be found on other image copies made from the camera-original by different laboratories, and thus be demonstrated independent of the Cibachromes, then the trait may be reliably considered part of the camera-original image.

There are five known separate instances when the camera original film was copied. They are:

1. **Patterson Archive Copy (PAC) Group.** Roger Patterson had a lab make full-frame contact prints of his original.
2. **The Green/Dahinden Group.** John Green and Rene Dahinden acquired Canadian rights to Patterson's film and borrowed the camera-original to make their own study/presentation copies by a process using an optical printer -- a device that allows for full-frame, zoomed-in, slow-motion effect, and freeze-frame printing. All of these were done on an Ektachrome master and multiple contact prints were made from this master.
3. **The American National Enterprises (ANE) Group.** Patterson made a business arrangement with a film company, American National Enterprises (ANE), to produce a Bigfoot movie, and he loaned ANE the camera-original so they might make their own copies for editorial purposes in assembling their program. They also used an optical printer so they could do zoom-in copies, freeze-frames, etc. It appears they used a liquid-gate printing process, because these copies, made long after the two earlier groups, have fewer scratches, and the original was reported to be scratched up from repeated projection. The liquid-gate printing process is specifically used to eliminate most scratches on the cell side of movie film (note that the process cannot repair or eliminate scratches on the emulsion side). But most scratches seen on examples of the PAC group copies and the Green/Dahinden group copies appear to be cell side scratches.
4. **The Cibachrome Group.** The 12 images made as Cibachrome prints around 1980 were done by Rene Dahinden and Bruce Bonney from the camera-original.
5. **The Transparency Group.** At some point in time, Patterson had Kodak Labs make some 4x5-inch transparencies from the camera-original. These five excellent quality transparencies are in the possession of Patterson's widow.

Having access to the films themselves, or to high resolution scans from all these copy groups, the authors can compare a given image frame across several copies to insure that a point of analysis in a given image frame is a true photographic record of the actual subject and not a film artifact or an artificial image product of the copy process.

COMPARATIVE MODELS AND MATERIALS

Comparisons were made with both real human and ape anatomy and models in fur costumes

fabricated for experimental purposes, as well as some study examples of fur costumes used in commercial motion pictures and other professional productions.

The comparison of real human anatomy were illustrated by photographs of human models employed for this study, as well as on-line candid photographs of nude human subjects, and medical illustrations of human patients undergoing clinical treatments. It should be noted that in some examples of human female surface anatomy the models' bodies are conventionally painted a grey tone to enhance photographic contrast, and for considerations of modesty (allowing the body to appear as if clothed in a grey dance leotard) while assuring that all anatomical contours and motions would be those of the human body unrestrained by clothing.

Great ape surface anatomy was illustrated with images selected from published and on-line photographs of apes in various settings and postures.

Comparisons were made using costumes fabricated from only those materials available at the time of the filming of the PGF, i.e., 1967. Fabricated fur costumes were worn by human models while executing specific directed motions and activities, or filmed candidly at times they were simply engaging in spontaneous random activity. In some cases, experiments involved costumes mounted on mechanical body forms for specific tests of motion or fold dynamics. The costumes, when worn by human performers, were observed with no internal padding, with partial padding in some areas of the body, and with complete padding over the entire body, to study how padding (or lack of same) impacts the costume shape and capacity to fold during motion.

FEATURES OF SURFACE ANATOMY

The anatomical features described and compared in this study are lines, folds, notches and contours that are not readily identified with or correlated with underlying musculoskeletal anatomy, but rather with the more superficial adipose tissue deposits. As such, these selected features do not have a formal anatomical nomenclature and so they are assigned a descriptive nomenclature defined herein for consistent identification and reference.

1. The Mid-Back Drapery Folds. These folds are generally bilaterally symmetrical, lying inferior to the scapula, extending laterally and anteriorly under the arms, forming a compound curvature. There is a primary radial crease, curving down and lateral from below the scapula, creating a fold, and a secondary curvature of this mass which turns anteriorly. The folds often resemble curtains which are pulled and gathered to one side.

The PGF hominid exhibits these curves on the back as seen in the film's early sequences when the film subject is walking away from the camera (Fig. 1a, above). Various examples of real human anatomy also exhibit such folds of fatty tissue (Fig 1a, below). These are most evident in less athletic individuals or mature individuals exhibiting greater skin laxity and increased deposits of adipose on the back. Examples of drapery folds are also evident in mature gorillas and chimpanzees where the hair is short enough not to obscure them (Fig. 1b).

Fur costumes, however, if generically tailored so the main torso area is cut from a flat piece of non-stretch fur cloth, do not exhibit any such folds. They do fold, but in very distinctive and artificial ways and highly non-symmetrical forms usually based on arm postures (Fig. 1c). The only way a fur cloth costume can exhibit the folds seen in the PGF or on real hominid anatomy is if the costume is custom tailored to the contour of a similarly configured mass of padding underlying the fold. This also requires that the padding

beneath the fur be custom shaped with that in mind. It does not occur in costumes spontaneously through normal movement by the person wearing it. Instead straight line folds, running diagonally, sometimes across the entire torso from one side to other, occur as the torso rotates or the arm swings (Fig. 1c; *personal observation:* Munns, has personally constructed over 20 costumes of varied design and investigated dozens more by other professionals over the course of his career).

