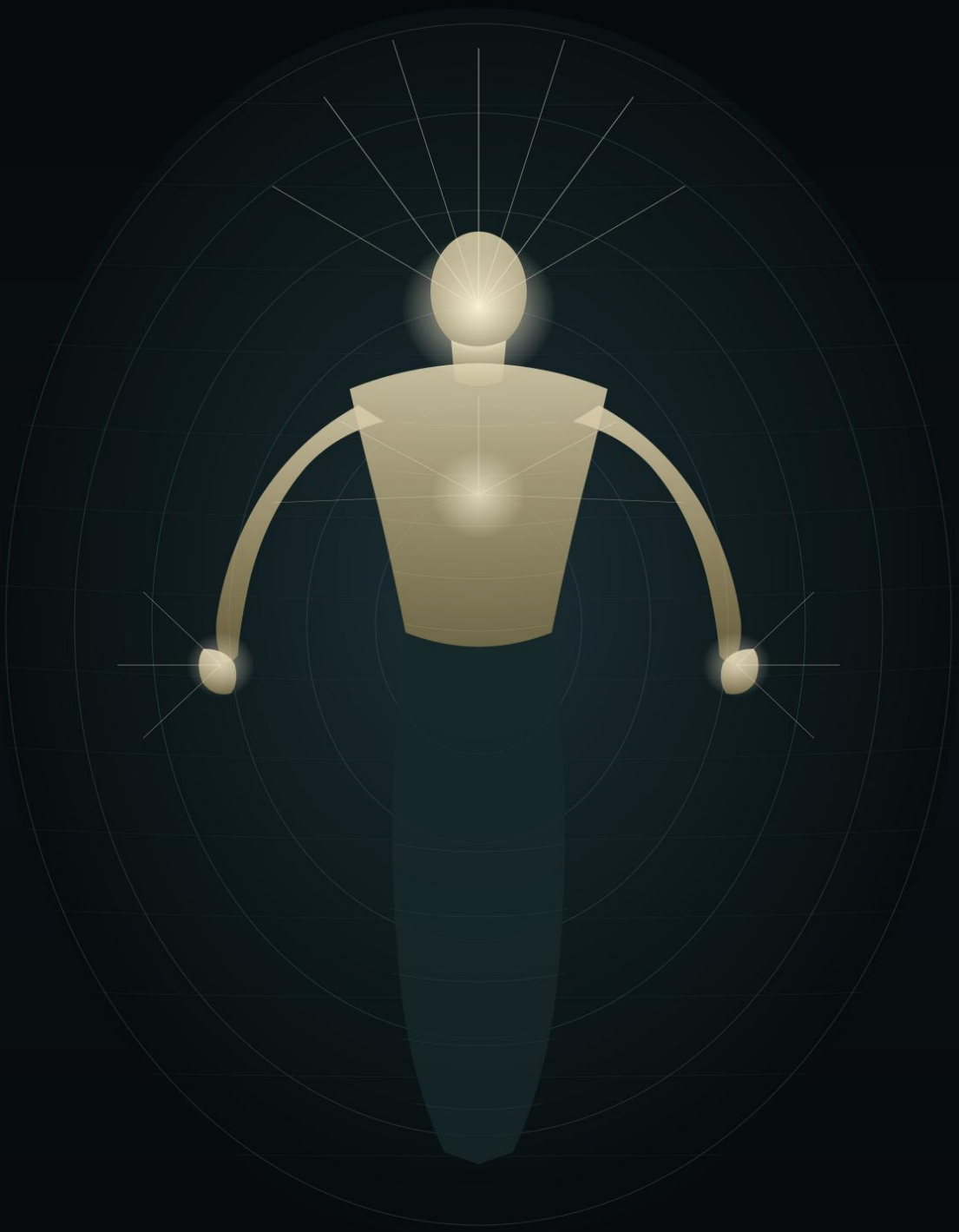
A SIGN FOR OUR TIME



Resurrection
AND THE
Shroud

Craig Paardekooper

Resurrection and the Shroud

by Craig Paardekooper

RESURRECTION AND THE SHROUD

Evidence, Inference and Ontological Conclusion

First edition, 2026

Introduction

For nearly two thousand years, the Shroud of Turin has kept its secret in silence. Millions have gazed at the faint, ghostly image it bears — a face, a body, wounds — and wondered how it got there. Was it painted? Scorched? Imagined by pious eyes? The debate has raged for generations, and it has never been settled.

This book approaches that mystery from an angle almost no one has tried: not with theology, not with carbon dating, but with light itself. Because if you look closely enough — pixel by pixel, millimetre by millimetre — the brightness of the image on the cloth is not random. It rises and falls in a pattern. And that pattern turns out to encode something the naked eye could never have seen: a third dimension, hidden in two.

What emerged from that measurement was not what I expected to find. The image doesn't behave like a scorch, a rubbing, or a painting. It behaves like something recorded at a distance — fainter where the body curved away, brighter where it drew near, and then, at a certain point, vanishing altogether, as if the body itself had been swallowed by an invisible horizon. Trace that horizon across the whole figure, and it forms a single, level plane — as though the man in the Shroud were lying, at the moment the image was made, half-submerged in something unseen.

