

Shroud as a negative –what is the key of the phenomena, and why the Shroud is unique.

Background: Once again we see that the sceptics trying to undermine the significance of the Shroud being a photo-negative. In a recent thread on [shroudstoryblog](#) David Mo writes:

Everybody has done sometime a negative image. It suffices to rub a paper on a coin with a pencil. Furthermore, I have done a negative image with a pencil and a finger in 5 min. Where is the mystery?

Similarly Charles Freeman disputes the importance of negative characteristics of the Shroud, claiming that it is easy to obtain similar effect:

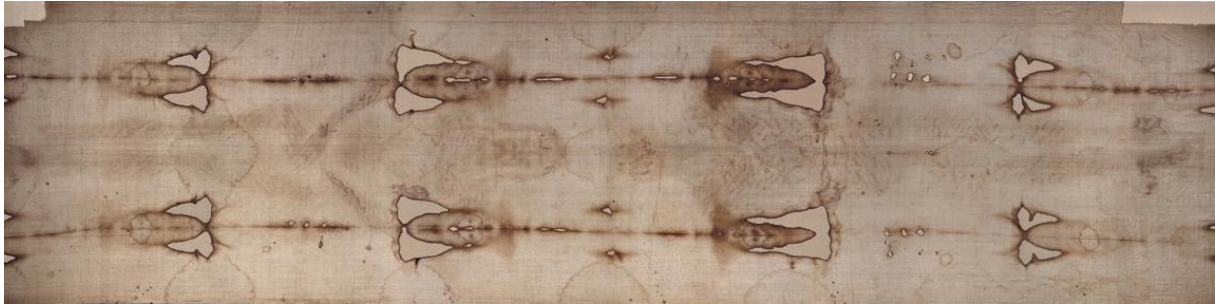
I can't see anything in the photographic negatives that I could not see in negatives when I was being taught how to develop my own photos as a schoolboy in the fifties. They were equally haunting.

[...]. The artist has transferred the chest wound over to the other side but not much else. He has copied the trend by providing all over-all flagellation marks, that first appear in medieval art c. 1300. As Van Eyck shows, medical artist were capable of imagining alternative ways of looking at images although the Shroud is pretty crude by the standards of the great artists of this period. It has even been suggested to me that he may have been copying off a model template,

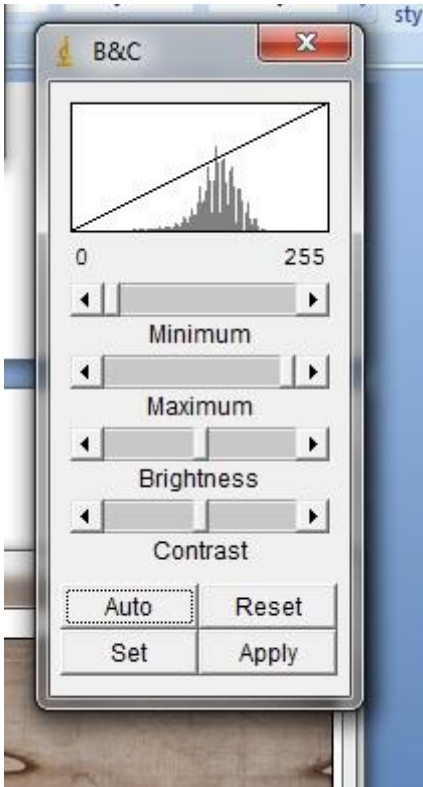
I think the first one to belittle the importance of the Shroud as negative was Joe Nickell in his *Inquest on the Shroud of Turin* –this was later picked up by another sceptics. I have myself written two polemical articles (here is [one](#) and [another](#)) with two guys using argumentation borrowed from Nickell. The problem is that sceptics use classical fallacy of equivocation –the negative as mirror imprint (for example animal tracks) and the photographic negative. This is like mixing file folders to hold papers with computer files and folders. For changing meaning of the term ‘negative’ see classical article by Isabel Piczek [The Concept of Negativity Through the Ages vs The Negative Image on the Shroud](#).