2. The Lumbar Fold and Spinal Indentation. A consistent trait of the PGF hominid body is a horizontal shadow suggesting a skin fold or crease, which occurs at the top of the buttocks, curving downward slightly as it extends laterally from the spine. A second shadow suggests an indentation along the midline of the back over the spine itself, extending from the horizontal line upward to the mid-thoracic region. The combination of these two lines forms an inverted T-shape (Fig. 2a, above). This combination also represents a set of compound curves, in all three ordinal planes. Regarding the fold at the top line of the buttocks, the curve extends from the midline laterally, inferiorly, and anteriorly.

Human surface anatomy of the back exhibits equivalent features forming an inverted T-shape as well (Fig, 1a, below). The vertical line marks the attachment of the skin to the underlying connective tissue associated with the spinous processes of the vertebrae, especially in the lumbar region, where the parallel columns of the eretor spinae make the furrow more pronounced. The horizontal line connects the dimples making the firm attachment of the skin to the posterior superior iliac spines. The same description applies to the anatomy of the ape (Fig. 2b). The T-shape in these hominids likewise consists of compound curves.

Fur cloth of the 1967-era was woven with a base fiber that resisted forming smooth compound curves, unless specifically tailored to do so. The vertical indentation seen on the PGF hominid has been attributed by some to a zipper line employed in a one-piece full-body suit. In such a case there would be no horizontal line, unless intentionally tailored into the costume (Fig. 2c). Considered separately, the horizontal line has been compared to a cinch line or belt line sometimes found in a two-piece suit, with a pants element. Diagonal folds are often associated with arm swing.

3. The Arching Thigh/Buttocks Division. Particularly in side views of the PGF hominid, a line arches from the rear base of the buttocks upward and forward with some curvature (Fig. 3a, above), following a line frequently seen in human clothing, i.e. briefs, contemporary bathing suits (older suits had a straight line across the thigh, front to back, but most modern styles have an arching curve at hip rising toward the waist line), and in garments with a torso piece secured by a snap-crotch (e.g., women's body suit garments and scuba diver wetsuits). Indeed, it is this line which prompted makeup artist Chris Walas in 2004 to conclude that the PGF hominid was a costume, built in two pieces, and employing a snap-crotch torso design[1]. It was asserted that this line or contour cannot be found in any human or great ape anatomy and so has long been advocated by critics of the film, as compelling evidence of a hoaxed fur costume.

However, proponents of the costume explanation, fail to evaluate the PGF hominid's body and identify all the lines and shadow contours of the hip region. There is a secondary line or fold, which rises on the perpendicular of the main arch, and goes diagonally up and rearward on the side of the

[1]http://bigfootforums.com/index.php?/topic/17190-the-patterson-subject-a-professional-observation/. Post #1, dated Dec. 3, 2004, discussion thread started by Chris Walas.

buttocks. There is also a curious "notch," an irregularity along that arching line, as if a tuft of hair had been removed, or possibly there is an anatomical indentation underlying that irregularity of the hair cover. A claim of costume to explain the primary arching line does not account for either the secondary rising line or the notch anomaly (Fig. 3a, above).

In human surface anatomy, the accumulation of subcutaneous adipose tissue over the thigh and hip commonly creates an arching crease equivalent to that visible in the PGF subject (Fig. 3a, below). Furthermore the secondary line and "notch" or dimple, frequently are visible (Fig. 3b).

Differences in pelvic shape and posture in apes that are essentially quadrupedal make comparisons of this region less informative.

On fur costumes, nothing comparable forms on a costume, in particular on a costume where the hip region is uninterrupted by seams or borders within a multi-piece costume. Spontaneous folds of various kinds do form, but these are straight-line folds (Fig. 3c). The arch compound curves evident on the PGF hominid shift in form in various frames. The non-strechable fur cloth of 1967 would not permit such distortion even if such curving folds were intentionally tailored into the costume.

4. The Deltopectoral Groove and Axillary Fold. On the PGF hominid, the dome shape of the deltoid muscle overlying the glenohumeral joint is separated from the clavicular head of the pectoralis muscle by an oblique crease in the skin marking the deltopectoral groove. A fold of skin, with a compound curve, covers the pectoralis major where it crosses in front of the axilla to attach to the humerus, forming the armpit. The fold is quite distinct, especially in the Cibachrome prints from the PGF (Fig. 4a, above).

Human surface anatomy, especially in those which are aging and may demonstrate some loss of skin elasticity and resiliency, demonstrate this same trait (Fig. 4a, below). In great ape studies, a photo of a chimpanzee with minimal body hair shows a similar compound curving fold of skin from torso to arm, separated below the deltoid muscle mass, below the deltopectoral groove (Fig. 4b).

The shoulders of fur costumes are traditionally not tailored this way. They are tailored like a shirt, with an oval opening in the torso section and a tubular section for an arm sleeve joining the torso. There is no curving fold from arm to torso. To the contrary, the transition attachment is vertical, not horizontal. Straight folds tend to radiate along the length of the arm perpendicular to the seam, or alternately with arm-raising, run parallel to the seam (Fig, 4c).

The only effective way to achieve the appearance of an armpit fold in a costume is to make a prosthetic rubber chest piece that flows over into the arm region. Hair is then hand-applied to this rubber appliance. This requires significant skill, planning, deliberation, time, and thus expense on the part of the costume designer. It does not occur by accident through normal fabric movement or folding.