I did not go looking for a resurrection story. I went looking for a brightness curve. But the data kept pointing toward the same startling conclusion, cross-section after cross-section, body part after body part, until the pattern became impossible to dismiss as coincidence.

What follows is the evidence, measurement by measurement — so that you can look at what I found, and decide for yourself whether it changes how you see the cloth, and the story it may be telling.

Contents

Overview

Overview

Look closely at the Shroud of Turin and you'll notice something the eye almost misses: the image isn't uniformly bright. Some parts of the body glow more faintly than others, and the difference isn't random — it tracks elevation. The parts of the anatomy that stood highest and nearest to the cloth are the brightest; the parts that lay lowest and furthest away are the dimmest.

If brightness rises with proximity to the cloth, then whatever produced the image must have acted across a gap — the way radiation does, weakening as it travels. And the fact that the image still resolves into a recognisable face, rather than a blur, tells us something more: this radiation wasn't scattering in every direction. It was travelling in straight lines, each point on the body casting its mark onto one corresponding point on the cloth, like a kind of print.

Follow that logic further and it leads somewhere stranger still. If brightness fades with distance, there should be a point — some fixed distance from the body — where the effect becomes too faint to register at all. And there is. I call it the invisibility line: a boundary beyond which the image simply stops. What's remarkable is that this boundary sits at the same elevation everywhere on the body, from the temples to the knees to the ankles. At this boundary, the body disappears as if it is half-submerged in water. A boundary that level can only mean one thing — the cloth itself must have been suspended flat above the body, at a constant height, when the image was formed.

Book Sections

The book is divided into 4 main sections

1. Body Parts

The following sections examine each body part by taking horizontal and vertical cross-sections, including –

Crown | Forehead | Brows | Eyes | Legs | Waist

2. Direct Proportion

I show how image brightness decreases with Shroud-body distance by creating graphs of brightness against body elevation, which produce straight lines.

3. The Invisibility Line

If the image is produced by radiation that diminishes in intensity with distance, then it follows that all points on the body image will fade into invisibility at a common distance from the Shroud. The fact that this invisibility line is horizontal and at the same elevation across the whole body, means that the Shroud was suspended in a flat plane above the body when the impression was formed on it.

4. Tools of the Trade

None of this rests on the eye alone. I built simple software to measure the brightness of every pixel along any chosen cross-section of the Shroud image, and I've made it available as a downloadable application — together with a full description and the code — so you can upload a Shroud photo yourself and check these findings directly.

What follows is that argument laid out in full — cross-section by cross-section, body part by body part — building toward a single, striking picture of how this image may have been made, and what it might mean. I hope you find it as life-changing as I certainly have. I can find no better word for it.

About the Shroud

The Shroud of Turin is a linen cloth approximately three and a half feet by fourteen feet. This cloth displays the blood marked image of a naked man who carries the same wounds of torture and crucifixion as described in the Gospel of John which tells of the passion and death of Jesus.

The Shroud was brought to its present location, the Turin Cathedral in Italy, in 1578. It was first photographed in 1898 by Secondo Pia and then again in 1931 by Guiseppe Enrie. In 1978 it was photographed by Vernon D. Miller. These photographs have been made available to the world via the internet, providing access to all who want to conduct research on the cloth's mysterious image, explore its genesis and meaning, contemplate its beauty and reflect upon it.

About Vernon Miller

Vernon Miller was designated as the official scientific photographer of the 1978 Shroud of Turin Research Project, Inc.-STURP. His high-resolution photos of the shroud can be viewed here - https://shroudphotos.com/

Vernon Miller was a world-wide renowned scientific photographer of the historic Brooks Institute of Photography in Santa Barbara, CA. One of the finest photographers of his time, Vernon Miller was designated as the official scientific photographer of the 1978 Shroud of Turin Research Project, Inc.-STURP. This team of scientists spent more than 120 hours conducting tests on the Shroud.

It was Vernon's wish to have his collection digitalized so that it could be available to future generations.

The Photo Collection

All of the 199 high-quality photos in the collection can be magnified allowing excellent visualization of Vernon's work.

Vernon Miller took 7 different types of photographs. I will be using the black and white photographs, since these are the best images for measuring differences in pixel brightness. The coloured photos are not relevant to this study, since I am not measuring differences in colour. The black and white photos are already pure luminance data, with the highest contrast.

