

THE MUNNS REPORT

Release Number 1H - Two Year Review
Part Two

The Authenticity of the Subject Figure
Seen in the Film

This Report reflects an ongoing
analysis by Bill Munns
of the 1967
Patterson-Gimlin Film.

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Report Release 1H Part Two - Issues about the Authenticity of the Filmed Subject

The Munns Report, as a research document and a website, has been online since May of 2009, but I have been actively researching this film now for two years. In my personal evaluation of this effort, I took a look back at the time spent and made a form of inventory of what was accomplished, what needs to be done, where this research is going, what issues need further study, what issues can be retired as of no consequence, etc. And I felt that putting this personal evaluation into the form of a Report Update was an appropriate step to share with the research/analysis community.

This second section of my two year review focuses specifically on the Patterson Filmed Subject (PFS), and why I have concluded the subject is something real and not a human in a fur costume performing a hoax. The first section of this review, which deals with topics concerning the physical film itself, is in a separate PDF file, also available from the website.

Issues and Non-Issues

I use the two terms "Issues" and "Non-Issues" to categorize the various areas of discussion or concern, and specifically, those I consider "Issues" are concerns I feel are worthy of analysis which might lead to some conclusion. "Non-Issues" are subjects where I feel the discussion will never be resolved or what we see in the film can be explained by both real biology and a fabricated costume (both prospects being so credible that neither will ever be discounted), and thus becomes pointless to debate.

Amateur Makeup "Experts"

One recurring thing I have witnessed among the skeptical legions, and in forums or chat websites, is a delusion that they cling to, mistakenly thinking they know all about the materials, techniques and skills of a professional makeup artist doing "creature work" simply because they've found an assortment of old photos on the internet, and read some summary descriptions of process here and there. I witnessed a classic example of this after a presentation I made last October 17, 2009 at a gathering. Following the event, a summary of my talk was posted in a forum by one of the people who attended, and he tried to sum up in a mere paragraph my 50 minute presentation. As such, he obviously simplified some of my material and explanations.

One thing he mentioned in passing was my reference to rubber suits, and this set off a rather absurd flurry of debate by a particular skeptical clan (in another forum) who have demonstrated for the past two years that they have but one common goal, and that is to find something wrong with anything I say or do, regardless of how petty or how tortured the logic they need to resort to, in pursuit of that goal. So this simple remark about "rubber suits" set off a wave of criticism of me, as if I was inventing a whole new theory, just so I could easily disprove it. Then, after their obligatory criticisms of me, they conceded to one another that they weren't sure what kind of rubber was actually used for "rubber suits", and whether latex was included.

It was laughable that people with such astonishing ignorance of makeup technique were thinking they were even remotely qualified to debate this issue, but their ignorance certainly did not stand in the way of their judgment, or their criticisms of me.

There are other examples of people who argue for a suit and a hoax, who refer to various photos dredged up from internet searches, with said people arguing their claims with such an appalling lack of knowledge about the vary things they show as proof, that I feel it is finally time to address some of these absurd claims and explain why the claims are irrelevant. Some of these photos are connected to what I will be discussing here, so the inclusion of them, and this discussion of flawed skeptical dogma masquerading as logic, is a necessary issue for me to address.

In terms of general foundation information, I should first clear up the issue of rubber suits, and my reference to such in my talk, described above. The fact of almost all costumes commonly called "ape suits" is that they have fur components and rubber components. The rubber parts of any ape suit represent the bare skin sections, and a suit designer makes a choice of what body parts to show an appearance of bare skin. The face is the most common, with either rubber masks or rubber facial prosthetic appliances. If gloves are used to cover the hands, they are rubber. If molded feet are used, they are rubber. A bare chest section is common, and it is rubber. Occasionally a bare buttocks area may be used, and I've even used bare kneecaps on one set of suits I did (shown below). So essentially, any bare skin area is the rubber part of a fur suit. In the image below, the magenta areas are the rubber parts.

Rubber parts of an Ape Suit. Each designer makes his own choices as to exactly which body parts are rubber, and what shape those parts are made in, so this is merely an example, not an absolute rule.



Nowadays, the choices of skin materials has been expanded to a variety of plastic resins, but back in the 60's and even going on into the 70's, the choices were few, and they were all rubber. Foamed Latex (a natural rubber latex with air bubbles mechanically whipped into the latex suspension and vulcanized by heat to stabilize the foam) was generally the best material, the most flexible and light weight.

Second best was a molded section with a slip rubber latex skin, (a pre-vulcanized latex compound in a water suspension, which would solidify when the water evaporated out) used for the outer surface, backed by a molded flexible polyurethane foam compound. It wasn't quite as flexible as foamed latex back then, but still was light weight for its mass. And it formed it's own padding, and could be fashioned in quite thick sections.

And finally there was slip rubber by itself, leaving a solid (non-foamed) rubber latex piece of a thickness anywhere from paper thin to about an 1/8th of an inch thick. It was flexible in terms of bending, but had poor elasticity, and the thin sheet structure meant you'd need an under layer of shaped padding to fill out any spaces between the intended suit shape and the body of the person wearing the suit.

The suit designer makes two basic choices about the rubber parts of a fur "ape suit". One is the choice of material, depending on the budget, the skill of the artist, and his/her shop capabilities (some materials requiring more shop equipment to effectively mold). The other is the creative

design choice of what parts of the body to make in rubber to appear as bare skin. Then the designer must make a plan for the hair transition process which is applied to make the fur material fade less and less dense across the edge of the rubber part, until the rubber skin is fully exposed.

Shown below is a shape of chest piece I personally have done, and hair is applied to the edge of this piece to transition into the fur of the suit. This type of chest shape allows the fur arm to be tailored to the fur torso in a fairly easy and effective way, so it is common as a matter of job expediency.



Example of a chest piece for an ape suit. Each designer may choose how close or far from the armpit to end the rubber piece, but it commonly does not go to the armpit.

Note: If you are wondering where the second set of hands is coming from (above, middle picture), the two hands near the neck, those belong to an assistant who is standing directly behind the actor, and thus isn't seen, except for his hands.

So when I spoke of rubber parts at this presentation in October, and then read a week later in one forum the furious debate about the skeptical perplexity of why I was suddenly taking about rubber, it drove the point home with elegant precision that these skeptical legions were utterly clueless about the way suits are made, and were just babbling mindless criticisms based on laughable ignorance of the topic.

So to simply sum up, fur costumes and "ape suits" do have rubber parts. The design choices were what those parts were, how extensively they would cover the parts of the body, which rubber material was to be used, and what technique of hair transition was to be used to blend the fur into the skin areas for a natural look.

PFS Issues for Authenticity

Introduction - When I began this detailed analysis of this film and its subject, I was actually undecided as to the biological authenticity of the filmed subject, clearly not persuaded by most common skeptical arguments of hoax, but hesitant to render a formal conclusion because of some issues, especially with the fur/coloration patterns in the pelvis/hip area of the body. An interview I gave to a newspaper in the year 2000 (eight years before) is often quoted by skeptical people as some kind of proof I had already made up my mind, but my actual statement to the newspaper reporter was that based on what I'd seen in the film as normally viewed (and I had not studied the film frame by frame or with highly magnified frame captures) , and it simply did not appear that the fur motions of the Filmed Subject behaved as I would expect costume furcloth materials to behave in motion, especially in the area of the back of the neck, where a mask section would join a body section.