5. The Thigh/Buttocks Subduction. An overlapping of the buttocks region onto the thigh is visible on the PGF hominid (Fig. 5a, above). This feature is often described as the result of an action whereby the fur on the rear of the top of the thigh appears to tuck under, or "subduct" beneath the fur of the buttocks region. This "subduction" is claimed to be a trait of a costume, where the buttocks area is padded and thus solid under the fur material, and the thigh fabric thus tucks under it, especially when the limb is angled rearward in the walk cycle.

Whereas it is conceivable that a costume can behave so, this "subduction" is by no means proof of a costume, because the same action routinely occurs on real human

anatomy as well. When it occurs on humans, the buttocks tend to have accumulated deposits of adipose tissue (Fig. 5a, below).

DISCUSSION AND CONCLUSION

Abundant examples of both human and great ape surface anatomy, as well as fur costume creases and folds have been examined and compared to the PGF hominid. The lines, folds and masses on the PGF body are demonstrated to occur consistently in real human and great ape anatomy through the dynamic interaction of skin and underlying adipose deposits. In contrast, they are consistently shown to fail to occur on fabricated fur costumes employing 1967-era materials. The combined evidence of several features would appear to defeat the null hypothesis.

Claims that the PGF hominid resulted from a human performer wearing a fur costume are not supported by the presence of any of these characteristic lines, folds or masses on the body. On the other hand, these features are remarkably consistent with real human and great ape anatomy, especially if one studies the human or great ape form in older and less physically fit and athletic individuals, i.e., bodies that carry fair to substantial amounts of subcutaneous adipose tissue beneath less resilient skin. These examples have often been neglected.

It is acknowledged that the possibility of a fur costume is not absolutely excluded from consideration by this analysis, but that if the PGF hominid were in fact a human in a fur costume, such a costume, and the padding underneath that fur cloth, must have been tailored with expert skill and deliberate design to achieve the effect of these contours of the skin and adipose of an aging and overweight female hominid (and disregarding other aspects of anatomy such as limb proportions, kinematics of the foot, proportions of the head that contradict the man-in-a-fur-suit hypothesis, which will be addressed elsewhere). In 1967, such skill in tailoring fur cloth was rare and the few practitioners who had such skills were in the highest echelon of professional craftspeople, and were veterans of the film/theatrical industry. The man who filmed the PGF hominid, Roger Patterson, had no such skills and had no proven connection or association with any person of such skills. Nor did he have documented financial means to employ such persons to work on his behalf.

Furthermore, the costumes of the era (1967) were either intended for comical theatrics, in which case little attention was paid to anatomical realism, or when such costumes were intended for dramatic theatrical ventures where realism was required, they were designed to portray powerful, threatening or frightening creatures, dynamic and athletic in form. Therefore, a superbly realistic costume designed to look like an aging and slightly overweight female has no precedent in costume design for that era, or even in the decades that followed.

Therefore, purely from a standpoint of consideration of the PGF hominid's anatomy, as compared to both actual human surface anatomy and great ape anatomy, and further compared to fur costume design and form, the resemblance to real anatomy is not only apparent but prevails as the more probable explanation for the nature of the PGF hominid. These observations support the conclusion that we are not observing a costume, but rather a real and novel hominid whose body has a modest natural hair coat.

LITERATURE CITED

Avelar J (1989) Regional distribution and behaviour of the subcutaneous tissue concerning selection and indication for liposuction. *Aesth Plast Surg* 13:155-165.

Coelho AM Jr. Baboon dimorphism: growth in weight, length and adiposity from birth to 8 years of age. In: Howard CF Jr. (ed.) *Nonhuman Primate Models for*

Human Growth and Development. Alan R. Liss, Inc.:

New York, 1985, pp. 125–159.

Comuzzie AG, Cole SA, Martin L, Carey KD, Mahaney MC, Blangero J, VandeBerg JL (2003). The baboon as a nonhuman primate model for the study of the genetics of obesity. *Obes Res* 11: 75–80.

Giron JP, Sick H, Koritke JG (1981) Topography, structure and vascularization of the fat pad of the lumbar trigone (*corpus adiposum trigoni lumbalis*). *Arch Anat Histol Embryol* 64:173-182

Kahn JL,Wolfram-Gabel R (2004) The lumbo-gluteal adipose body. *Surg Radiol Anat* 26:319-324.

Kohrt WM, Malley MT, Dalsky GP, Holloszy JO (1992) Body composition of healthy sedentary and trained, young and older men and women. *Med Sci Sports Exerc.* 24(7):832-7.

Leigh SR (1994) Relations between captive and noncaptive weights in anthropoid primates. *Zoo Biol* 13: 21–43.

Markman B, Barton FE Jr (1987) Anatomy of the subcutaneous tissue of the trunk and lower extremity. *Plast Reconstr Surg* 80:248-254.

McFarland R. Female primates: fat or fit? In: MorbeckME, GallowayA, ZihlmanAL (eds). *The Evolving Female.* Princeton University Press: Princeton, 1997, pp. 163–175.

Pond CM, Mattacks CA (1987) The anatomy of adipose tissue in captive Macaca monkeys and its implication for human biology. *Folio Primatol* 48: 164–185.

Schwartz RS, Shuman WP, Bradbury VL et al (1990) Body fat distribution in healthy young and older men. *J Gerontol* 45:M181-M185.