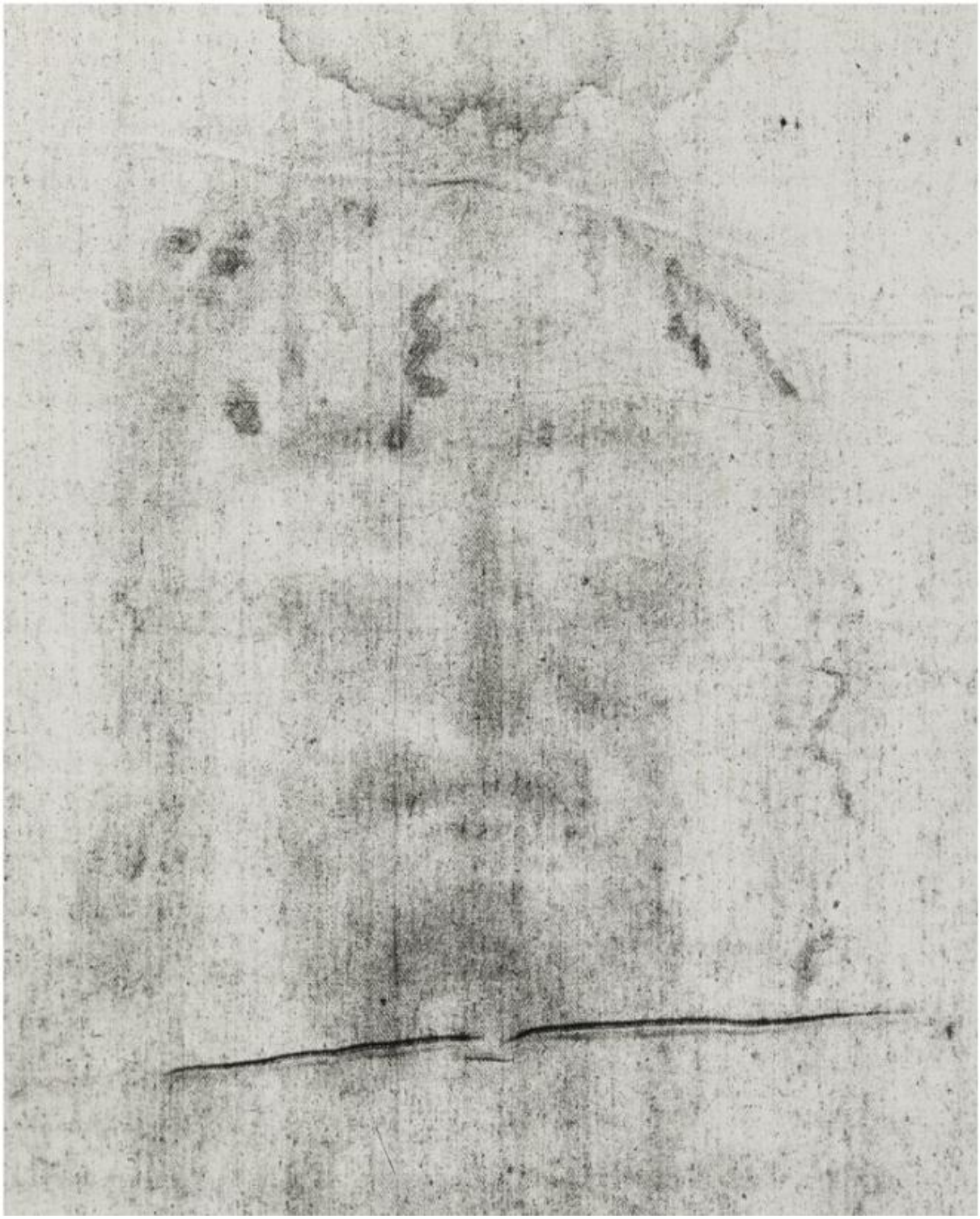
Between the two black & white options:

- **4x5 B&W** — good for Shroud Positive Image, Shroud Negative image, High Contrast Image.
- **8x10 B&W** — same three, plus Extreme Closeups.

The 8x10 films are the better pick if cross sections need fine spatial resolution (more detail per unit length along the section), since they provide extreme closeups on top of everything the 4x5 set offers. The 4x5 set is otherwise identical in what it's good for.

The Face of Christ

This is the starting image as visible with the naked eye. It looks like a blurry outline of a male face – lacking fine details as if sketched using charcoal.