I didn't give the matter much thought for the next 8 years, until in 2008, I thought I might contribute my knowledge of suits and creature costumes to the discussion, and found how much detailed analysis was occurring in internet forums. Seeing a wealth to image data available for use in analysis, I did set out to do a more detailed and thorough evaluation of the issue, and at that point, I set aside the prior ideas and set my mind to give the suit issue a careful and studied consideration, anew.

Once I immersed myself in the debate, with people who had studied the film quite extensively for years, and particularly having read the fine analysis by makeup artist Chris Walas in the Bigfoot Forums (which he discussed in 2004 and is still available in their archives), I took the position that I wouldn't make any claim of certainty in my opinion, unless I truly was convinced in my own mind that the conclusion was valid, and based on this new wealth of film image data I was now aware of.

So, once taking that as my intent, I didn't formally reach a point that I would say with confidence that the filmed subject is biologically real and natural (as opposed to something faked with a human in a costume) until earlier this year. There wasn't any one moment of sudden revelation, but rather a simple and gradual increasing confidence that all hoax issues simply failed to hold any merit, and the biological issues simply continued to gain persuasive merit.

A common skeptical criticism is that, my having stated in the year 2000 that I felt the body fur of the filmed subject did not behave like furcloth costume materials of the time, and thus I doubted it was a costume, and then my having analyzed the film in far greater detail these past two years, considering a far greater number of issues and characteristics of the body, the fact that I arrived at essentially the same conclusion, the skeptical legions claim is proof I was biased going in and just chose the data that supported my agenda of bias.

What they fail to consider or acknowledge is that in any re-evaluation of an issue, an unbiased person has three potential outcomes for the new and unbiased analysis.

1. It may rightfully confirm the prior analysis because the new data does support this option,

2. it may modify the prior conclusion, sustaining parts and modifying other parts.
3. It may overturn the prior conclusion with a new and different conclusion.

All three are perfectly logical outcomes, and any one can occur when an unbiased re-examination of an issue is done with new material and new process of analysis.

My unbiased re-examination of the PGF controversy simply resulted in the second option actually sustaining the part that I feel the filmed subject is not a suit or costume, but modifying my impression about the anatomy to see an aged and somewhat overweight and atrophied body, which I did not have any impression or opinion of before, in the year 2000.

But in the process of this realization, I did find myself a bit at odds with a lot of mainstream research and other advocates of authenticity who have argued the idea over the years. Specifically, where most advocates see a body with powerful muscles, I see a body that's old, a bit overweight, worn from the trials of life, and possibly exhibiting some right side lateral atrophy of muscle dynamic. Whether it's evidence of simple age, a minor stroke, some neuro-muscular disease, or perhaps the result of some old injury, that I would not even begin to guess. All I can really say is that as I watch the film these days, I see a figure which seems to droop the right shoulder, and swing the right arm loosely, the wrist flopping a bit, with remarkably little muscle tension for something walking briskly to evade some intruders on its world.

In the matter of the body being old and out of shape, instead of the usual explanations of dynamic musculature rippling under the fur, I first addressed this in the Bigfoot Forums, in one of my threads on "Creature Suit Analysis", Part 10 which was called "Flab", originally posted on Feb. 26, 2008.

<http://www.bigfootforums.com/index.php?s=7f064533dca24c1b913e9ca39ff3431d&showtopic=21986>

I have reprinted the original posting of mine here, but would encourage you to have a look in the forum, because discussions and contributing ideas by others do make the discussion more interesting. The original posting read as follows (next page):

Creature Suit Analysis Part 10 - Flab

In the study of the PG Film subject, an enormous amount of study and debate has been focused on apparent musculature form and motion in the film, and over the years, a frequently quoted mantra of believers has been "Suits can't do that". In my part two notes, I have discussed muscle padding shapes and the physics of them and their limitations.

But as I have continued to study the film and various frames, I have noticed something which has apparently been neglected by both researchers and skeptics alike.

Flab. Fatty tissue accumulations. Love handles.

Call it what you like, the film has definite examples of soft, non-muscular tissue and the skin folds that evidence this.

We tend to think of "wild animals" (If you believe the figure in the film is real) as being always muscular and fit. But there's no reason why wild creatures can't be overweight and flabby. And the film industry has, especially in recent years, made some remarkable milestones in "fat suits" and similar prosthetic effects to suggest a person overweight and "flabby" (the most recent and spectacular example being the Eddie Murphy female character in "Norbit" which Rick Baker's fine team at Cinevation fabricated so well they could put the character in a bikini and reveal all that flab in glorious uncovered closeup).

So I thought it would be appropriate to consider the potential of Flab to help us sort out real from fake in the PG Film. In the frames of the film sequence, as "Patty" is going into the woods, and we see her back quite clearly, there are some curious shifts in the light/dark patterns of her back, especially going around her torso to her right abdominal wall. And there is a quite distinct roll of apparent tissue slightly above her waist that can only be described as "flab" because it certainly doesn't resemble any musculature I know of.

The attached image chart (below) illustrates the frames studied, with a faded copy beside each and a red line following the back contours being studied. The six frames illustrate a variety of contours that tend to roll more like living tissue than furcloth.



Now I don't believe there is any pressing need to prove flab exists on real individuals. I've got more than I want personally, so I can vouch for its existence, and enough reports and news stories about America becoming a nation of overweight people (Suffering remote control/couch potato syndrome) abound that I feel I can take the reality of flab as a fair and responsible presumption. And flab can certainly exist in real creatures as well. In days of old, zoos competing for the claim of having the biggest gorilla in captivity ridiculously overfed their gorillas to get them up to 600 pounds and more (for reference, a good silverback gorilla weight is around 350-400 pounds for a healthy animal), making them quite flabby. So a presumption that Patty might be a little "plus sized" in her physique isn't unreasonable.

What needs to be evaluated is the process of faking flab, creating a suit for a hoax where flabby body parts are convincingly depicted. And of course, it is essential to consider what was available in 1967, not just what's available now.

Film flab, today, is based on resinous compounds which I believe were pioneered by a company called BJB Industries. Back in the 80's, they started introducing some wondrous plastic compounds for molding and casting, such as "Smooth On", which could be plasticized for varying degrees of flexibility and elasticity. This capacity to vary the flexing potential by varying the amount of a plasticizer additive was a fairly new and unique new method allowing makeup effects designers a way to adjust the results of the material to their unique needs. Back in the 80's when it was first being introduced, it was a temperamental material, with demanding issues of gel control and surface inhibition which made it hard to mold and cast at first.

Stan Winston produced some remarkable results with it, including a full head shoulder cast of a woman (weighted with a real heavy metal ball in the skull area) for a film called "Dead and Buried", for a scene of a mortician doing a reconstructive makeup on a dead girl. The solid Smooth-On cast head, with the massive weight in the skull, allowed the head to be turned side to side and it would stay as turned, due to the weight inside overpowering the natural inclination of the cast Smooth-On to "bounce back" to it's cast shape. I did some work on that film too, and I can say with unabashed admiration that Stan's innovative invention of a soft tissue effect was a real bold and brilliant innovation in the makeup effects field.

But this was 1980, not 1967.