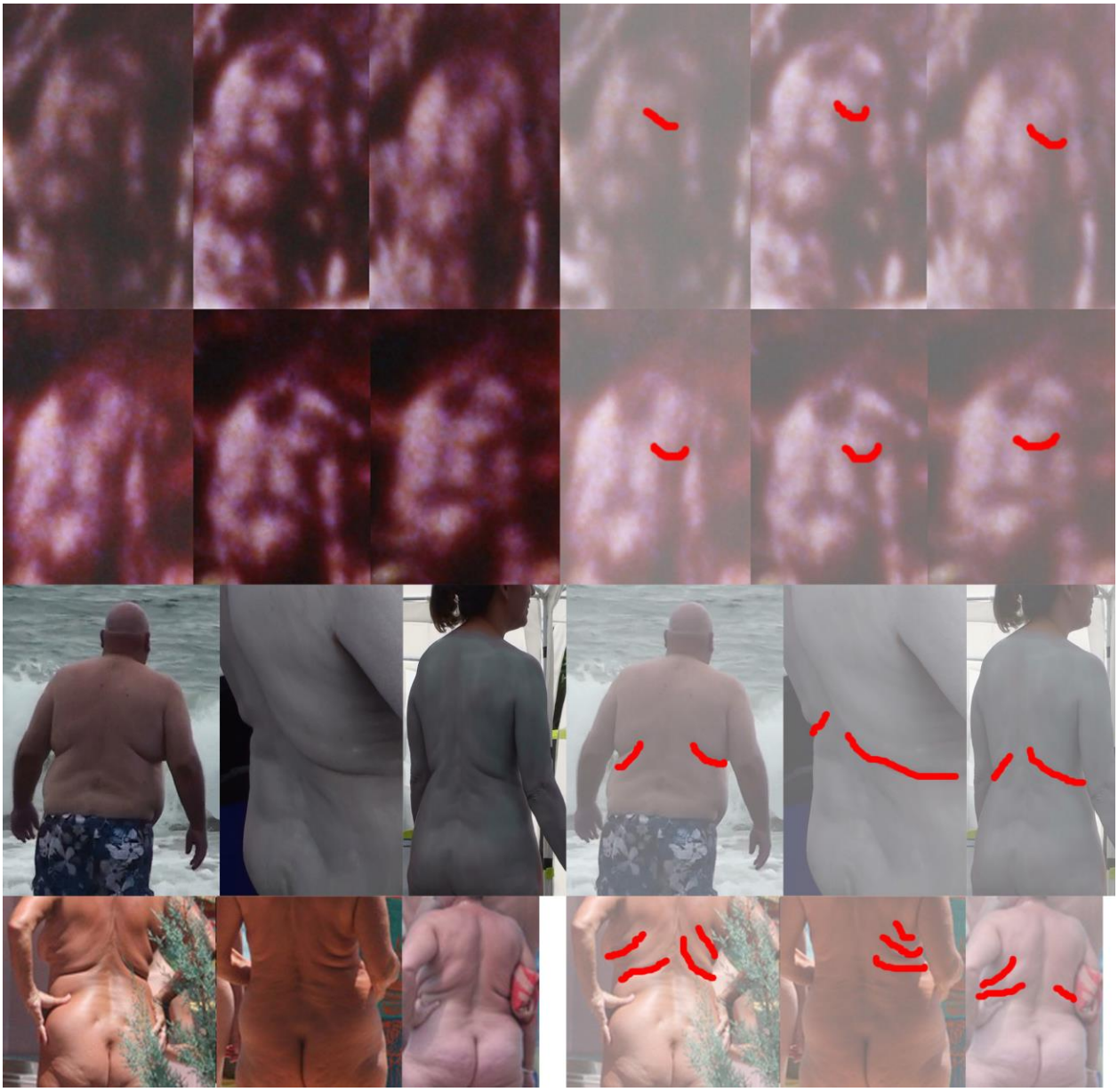

Figure 1a. **Mid-Back Drapery Folds.** Above, the PGF Hominid has folds inferior to the scapula consistent with masses of fatty tissue covered by lax skin fold. It appears consistently on numerous film frames. Below, human surface anatomy is compared and equivalent fatty tissue masses and folds of lax skin are these individuals.