Anyway the problem remains –why the Shroud is so special as photographic negative? What is the magic in the Shroud that negative image of it (discovered by Pia in 1898) is much more detailed and vivid than positive image? It is not simple inversion of tones, not to say about mirror inversion of orientation –those are trivial. So what's the secret? Unfortunately, this is usually never explained in simple, clear logical and correct way. So I will try.

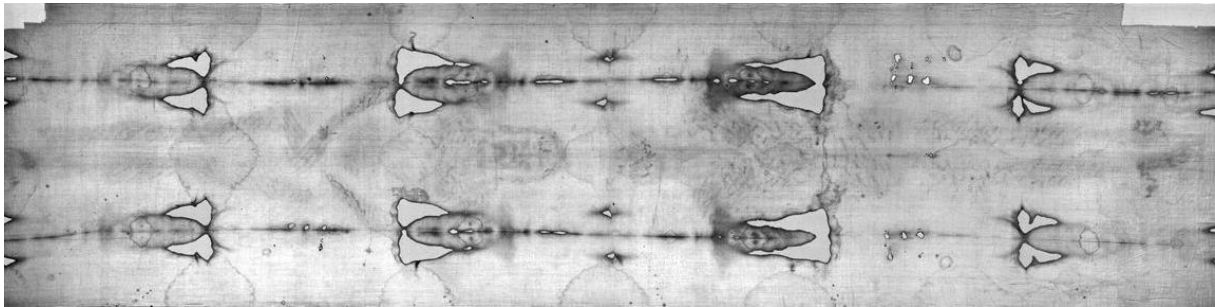
Here we have Durante's positive image from the [ShroudScope](#):

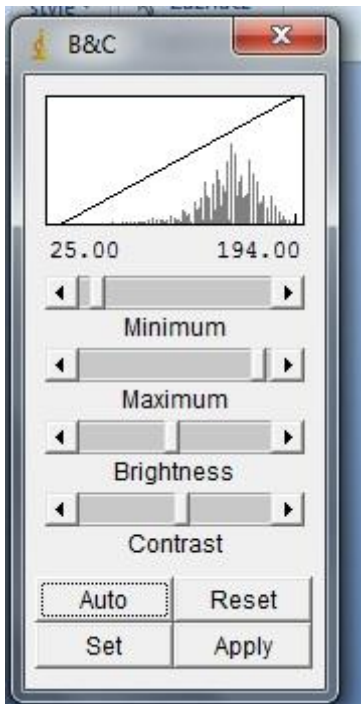
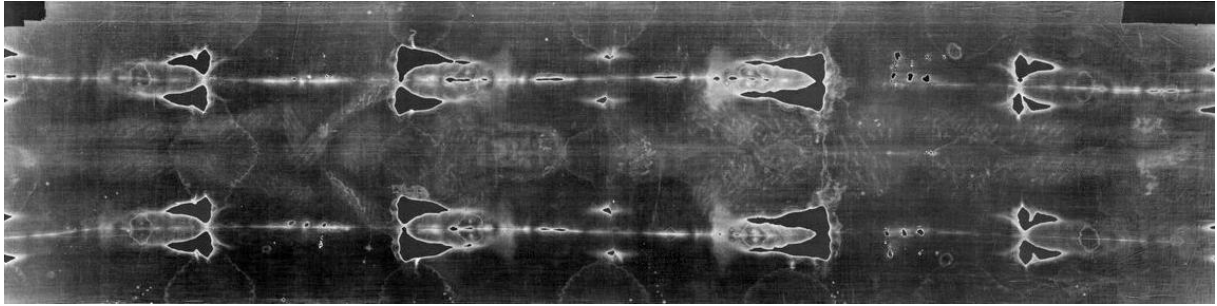


Here we have the graph of default greyscale of it:



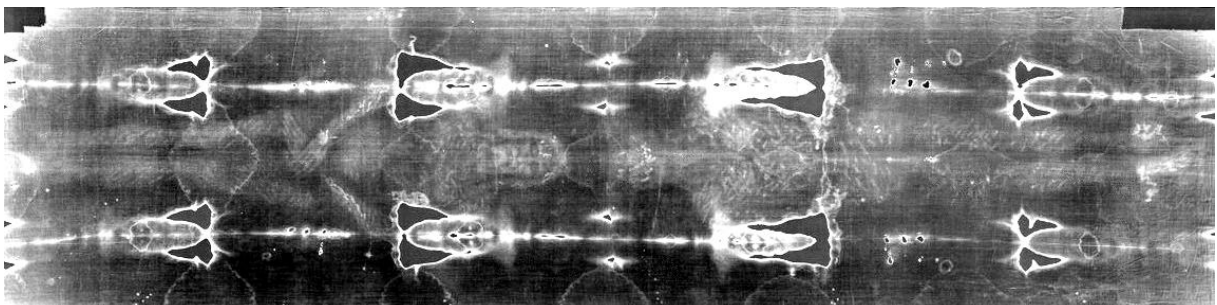
We see the greyscale ranges from 0 to 255, however only the half of this range is covered the pixel values. Then let's convert it to B&W, and invert the tones:



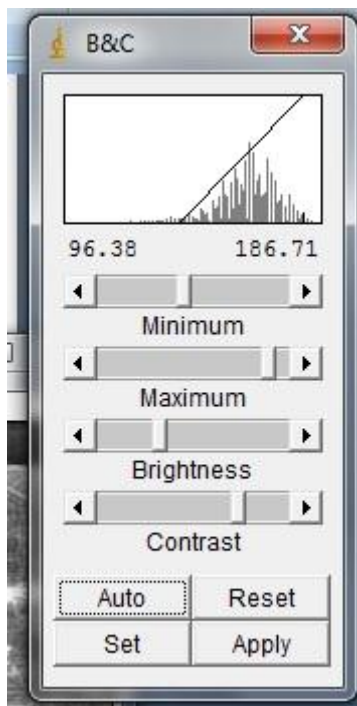


We should have noticed two things. First the greyscale range has narrowed, now it is only from 25 up to 194. That increases contrast and makes the details easier to see. Secondly, we see that after tonal inversion the image is much vivid. It is because our eyes are better adapted to see bright shapes on dark background than vice versa.

Now let's modify brightness and contrast:



Now that's really cool! The figure and its details are fully visible. Why? Because we have further narrowed greyscale ranges (now ranging from 96.38 to 186.71, nearly three times less than original) and increased contrast.



From Wikipedia's article [Negative \(photography\)](#):

Film negatives usually have less contrast, but a wider [dynamic range](#), than the final printed positive images. The contrast typically increases when they are printed onto [photographic paper](#).

That's it, as the original Shroud is in fact a kind of "film negative", and negative images of it are in fact **positives** ("photographic paper" we could say). That's why negative images of the Shroud allow us to see more details. The original full-greyscale image of the Shroud figure is in fact "compressed" on the cloth, so our eyes are unable to resolve different values of intensity. Only contrast-enhancing photographic negatives (or digital manipulations) enable us to do so. What are the implications for forgery theory? Giant –medieval people were simply unable to paint full, smooth-gradation greyscale image not only in tone-reversal, but first of all in compressed scale. Their eyes were the same like ours –the alleged forger should have well calibrated photometers in them. In fact, the photographic characteristic of the Shroud alone refutes overwhelming majority of forgery theories. One should be aware that the information about different grey levels is **integral** part of the Shroud image –encoded within it. It can be practically excluded that this encoding is just accidental –for example that it remained within residual image, after all paint had flaked off, like Charles Freeman proposes. It must have been in the original image (and somehow survived erosion, which usually has no uniform rate for all the parts of the cloth) –which returns us to the argument that painting negative image, especially out of nothing, is rather beyond human capabilities.