In 1967, any attempt at a fat suit or fat face (with prosthetics) was accomplished by a foamed latex or flexible polyurethane foam material. And these foam materials were so lightweight, relative to their structural integrity and capacity for dimensional memory (the ability to restore to their original molded shape after being deformed by pressure or force) that they "defied" gravity. They moved somewhat when an external force was applied to push or pull them, but gravity alone had no force or influence on them. By comparison, the fat suits of today, with heavily plasticized resins cast as gel structures, have more mass and less memory, and so gravity does cause them to have splendidly natural "flabby" motion characteristics.

But in 1967, we just had various kinds of foam. And foam only does "flabby" well if it's shaped to look flabby and not moved. As soon as it's moved, foam tends to collapse (what foam does best, because it's really mostly empty air chambers surrounded by a thin framework of resin or latex connective material).

A second consideration is that the furcloth covering a suit tends to move like cloth, not flab. It folds in lines and cross-folds, as the base structure re-arranges it's form while keeping it's linear dimensions around the folded contour. Foam underneath furcloth has almost no real potential to push the furcloth into "flabby" masses, because the cloth structural material has more strength or structural integrity than the foam has capacity to deform it. If the foam tries to push for flab, the cloth pushes back to fold and drape in cloth-like form, and the cloth wins every time.

Even today, with spandex-backed all-way stretch fur (which NFT introduced in the 1980's), the spandex fur, when stretched, will tend to impose it's one elastic shape dynamics on any fat suit

gel mass underneath, and will not give a realistic "flab" look and contour motion to a fur-covered suit.

So with this in mind, I have been looking more carefully at the PG Film figure, and I am seeing what can best be explained in my mind as "flab" on Patty, and what I see, especially in the back and abdominal side walls, does not fold or buckle like any furcloth I know, or like any cloth dynamic I am familiar with.

So while it seems that people (advocating that Patty is real), love to point to the apparent musculature as evidence of a real creature, (and I have already offered notes on how muscle padding doesn't move as realistically as the hype claims it does), it may well be an even stronger argument for reality if you consider that the fatty tissue bulges and contours seen in the film, the "Flab" is even harder to replicate, with 1967 technology and particularly under a furcloth outer suit material.

It's hard to argue with gravity. I've tried. I lost. So would any suit technology of 1967.

(End of reprint from the Creature Suit Analysis articles)

That was Feb. 2008. It is now almost two years later. And yet, I remain of the opinion that this issue is one of the strongest arguments of biological authenticity we can find in the film. But oddly, this perception of flab, soft and somewhat atrophied excess body mass with a wealth of sub-cutaneous fat, didn't really lock in as the powerful argument I now consider it, until I happened to be at the beach, assisting on the filming of a music video last September. I witnessed a man standing by the shore, back to me, and saw a pattern on his body that looked all too familiar. So I photographed some stills of him for reference, and found a remarkable comparison to the Patterson Filmed Subject (PFS).

The Contours of the Back

In the photos below, the left most image is the actual photo. The middle one has the image contrast greatly intensified to strengthen the contour shadows on the man's back. The image on the right is, of course, one from the PGF showing the back contours of Patterson's Filmed Subject (PFS)



The specific pattern of contours is shown below with emphasis, the left two images for reference, and the right two images where I added black and white markings to identify the highlights and shadows of the body I felt were similar.



The most powerful comparison is the inverted "T" shape in the low center of the back, because I had stared at that contour for nearly two years on the Patterson Filmed Subject (PFS) and could not figure out what was causing it. This comparison with a real biological contour, plus the pouch under the arm, cleared up in my mind what I was seeing. I am seeing the real contours of a body that is overweight, carrying excess fatty tissue under the skin.

This particular comparison to another anatomical body that is flabby essentially ended any speculation in my mind about the various back contours of the Patterson Filmed Subject (PFS) being natural biological patterns. But that, by itself, doesn't eliminate the issue of a suit fabricated to look like real biological contours. So we must consider how such an effect could be replicated with creature suit technology and process.

First, the fur materials of the time were rigid backed materials, unlike the spandex stretch materials of today. And the contours, especially the inverted "T" shape of folds, cannot be accomplished by simply allowing furcloth to bend and fold at random. A compound curve like that is essentially impossible for furcloth to form from a flat sheet source, by cloth fold dynamics.

The only way this could be accomplished is by specifically tailoring the furcloth to those contours precisely, which is a masterful tailoring task, one that very few of even the top professionals of the time could accomplish. Second, this could only have been accomplished if this was the exact intent, the design. If so, we must question why in an era of monster suits which were designed to be scary, powerful, dynamic, and thus muscular or massive, why would someone design a suit to be so old and flabby? It simply could not be a normal suit reworked, because you'd be chopping up the fur in so many places to try and add extra pieces to fill out the contours, that the effort would equal starting a custom suit from scratch. So the whole hoax claim centered around a reworked old suit somebody had is null and a non-issue, not worthy of further discussion as an option.

Next, the furcloth will not hold this tailored set of contours as the body moves unless there is a padding structure under it which was also custom-shaped to these unusual contours. The options are to either sculpt the full body padding, and mold and cast it in flexible polyfoam, or tailor the padding shape to urethane sheet foam. This as well would have been a truly formidable task even for the best artists of the time. And again, it could have only been accomplished as a custom and deliberate design. And the padding structure would have needed to be designed exactly as the furcloth was tailored, the two designed in concert for similarity of result.

Third, if the padding is not shaped inside to fit the exact contours of the actual person wearing the suit and padding, if there are any large air pockets between this flabby tailored padding and the body of the person, then the suit and padding will buckle in strange places where those air pockets are, and that will appear both obvious and highly un-natural when the suit is observed in motion.

We see no such thing in the film, and so if it's a suit, tailored to those contours, the inner padding of such a suit fills the entire space exactly from the person's own body to the intended flab shape. This would be a custom-made suit in every respect.

So to claim that it is a suit, one would need to show:

1. An extraordinary skill tailoring both foam padding and furcloth to complex natural anatomical structures. In the late 60's rarely did any one artist have both skills highly developed. We only saw examples of single artists developing both skills in the 80's, long after the PGF was filmed.
2. The specific design intent of accomplishing this look, because it could not have occurred by error or random effort.