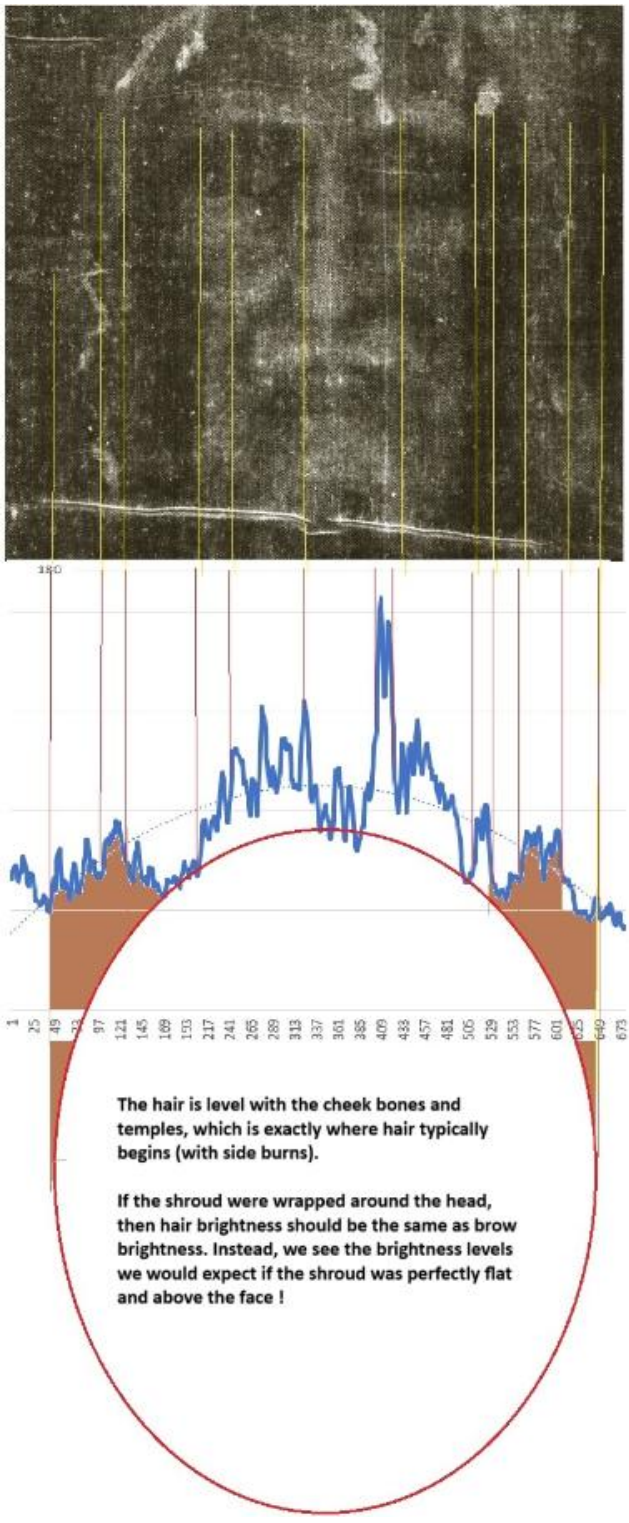


Here is the negative that I got when inverting the colours. It looks like a photograph. His face looks long and the nose is long and angular. My first impression was that he looks Arabic. Arabic belongs to the semitic family, which includes Israel. Zooming in, you can see the weave of the linen. https://www.quora.com/Why-do-Arabs-have-long-faces

Part 1: Cross-sections

The Brows of Christ

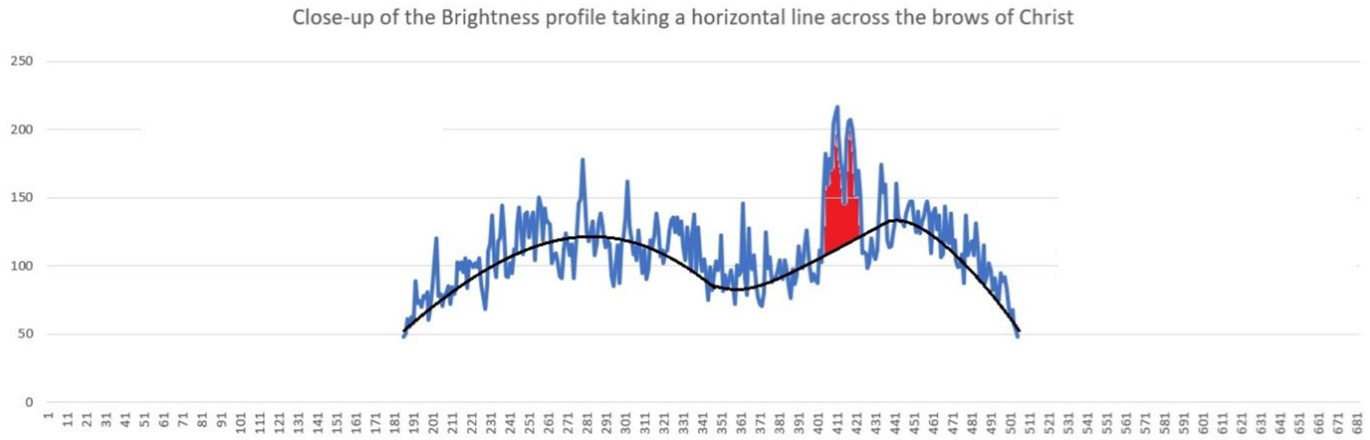
I measured the pixel brightness across the brows. The horizontal numbers are the pixel position along the cross section. The blue line is the brightness of each pixel. Some prominent peaks are produced by blood marks shown as white on the photograph.



I detected the curvature of the skull in the brightness profile This means that the Shroud must have occupied a flat horizontal plane above the face at the moment of impression.