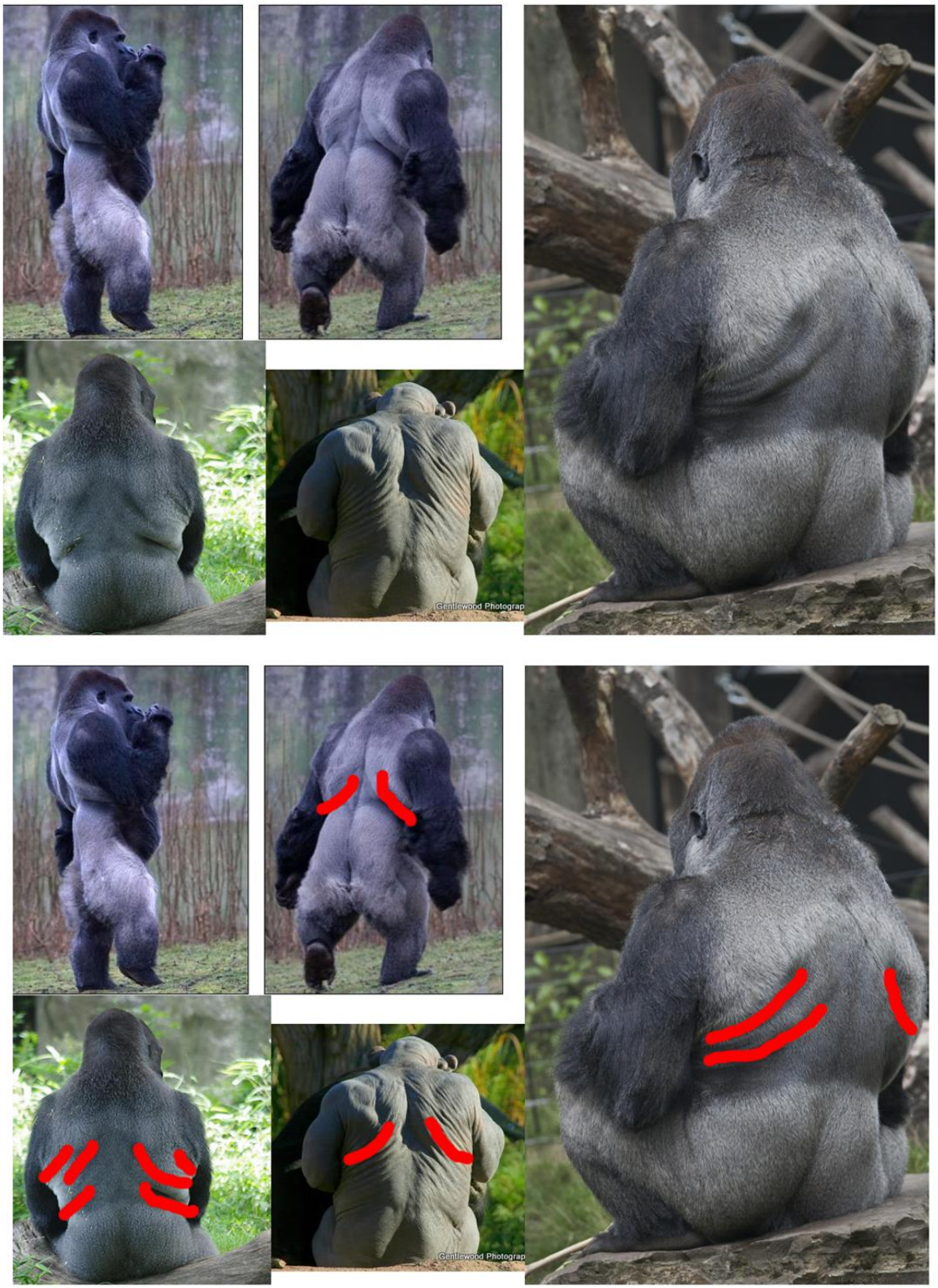

Figure 1b. Mid-Back Drapery Folds (cont'd). The surface anatomy of great apes (*Pan* and *Gorilla*) also exhibit equivalent masses of adipose covered by skin folds.

Figure 1c. Mid-Back Drapery Folds (cont'd). On non-stretch fur costume surfaces symmetrical folds inferior to the shoulder blade are not present, unless the furcloth has been specifically tailored to produce such a contour.

Figre 2a. The Lumbar Fold and Spinal Indentation. Above, the PGF Hominid exhibits the inverted T-shaped indentation, comprising compound curves, over the spinal region (vertical) and at the boundary between the lower back and buttocks (horizontal). Below, human surface anatomy exhibits the equivalent inverted T-shape indentation.