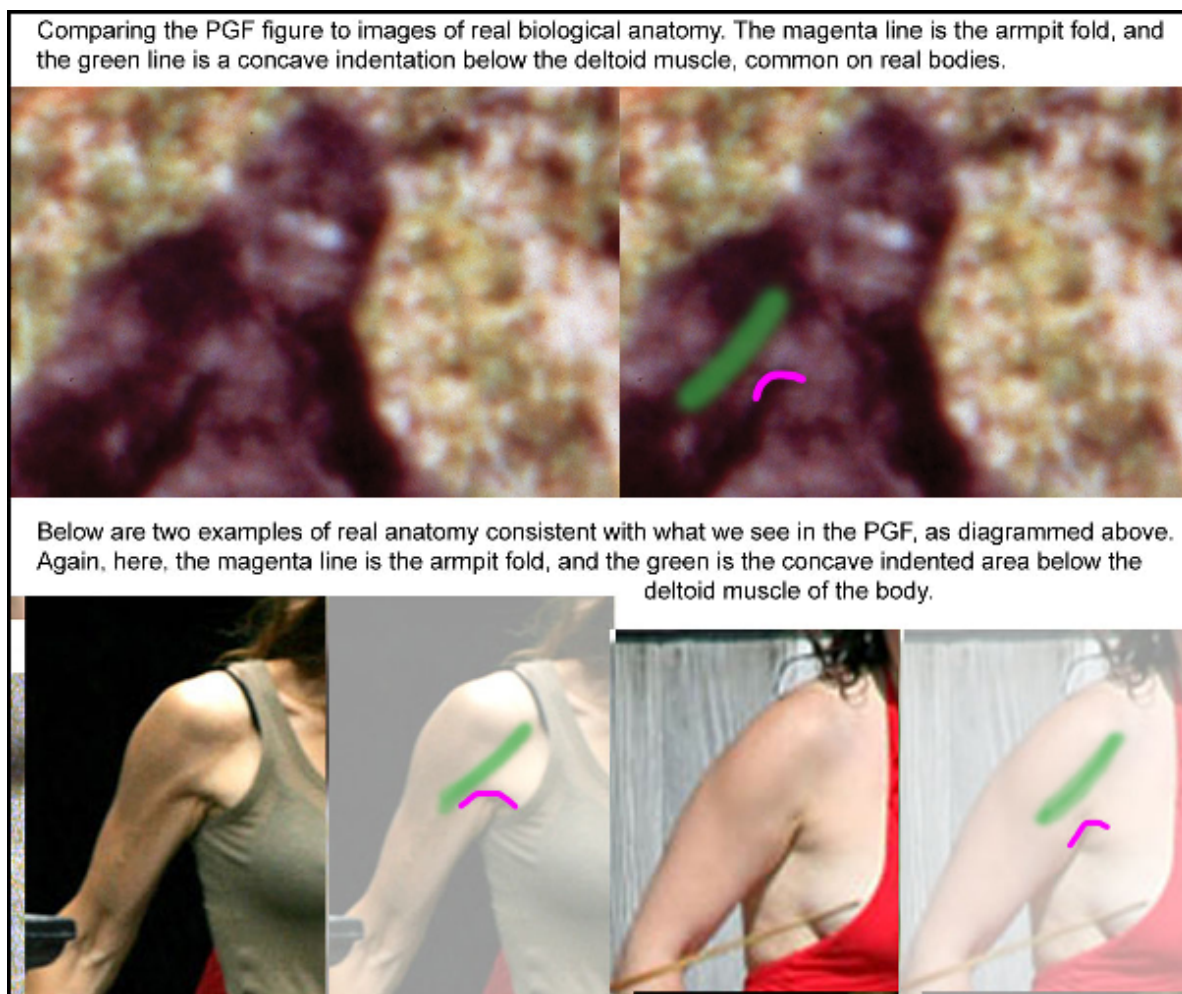
Between the general creative attitude of the era (making creatures more likely to be powerful, muscular, or dynamic looking in design), and the skill level of the major artists of the time, I am personally quite satisfied that this kind of theoretical suit fabrication effect was unattainable for the time, unless specifically designed and custom fabricated, at tremendous cost and time, circumstances that cannot be reconciled with all we know about Patterson's circumstances. Even the persistent foolish claim Patterson had "Hollywood connections" fails miserably to account for what would be necessary to accomplish this as a creature suit.

Even back in Feb. 2008, when I wrote the Creature Suit Analysis material, I had serious doubts about how anyone could tailor padding and furcloth to the contours I saw, but I didn't have actual anatomical references which would give me the confidence to know I'm looking at real anatomy. Now, however, it is the identification with actual and specific biological contours of a humanistic form that I personally find compelling beyond any reasonable doubt.

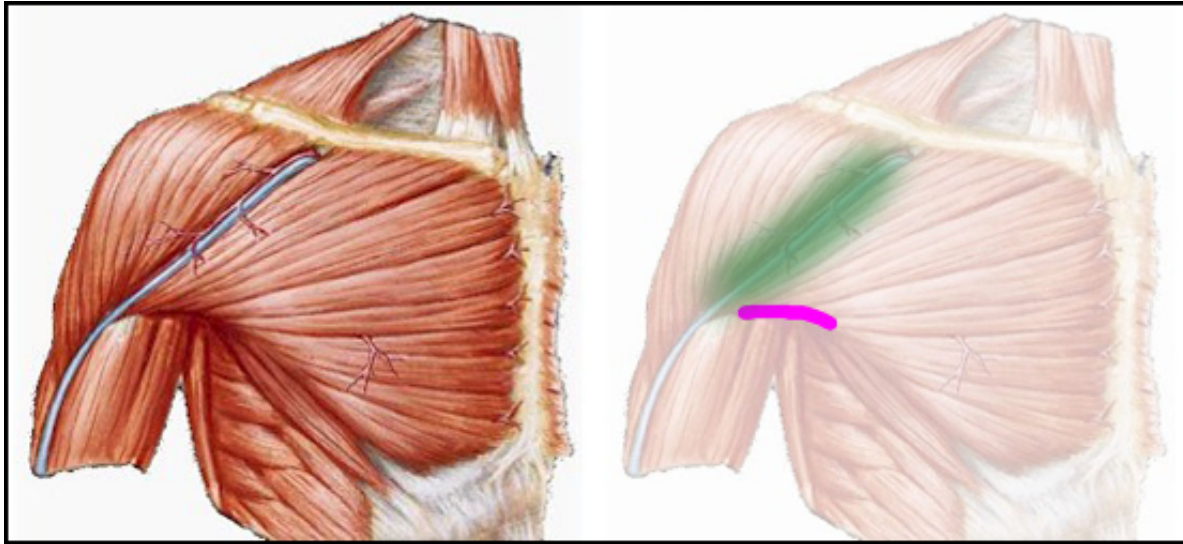
The Armpit Fold

During the film's "look back" sequence, we see the Filmed Subject swing the near (right) arm way back as the subject looks to camera, and as this arm swing occurs, we see a curious fold contour from the chest area into the lower line of the arm, a fold of tissue on the front of the armpit. This feature of the body has been noted and studied by other researchers, and they tend to concentrate on the apparent natural form of it as real anatomy. I share their belief that it represents real anatomy, based on my comparisons to photos of real bodies exhibiting the same general structure.

First, here is the specific contour I am referring to:



And in the next illustration, we can see the actual musculature which produces the contours:



Using two of the Cibachrome images, (traditionally labeled F350 and F352, but in the Verified Frame Count, they are F352 and F354), this feature can be studied in a suggestion of motion by quickly switching from one photo to another (if the two images are perfectly aligned one atop the other in a Photo software or an animated .GIF file). This PDF document does not allow for such an animation effect. But when it is done, there is the impression of some elasticity in the fold as the arm swings backward, and this is a very natural biological trait.

So the Patterson Filmed Subject (PFS) has subtle but impressive details of real anatomical structure. This alone lends a strong argument for it's being a real biological entity. But a conclusive argument must also falsify the alternative. In other words, we need to do more than simply point out how real this feature seems to be. We must also describe why a costume fabrication of a fur suit is not going to have such a feature. And in this regard, I bring to the discussion a unique perspective of knowing exactly how such might be attempted with a suit, and the challenges of doing it well for a costume.

The line has a specific contour so distinctive that we can conclude that we are not seeing fur, so much as bare (or almost bare) skin. Fur, at this film image resolution, simply will not form lines this distinct, and fur costumes of the time were not tailored in that manner. One skeptical amateur in the forums likes to cite as an example some fur costumes from a film called "Earth Girls are Easy", where furry alien characters appear, but their fur costumes are made from a stretch spandex fur material invented in the 1980's, and thus non-existent in 1967, making the comparison a moot point. So the comparison has no merit, and should be ignored.