Different points on the face were at different distances from the Shroud, yet the image maintains a high resolution, indicating that the radiation producing the image was to some extent collimated (emitted in a non-diffuse manner, i.e. in straight lines perpendicular to the plane of the Shroud)

The brows span the entire width of the face. Their brightness profile follows a curved contour. The red peak is a blood mark, which shows as very bright. It is adjacent to a swelling, so the left brow was probably injured. The brows are clearly discernible with the valley in between. The left eyebrow is clearly swollen, which would account for the steeper fall in brightness as we move towards the edge of the face.



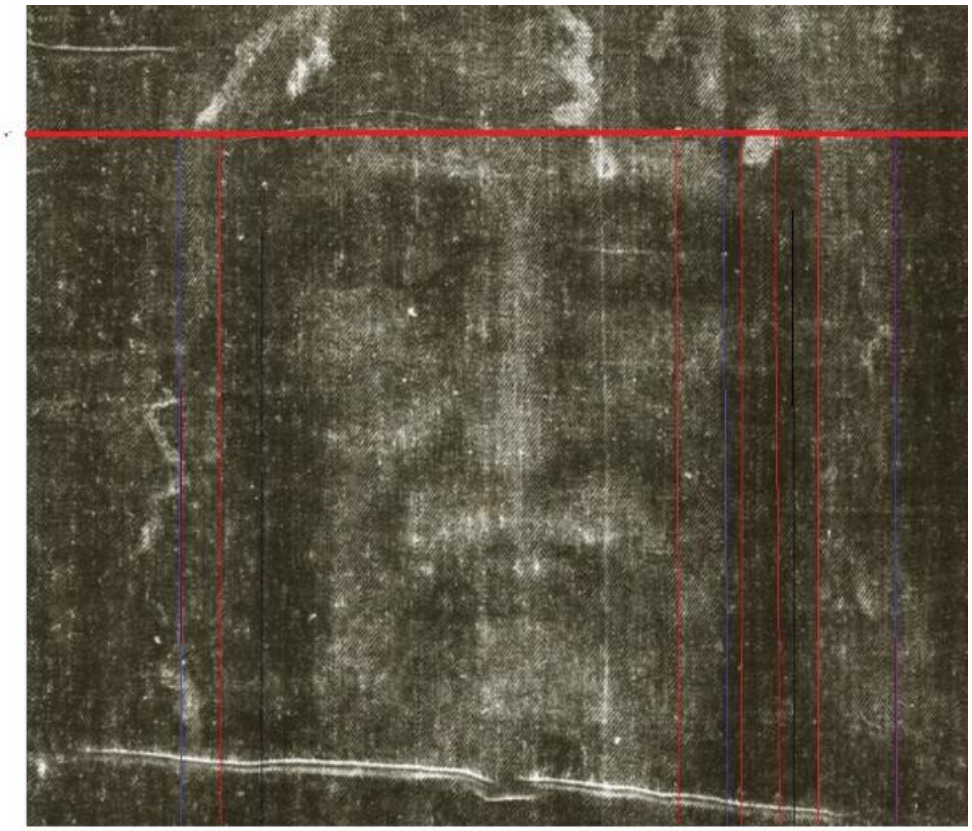
Notice that the minimum brightness is 50 units. This is the invisibility point – where the radiation was too weak to impress an image that was distinct from the background. The curvature of both brows is clearly discernible.

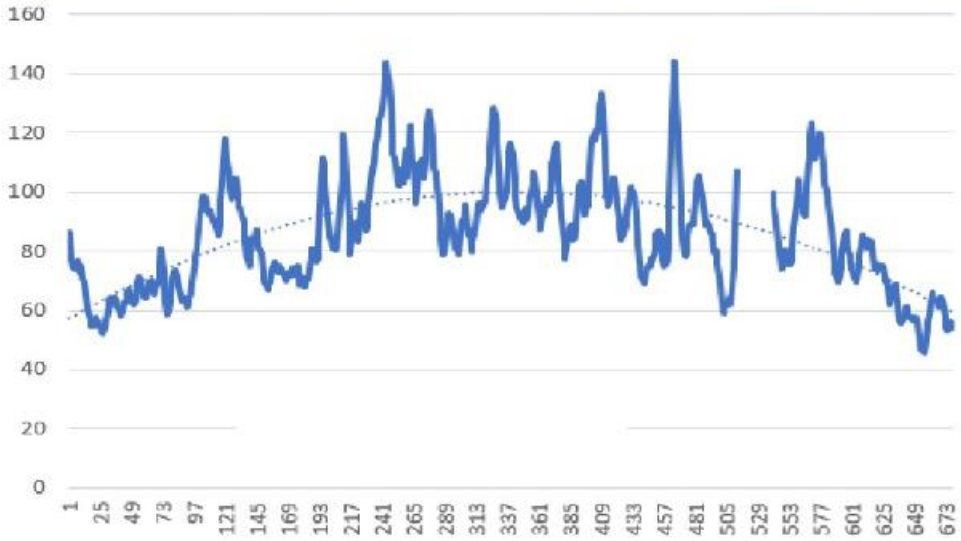
If the Shroud was in contact with his face at all points, then the Shroud-body distance would be the same at all points, and brightness would be uniform with no brow contour. The fact that the brightness follows the shape of the brows is striking evidence that the Shroud was actually suspended horizontally at the moment of impression, and was not in contact with the face.