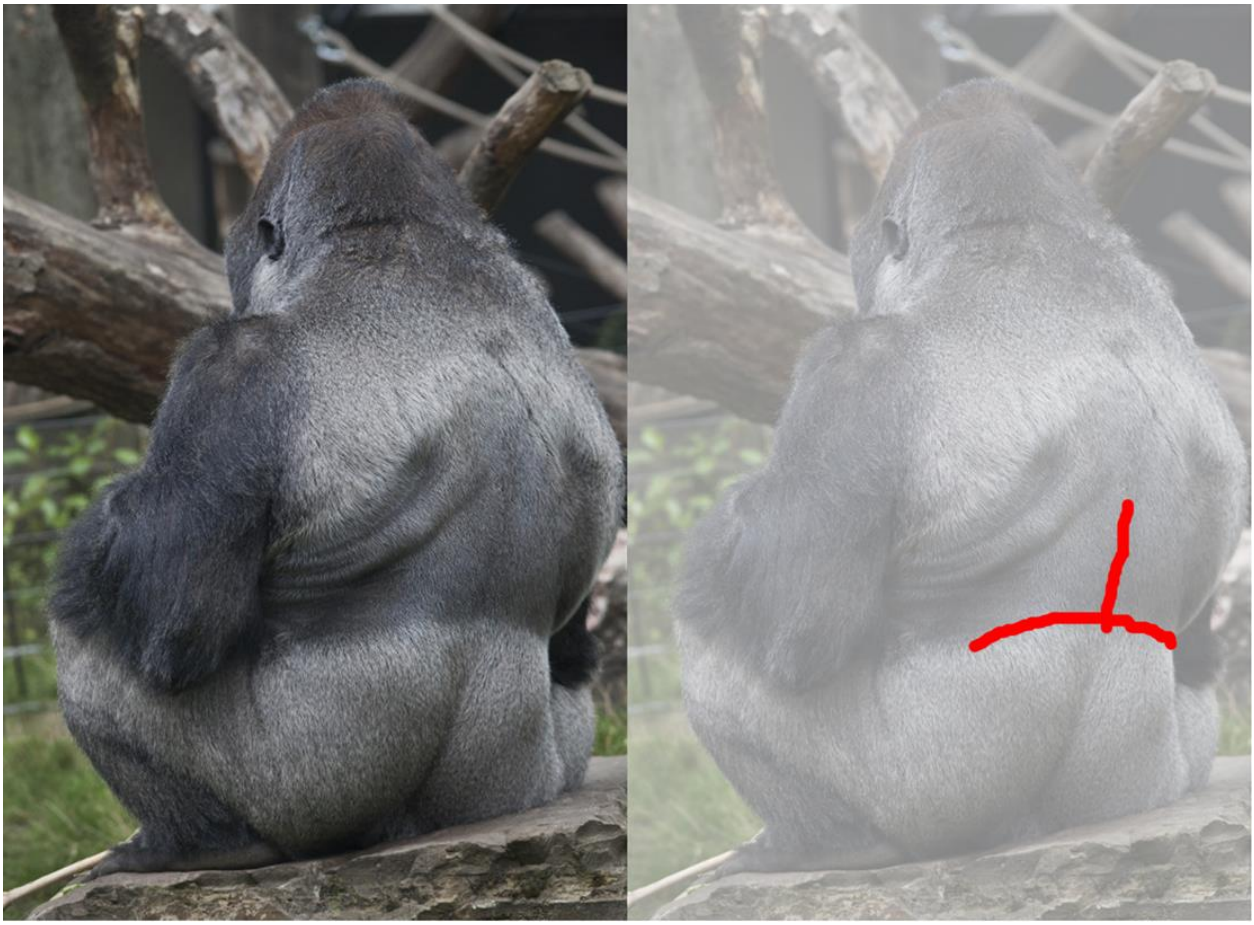

Figure 2b. The Lumbar Fold and Spinal Indentation (cont'd). Surface anatomy of the back of a gorilla exhibiting the inverted T-shape indentations forming compound curves over the lumbar spine (vertical) and separating the lower back from the buttocks (horizontal).

Figure 2c. The Lumbar Fold and Spinal Indentation (cont'd). On a fur costume a vertical crease may appear down the back if a full body suit is zippered down the back. If the costume is split into two pieces at the waist, a fold at the waist may occur, but not a vertical spinal fold. Diagonal folds are often associated with arm swing.

Figure 3a. Above, on the PGF Hominid the red dotted line indicates an indentation marking the boundary between the upper thigh and the buttocks. The yellow dotted line is a secondary fold and the green dotted line indicates the "notch" (see text). Below, human surface anatomy on obese and or geriatric individuals, exhibit the equivalent indentation between thich and buttock.