So, we must start with the assumption this armpit fold is a bare skin section of a costume, if we try to analyze what we see in the PGF from a costume design standpoint. Such a costume would need a rubber chest piece which has an extended side which transitions into the arm area across the armpit. A chest piece for a fur costume, with the chest skin area extending to the arm and covering the armpit, would be fabricated in essentially the same way as a full molded rubber body suit, so I will use my Swamp Thing body suit as an illustrative example of this fabrication method.



First, in reference to shape, a normal chest piece for an ape suit will likely be shaped as the middle image above, avoiding the armpits (an example shown previously, above, on Page 4). But the armpit fold we see in the PGF film, if it were a suit, would require a sculpture more like the above right image, where the sculpture extends from the chest area over to the upper arm, and makes the armpit fold as part of the sculpture. We routinely do this for full sculpted body suits, as highlighted below, but it would be very rare for an ape suit design.



To replicate what we see in the body of the PGF's subject figure, we would need to make a chest section that has the armpit fold sculpted into it, in the same manner as the full body suit was made. Now the following considerations factor into any such project, and make such a design problematic.

1. Arms at 45 degree angle - To fabricate such a rubber piece from a sculpture, we need to have easy access to the full torso and full arm. So a body cast (the mannikin we sculpt on) must be made with the arms extended outward on an angle of about 45 degrees raised up to the side (as seen above, and below, as two examples).

The outward angle of the arm is necessary first so we can get access to all the body parts to sculpt the figure. Second, this is necessary so we can cast the plaster molding material easily into the space between arm and body with enough thickness to insure a strong mold. Once the molds are made, the final rubber section is cast and set up for attachment to the other body parts of the suit.

Below, the reptilian suit (on the left) is for the Arcane Monster from "Swamp Thing", and the image on right below is the Swamp Thing character Suit sculpture, seen from the back.

They both illustrate how the arms are angled upward at an angle of about 45 degrees for the sculpture and molding to be successful.



So designing the figure with the arms extended outward is a common and necessary design factor in making a body section with goes from chest area to the arm, and includes a fold across the armpit region.

The problem is what happens after the rubber suit is made, when a person actually puts on the suit and drops the arms down to a more natural posture at the side of the body.

2. Resulting fold in costume - Real skin tissue can expand and retract in shape easily. That is what we see in the PGF. But rubber materials are molded to a specific shape, and while they may stretch easily (depending on the rubber compound), they do not contract as real skin does. Lowering the arm from a 45 degree angle to full down along side the body, this causes the armpit area of the rubber piece to contract or compress, and when rubber is forced to try and contract, it tends to buckle in a line perpendicular to the direction of compression.



The diagram below illustrates the basic problem, with the crease in a magenta line, on right, when the arm of a rubber suit is lowered to beside the body.



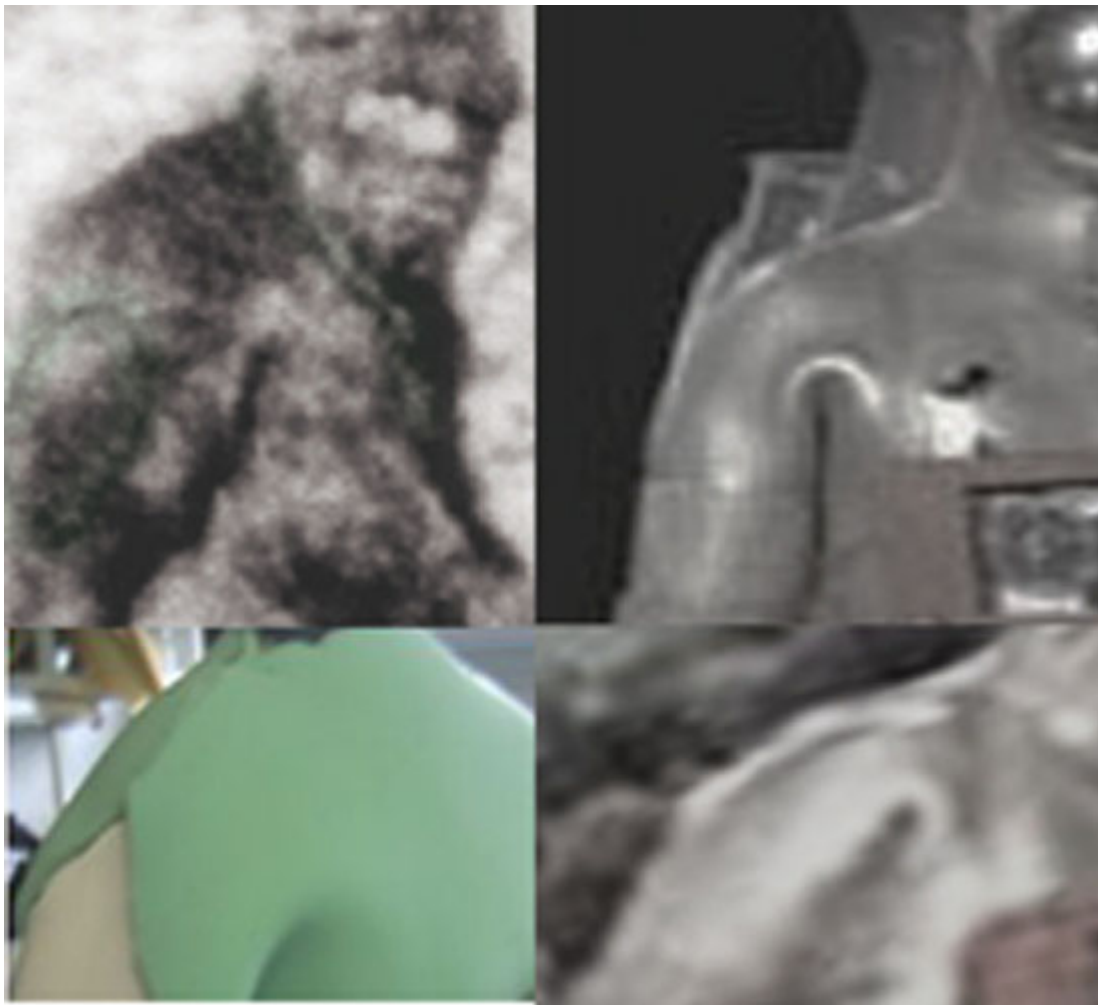
And below, we see examples in actual suits, of the same crease. Aside from two images of My Swamp Thing character, there is also a rubber suited character from the Star Trek TV series. I'm told this is the "Gorn" character, but not being a "Trekkie" myself, I can't verify this character identity. But what matters is it exhibits the same crease, because that's what rubber armpits on costumes tend to do.



And we commonly see the same crease on commercial rubber wetsuits and similar active wear specialized rubber suits, as shown below.



Now we come to an image very popular in the skeptical forums as a claim that suit materials can indeed replicate what is seen in the PGF. As seen below, it is a panel of four images, with the Patterson Filmed Subject (PFS) in the upper left, a green sheet foam fabrication of a chest/arm piece (lower left), and two examples of "wetsuit" type rubber suit fabrications, (on the upper and lower right).