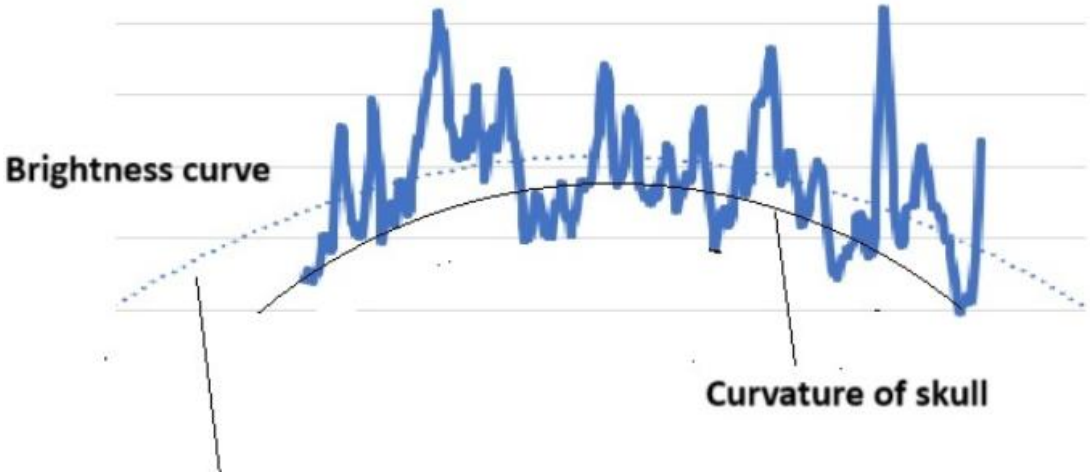
The Lower Forehead of Christ

I measured the brightness of each pixel along the cross section marked by the red line. At each point, 5 vertical pixels were taken and their brightness averaged. The data was then smoothed with a 5 point moving average. The curvature of the forehead is apparent. You can see that this approximates the curvature of the skull.

The image is lost when brightness falls below 50 units, because this is the background brightness of the linen for this cross-section. The radiation had no visible effect on the linen below this. Therefore the radiation seems to have a limit or range, whereby its effect become imperceptible at a certain distance.







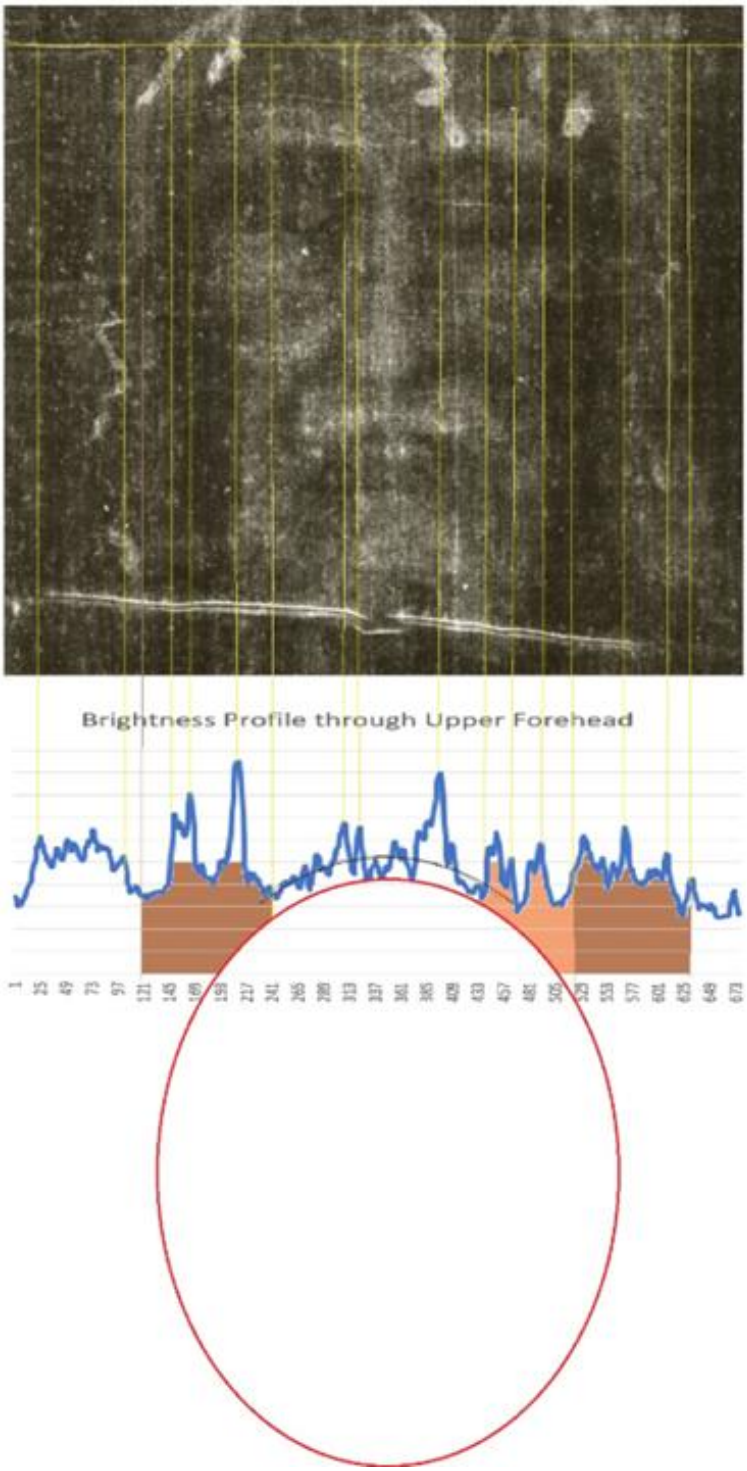
The dotted line is the trend line generated by excel, and is the best fit to the brightness data. Below it is a solid curve representing the actual curvature of the skull. If the Shroud wrapped the head, then the body-shroud distance would be the same at all points, and so brightness would not be a curve but simply a uniform flat line.