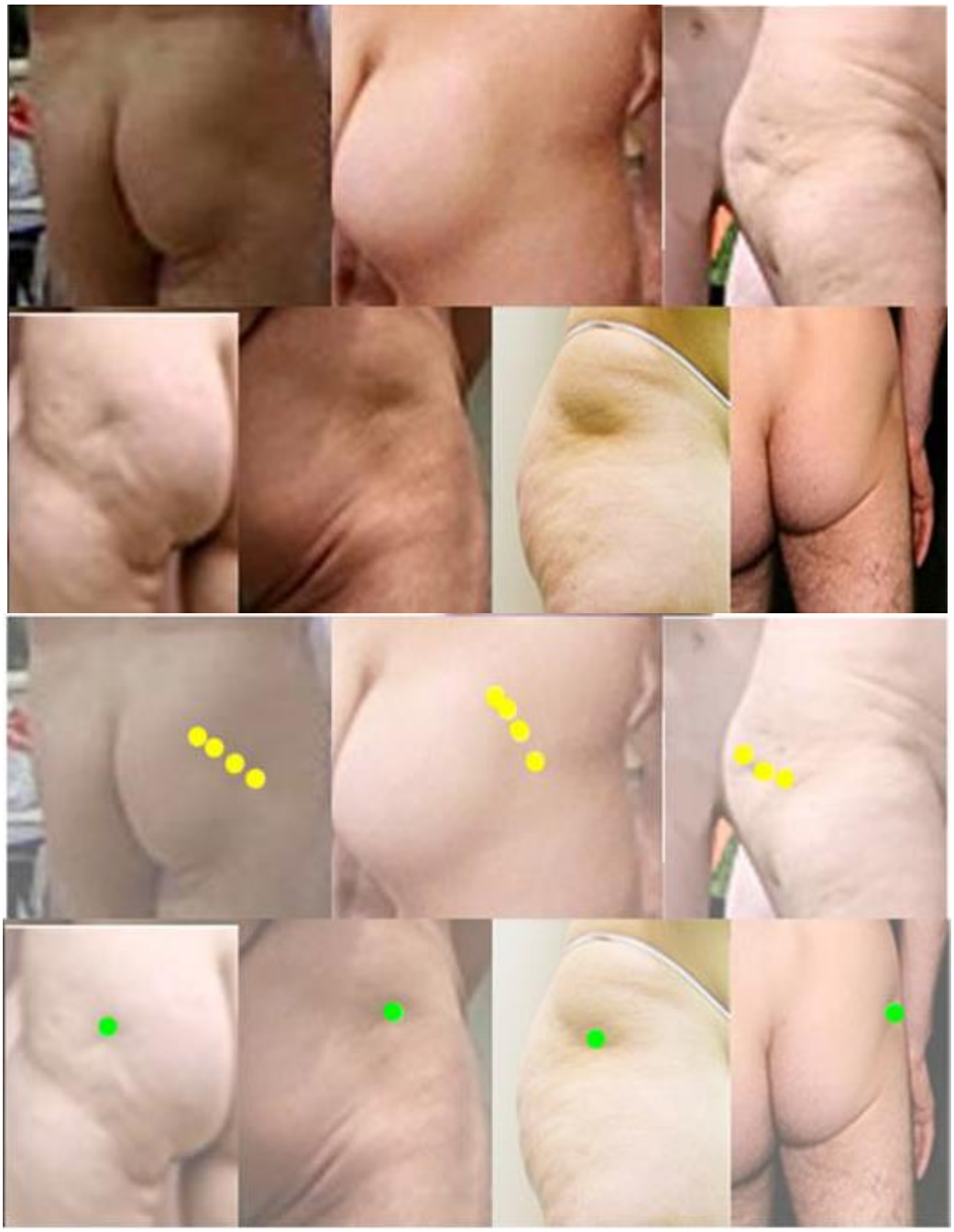

Figure 3b. The Arching Thigh/Buttocks Division (cont'd). Human surface anatomy frequently exhibits a diagonal line or indentation (yellow) nearly perpendicular to the thigh/buttock division. Also illustrated are examples of indentations (green) equivalent to the "notch" seen in the PGF Hominid. Such irregularities are quite common in aging human anatomy with accumulations of subcutaneous adipose tissue.

Figure 3c. The Arching Thigh/Buttocks Division (cont'd). Various folds occur in association with movement of the thigh relative to the buttocks some resembling the thigh/buttocks fold. However, nothing comparable to the thigh/ buttocks division, secondary line or notch is observed unless the designer and fabricator of the costume intentionally tailors the fur cloth and underlying padding to exhibit these features.