The two images at right do indeed have a circular fold instead of a vertical crease, but the fold sits far too high to resemble any real anatomy. And it generally can be produced only by filling

the rubber compound with some type of woven mat filler, which is added to give the suit greater tear resistance. This fillering practice is not generally used for creature suits, but reserved for some types of wetsuits or hazard duty work suits. So aside from the anatomical problems of the fold occurring far too high to be realistic, the manufacture process is not a common film industry suit practice. So the two images at right, above, are irrelevant to the PGF analysis.

That brings us to the green sheet foam example above (in the lower left corner of the image). The armpit contour looks very nice. It's just too bad this type of foam material isn't a surface material, because what we are seeing in the PGF's Figure is a surface, not an underlying structure. And the fact that the green sheet foam IS NOT (emphasis added) a surface material means that even if you make this piece, you must cover it with some type of surfacing and hair, and that surfacing material must have the shape we want, not the foam underneath. The green foam is a soft, spongy material which conforms to any shape imposed upon it, and the surface material will impose a new shape on this sheet foam.

So let's say you have this wonderful green sheet foam shape made. Now what? The options are:

1. Tailor a fur costume to go over it, and the furcloth tailoring shape will overrule this foam shape, and as I noted above, a furcloth material will not give the look we need to replicate the PGF armpit fold. **Won't work.**
2. We can put a rubber molded chest prosthetic over this, with the sculpted shape of the armpit, and then ask, why did we bother to do this green foam thing when we do it again in a molded foam, and then get the arm vertical crease we don't want? **Won't work.**
3. We can stipple liquid latex on the green sheet foam to try and give it a latex surface we can paint, texture, and glue hair to, but the sheet foam has an open cell structure, and the liquid latex will soak into the foam sheet, and won't dry easily. It will make a thick and near solid mass out of the sheet foam, and inhibit its elasticity and flexibility, and it will crease when the arm is lowered. **Won't work.**
4. We can paint the green sheet foam and glue hair directly onto parts of it, but if we use a spray paint, we'll see the cell structure of the foam emphasized, and it will look exactly like porous foam, not skin. If we use any other type of paint, it will just soak into the foam and make a mess.

If we try to glue hair to the foam, using spirit gum (the adhesive used to glue hair to the skin of actors for beards, mustaches, and the like), the foam will soak up the spirit gum adhesive and may never set, and if it does, it will solidify the foam to be almost immobile. (Using spirit gum will also cost you a small fortune, because its cost per ounce is very high, as adhesives go, and by soaking into the foam, you'll need a lot of this adhesive).

If we use a rubber cement to glue the hair (something like "Barge" craft cement), it will soak deep into the foam, so trying to glue hair on the surface is a waste because the glue has sunk down into the foam instead of sitting on the surface to hold the hair in place.

Plus, the rubber cements have a characteristic called "residual adhesion", meaning it remains sticky after drying. So once the glue dries, if you then try to press any hair to the surface to attach

it, (or press the surface inward for any reason) the foam will collapse and the residual adhesion of the glue will fuse the foam structure into the collapsed state, permanently collapsing it and stiffening it tremendously.

Then, if you like, you can glue hair onto this collapsed and very stiff foam-glue surface, but of course you've destroyed every reason to use the sheet foam to begin with. **Won't work.**

The point of this discussion is to emphasize that while the green sheet foam may look like a likely option to replicate what we see in the PGF, the real fact (which a real professional makeup artist would know and amateurs would fail to understand) is that this green sheet foam is simply an interior usage material, not a surface material for a final outer appearance in a suit or costume.

So offering the green sheet foam shape as an example of a way to replicate the PGF subject look is a foolish gesture by an ignorant person, because you must show outer surface materials, not inner padding materials, to make a valid comparison. You might as well post a head x-ray of yourself on your Facebook Page, and see how many people think you look attractive. When we are talking about outer appearance (as in the PG film), images of inner structures alone just don't sell the idea.

Similarly, people thinking the green sheet foam illustration is comparable to what we see in the PGF are woefully ignorant of the makeup and prosthetics suit fabrication process. The green sheet foam shape is an irrelevant distraction to this discussion, and does not merit any further consideration in relation to an analysis of the Patterson Filmed Subject (PFS) anatomy and appearance. And it proves nothing!

The Hair Transition

The Patterson Filmed Subject (PFS) has hair on the body, including a thick mass on the shoulder about where the deltoid muscle is. And the PFS has a near bare area at the fold of the armpit, so there's a transition of hair mass from very thick to thin or none, in a distinct pattern. So now we must look at this hair pattern from both the standpoint of real biology, and fabricated costume process.

In comparative anatomy of real biology, I will reference a photo from my experience working with real chimpanzees that were trained for motion picture work. The picture below compared a mature male chimpanzee named "Karunga" (owned and worked by Hubert Wells) and the Patterson Filmed Subject (PFS).

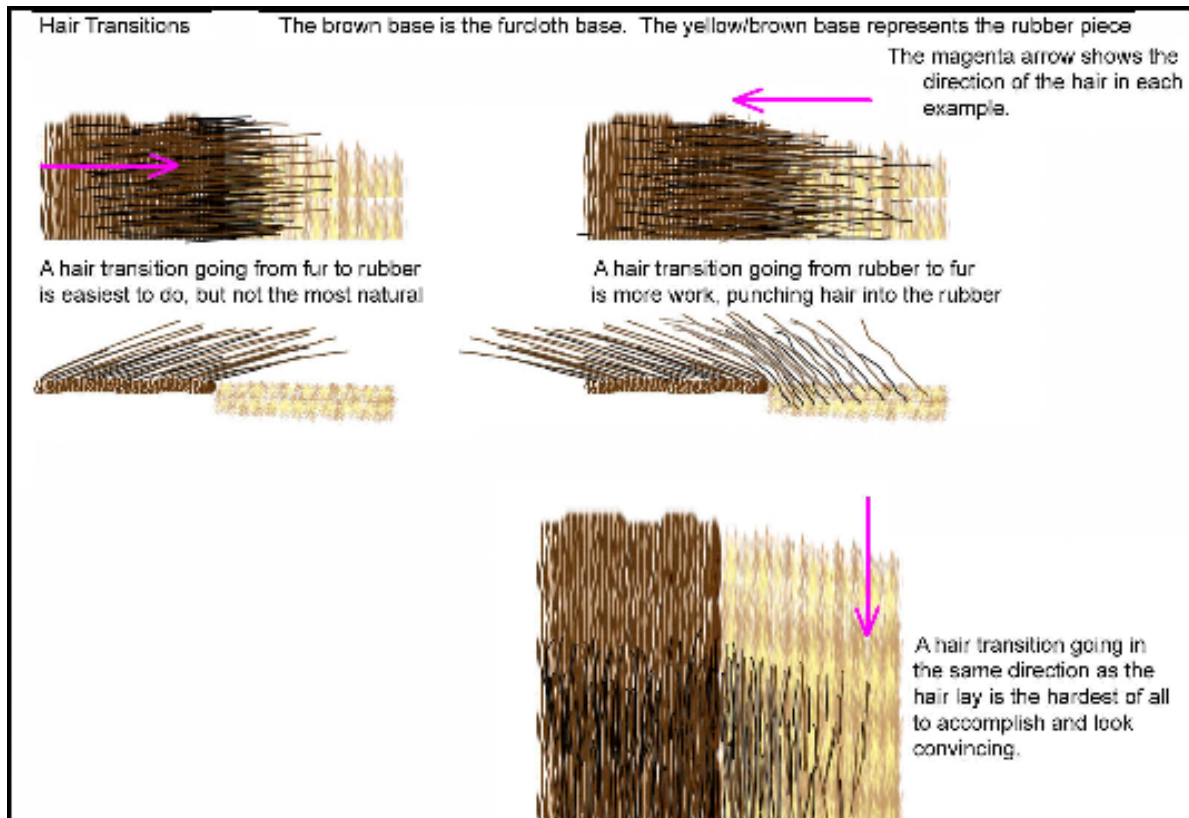


The distinctive elements of this comparison are:

1. The blotchy character of real hair, which is evident on the Patterson Filmed Subject (PFS) and is shown here as well on a real primate, a mature animal. (Images at right, above, show my marking of the images to emphasize the blotchy character of the hair distribution on both figures).
2. The tuff of hair mass on top of the shoulder, and the sudden transition to much less hair mass near the armpit fold and the collarbone region, plus the thinning of hair in the chest region.