What we see instead is that brightness becomes dimmer as we move out from the centre of the forehead – as the body-cloth distance becomes greater. The fact that a curve in brightness is apparent means that the Shroud was not wrapping the face at the moment of impression, but rather was a flat surface floating above the face.

It is curious that the image resolution is maintained for the peripheral of the forehead which was further away, suggesting that a non-diffuse energy produced the image.

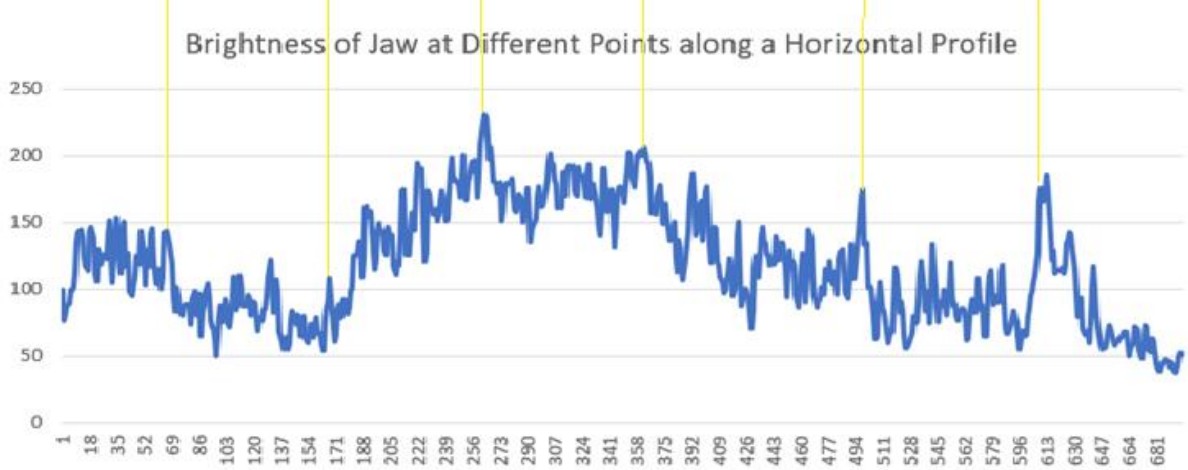
The Upper Forehead of Christ

The brightness profile running through the upper forehead shows the correct curvature corresponding to the curvature of the skull at that point.