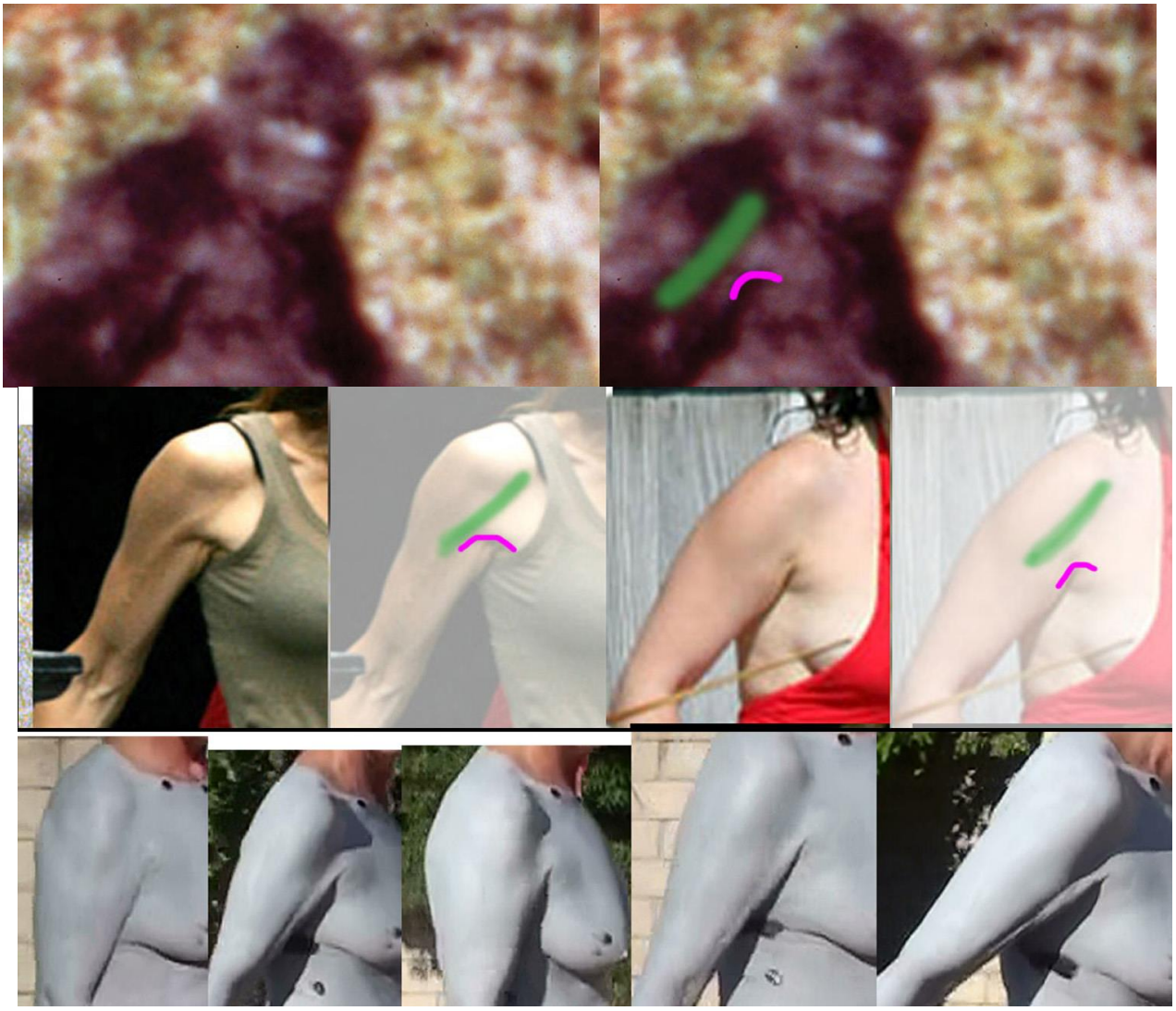

Figure 4a. The Deltopectoral Groove and the Axillary Fold. Above, the PGF Hominid exhibits a characteristic groove that marks the separation of the deltoid muscle and the clavicular head of the Pectoralis Major muscle, the deltopectoral goove (green line). Adjacent is a distinctive fold of skn that spans from the arm to the torso (magenta). Below, examples of human surface anatomy exhibit equivalent appearance of deltopectoral groove and axillary fold.

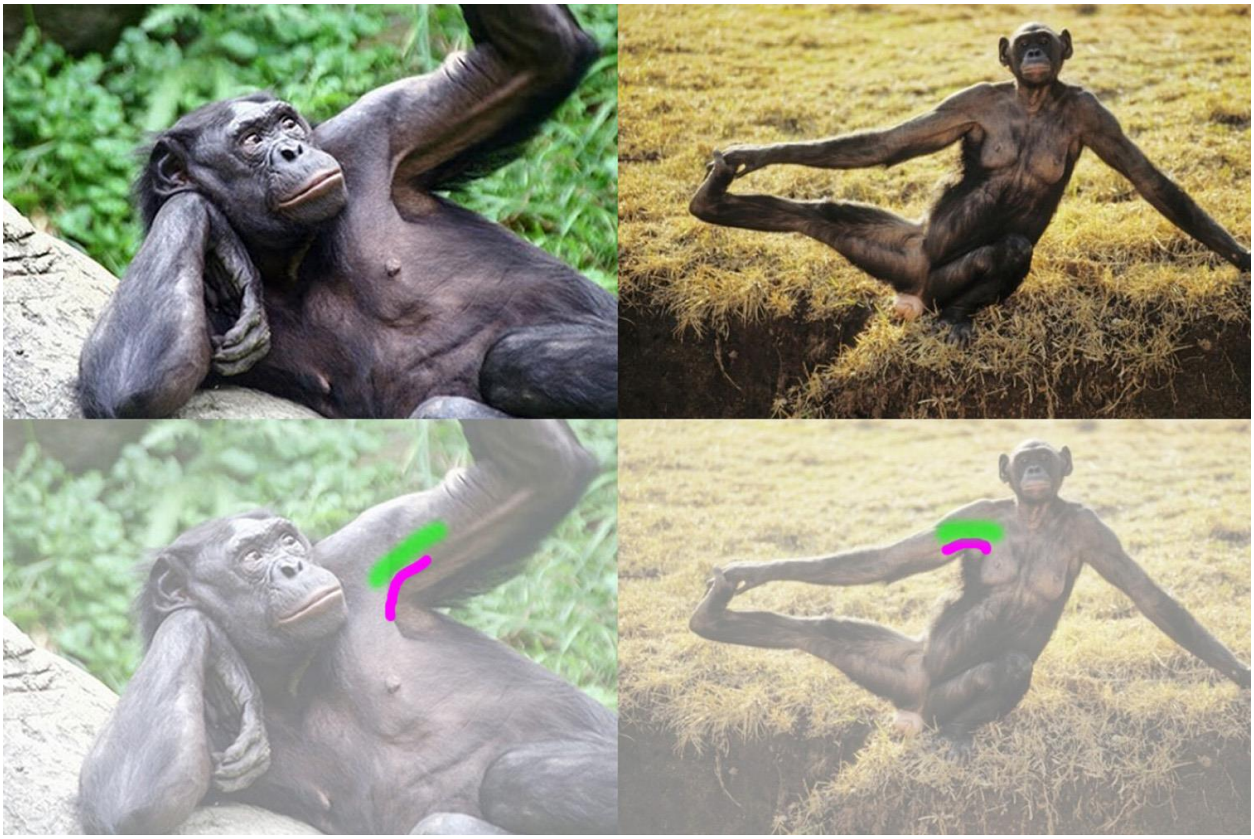

Figure 4b. The Deltopectoral Groove and the Axillary Fold (cont'd). Surface anatomy of great apes (a bonobo shown here) display equivalent equivalent appearance of deltopectoral groove and axillary fold.

Figure 4c. The Deltopectoral Groove and the Axillary Fold (cont'd). Fur costumes, such as pictures above, are tailored like clothing. With a torso section that has oval openings for the arms. The arm sleeve of the costume is normally formed as a tapering cylinder with an arching rounded top matching the oval of the torso opening. The sleeve is usually tailored to hand slightly laterally.

Figure 5a. The Thigh/Buttocks Subduction. Above, the PGF hominid displays a subduction of the buttock (red dotted line) over the thigh (green line). Below, in a human model with skin painted photo grey, an equivalent subduction of the buttocks over the thigh can be seen during extension of the hip (crease marked with red line). The overlap is evidenced by the smudging of the body paint revealing normal flesh tone (marked in red).