So we can conclude that the hair patterns of Patterson's Filmed Subject (PFS) do indeed have a credible resemblance to the irregular patterns of real biological subjects.

But we must consider the alternative, that a costume was fabricated to resemble this. If so, how was it done? So a review of hair transition techniques is required to explain this process.



In the above diagram, the first example (at left) shows a hair transition where the lay of the hair (the direction it lays down in) is pointed across the edge between the fur cloth base and the rubber part. Like bangs on a wig, the hair covers the transition point. It is the easiest transition, thus often done, but not the most realistic. Also, the hair should logically lay that way according to common hair patterns on real biological reference sources, if this method is used.

The second example, (middle, above) is where the furcloth hair lays away from the rubber part (very common on face masks) and so hair must be glued or punched into the rubber surface with a hair lay over the seam between the rubber part and fur part. The hair can thin out as it gets further from the seam, and when well done, can look exceptionally natural. The process is one of a higher skill, and more labor, in terms of work hours, so it is the more costly method to do.

Using my model of Gigantopithecus as an example of hair transition work, the top left picture is the work in progress. On the forehead, the hair is a solid line because the transition work has not been done there yet. The far right picture shows the punching of hair on the jaw, work in progress.



To do this well, and get a natural hair pattern, we first punch thick plugs of hair along the line where the fur cloth starts. Then, as we go outward, we punch less and less hairs in each punch, so the hair thins out naturally.

This is an example of the second type of transition I describe, where the hair lays back from rubber skin surface to the fur section which hides the seam between rubber parts and fur parts.

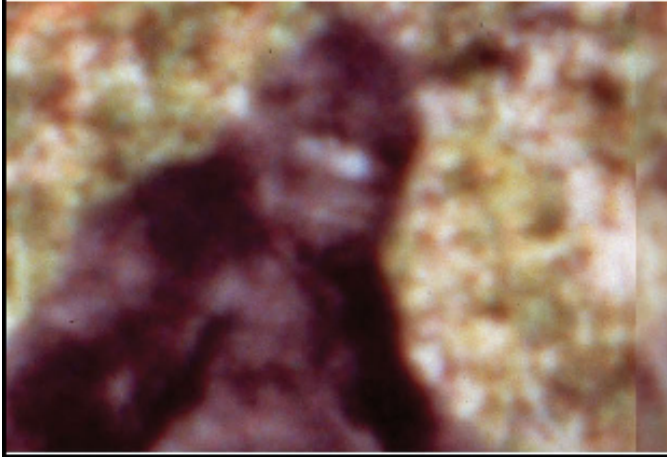


The third example (above, right) is where the hair lay of the furcloth goes parallel to the seam between the furcloth base and the rubber part. So no furcloth hair overlaps onto the rubber section, and no hair applied to the rubber overlaps onto the fur section.

This is the hardest transition to accomplish well, indeed so hard that most makeup artists avoid it in their designs. It has the highest prospect for looking bad, and that would discredit the artist doing the work. So in general, we avoid setting up the fur patterns of a costume to result in having to try this type of fur transition effect.

But this hair direction and transition of density is precisely what we see in the PGF film, and if we made a rubber chest piece with an armpit fold, this is the exact type of hair transition we would be forced to try and accomplish on such a suit, to achieve what is seen in the PGF.

If the PGF figure were a suit, the rubber chest part would need to be shaped like the yellow section below. The shoulder fur section would be shaped as seen drawn in brown, below. But the hair applied to the rubber to blend (the black lines) would go in the same direction as



the seam between the fur and rubber, the same direction as the lay of the fur. This type of transition is the hardest to do, the least successful if tried.



The hair lays downward in the arm direction toward the elbow, and the seam between furcloth and rubber arm part would likewise go downward along that same line. In the diagram above, the yellow area is the hypothetical rubber chest piece with armpit fold. The brown on the shoulder is the furcloth with hair lay going down the arm. And the black lines are the hair glued onto the rubber piece, but needing to lay in the same direction as the seam between rubber and fur.

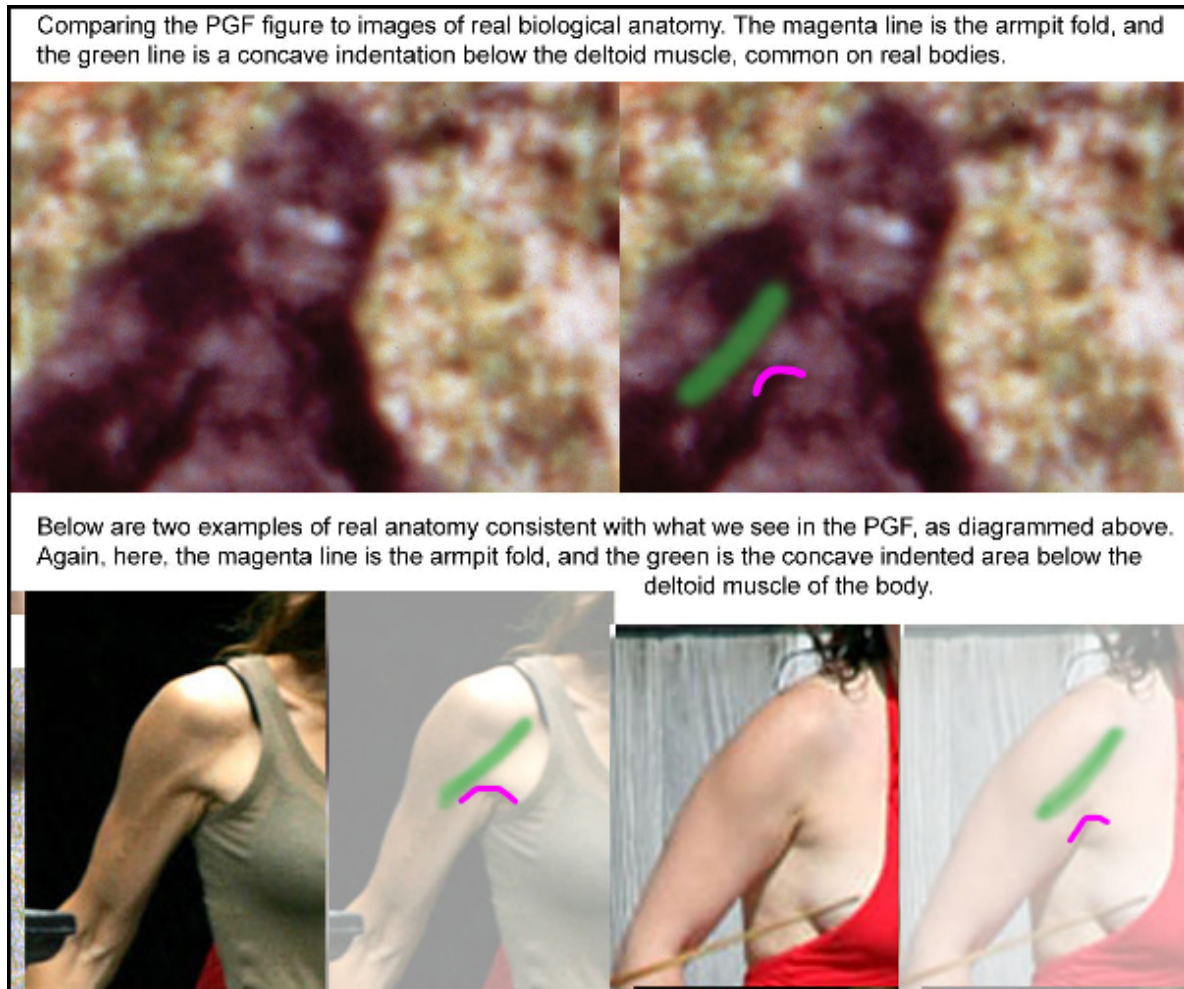
The transition from the dense tuff of hair on the shoulder top, to the almost bare armpit fold, represents the hardest hair transition effect we could design, the one we tend to avoid at all cost when making suits.

So to argue for the Patterson Filmed Subject (PFS) being a suit requires that we consider why such a challenging and often unsuccessful design of hair transition would be chosen, when easier and more successful options are available.

Shaping Concavities in Suit Anatomy

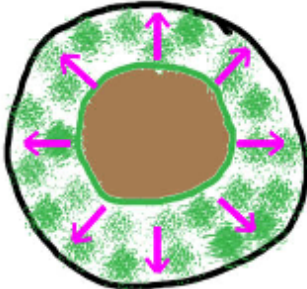
As if we didn't have enough problems with fabricating a suit to resemble what we see in the Patterson's Filmed Subject body, there is one more consideration of anatomy that adds even less likelihood that what we see is a suit.

This is the issue of a concavity of structure in the arm, the green shadow region I marked above in the discussion of real anatomy (and repeated here for reference)



To fabricate such a contour as that shown in the greenish soft line above, we would need to consider the dynamics of padding and the way such pushes outward.

When you have an outer material, like furcloth, and padding underneath (green blotchy area), the padding tends to push outward everywhere and form a circular shape, with all convex surfaces (bulging outward).



However, real anatomy includes some concave shapes (which curve inward like the area with a single magenta arrow, at left). This is the cross section contour of a real arm, on a body that is a bit aged. The magenta line represents the armpit fold as shown in other images, and the dull greenish shading is the concave indentation. This contour can't be replicated by simply putting padding under a fur arm sleeve. It would need to be shaped specifically to this concave pattern, and then the furcloth would need to be tailored to this exact contour, to produce this result. So doing this on a suit represents a tremendous amount of extra work.

A simple arm sleeve of furcloth, with some padding underneath, will not form such a shape. The padding pushes outward in every direction and the furcloth tends to round out as a result of the padding pushing out.

To achieve a shape with the natural concave (inward curving) indentations we see in both the PGF and in real arms, one would need to do a custom shaped under structure of that exact concave shape, and then tailor the furcloth to that same contour.

So to add such a detail to a suit would require you to not only expend far more than usual effort for such details, but then anticipate that 40 years after your filming, a new imaging technology (computer graphics) would be invented to allow people to see the result of your suit-making handiwork. So you'd need to not only be a great suit-maker, but something of a psychic as well.

The Armpit Fold - In Conclusion

In conclusion, the armpit fold, plus the inward curvature below the deltoid muscle running down the arm toward the elbow, plus the hair lay across the transition from thick to thin, represents a fine example of body features which are anatomically correct and detailed impressively. They also represents a structure which is sufficiently rare in creature suits, and plagued with enough problems if a suit maker tries to replicate the effect, that such a suit has "failure" written all over it.

The contours and features are far more likely to be part of a real biological entity than a fabricated suit or costume. It is far more likely to be real than hoaxed.

Leg Studies

Currently I am evaluating the leg and hip region of Patterson's Filmed Subject (PFS) with particular concern for the odd lines across the hip and waist, the line along the thigh, which some claim is an indication of some kind of "hip wader" indication (the theory being someone is wearing hip waders under the suit and this line is where they stop on the leg), and others claim is some sort of "subduction" of one part sliding under another (it isn't happening).

My analysis is complete, but preparing the illustrations to explain the analysis are still in progress, and will be released in a future report segment.

PFS Non-Issues

I consider the following to be "non-issues", no worthy of debate because no conclusion can be reached.

The fur quality - Some skeptical people (and some makeup artists alike) have described the fur appearance as "cheap fur". But the fact is the film doesn't support enough resolution to make any determinations about the fur quality, beyond the simple appraisal that it is indeed some type of a fur-hair medium. So I regard this as a non-issue, to try and define the real vs fake argument of the fur-hair itself.

The breasts - these are within biological perimeters, so there's nothing inherently false about them, from a biological standpoint, but what we see in the film could have been fabricated in 1967. I personally do not see any motion of the breasts so conspicuous that any claim can be made for or against authenticity, based on said motion. So all claims about the breasts I personally consider non-issues

The arm proportions and questions of arm extensions - There are no arm extensions in use on this figure. And the arm proportions appear to me as within human range, long but not beyond all human examples, so I personally consider this a non-issue.

The "Hernia" - This in all likelihood is a mere light flare in one frame, accented by multiple copying of the film, into a fuzzy rounded highlight that could be mistaken for a bulge.

I expect to present a more detailed description of this at some future time, but for me, this is a non-issue.

Hand Movements - I definitely see hand movement in the film, but since a real hand and a human hand in a suit glove can move, I cease to consider this worthy of study or debate. There's a real hand there, no doubt. The only issue is whether its a bare natural hand or one wearing a glove. Analysis of it directly will never resolve this, because of the limits of film resolution. But because I find sufficient cause to rule out a suit from the other matters described above in detail, I consider this to be a real hand, without any suit or costume glove on it. I do look at the hand only as part of an analysis of the unusually relaxed bending of the wrist (see below).

Issues Deserving Further Study

The following are still analysis topics still in progress.

The Walk Cycle

Foot Motion Blur (to test the "Foot as Ruler" body scaling concept).

Height Calculation based on photogrammetry Solution

Comparative Anatomy

The prospect of a drooping right shoulder, a overly relaxed right hand, and the prospect the body exhibits some form of partial atrophy on the right side of the body.

In Conclusion

As I have stated, on many recent occasions, I feel the Patterson Filmed Subject is a real biological entity, and not a human in a fur costume performing a hoax. I find the biological evidence for real anatomy, and the counter consideration of how difficult and rare it would be to accomplish such with some type of costume, to be compelling by a preponderance of the evidence.

The issues deserving further study are to better define the biological entity we see, but I would not anticipate any of them (after further study is completed) to negate the above conclusion. I would expect such analysis to simply better define the biological characteristics of the filmed subject.

Bill Munns December 13, 2009