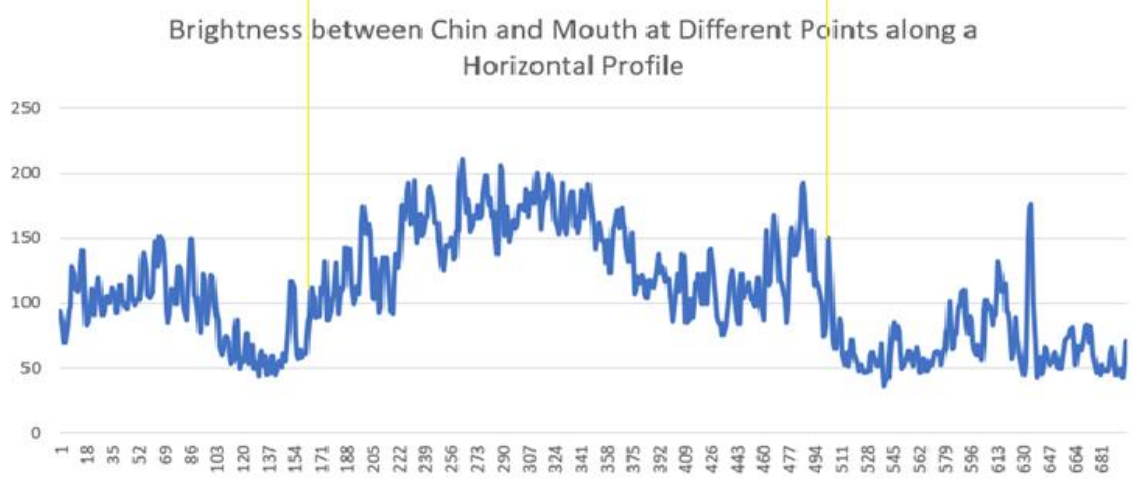
The Jaw of Christ

A brightness profile taken across the jaw shows the elevation of the chin as highest, with the jaw sloping away on either side. The jaw looks asymmetrical with swelling on his right side. The hair shows as slightly brighter than the background.



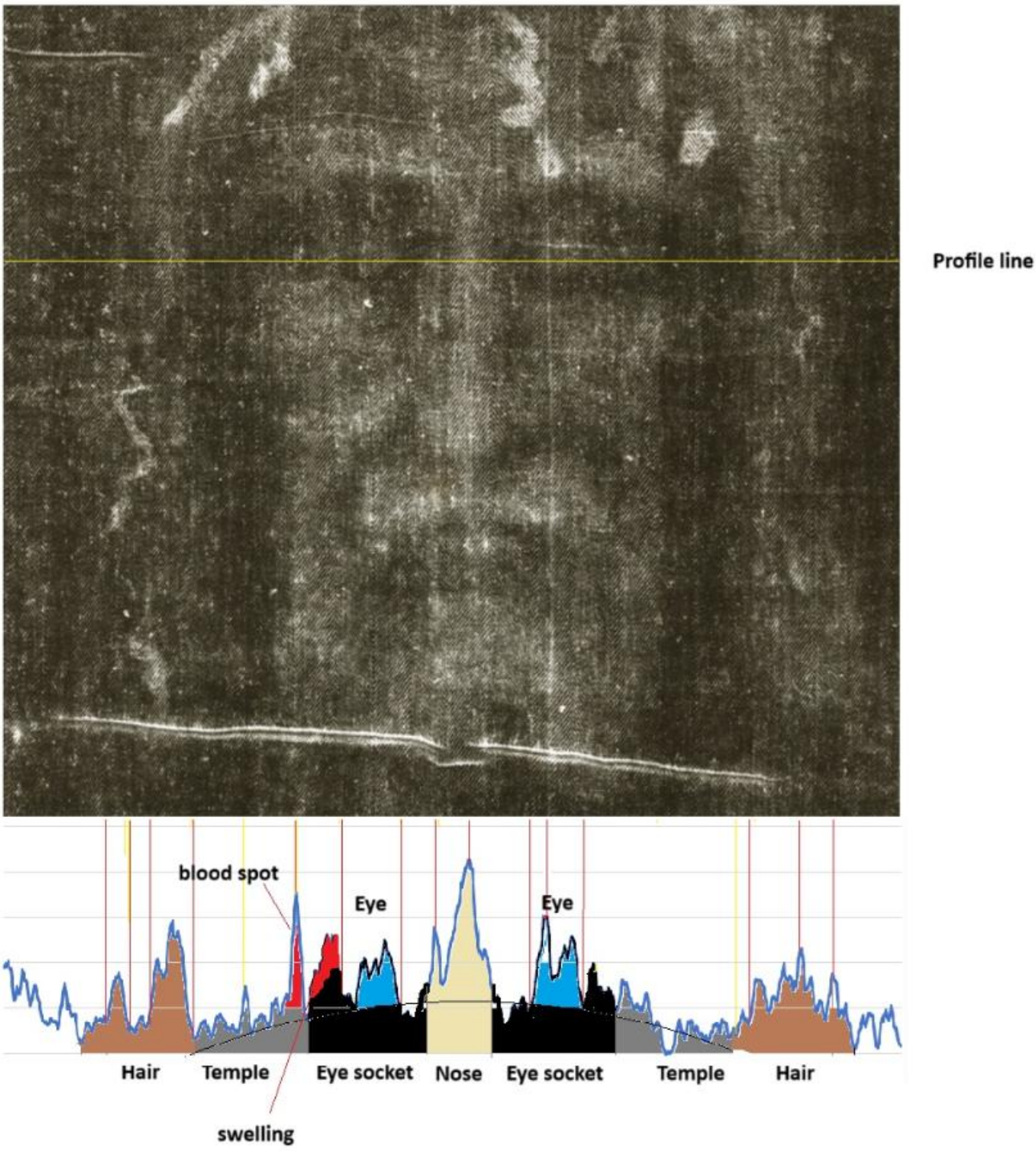
The Chin of Christ

Once again, if the Shroud was in contact with his face, then brightness should be uniform. Instead, we see brightness diminishing as the jaw recedes and we move from the centre to the periphery of the face. The image suggest that the Shroud was suspended as a flat surface above the face at the moment of impression.



The Eyes of Christ

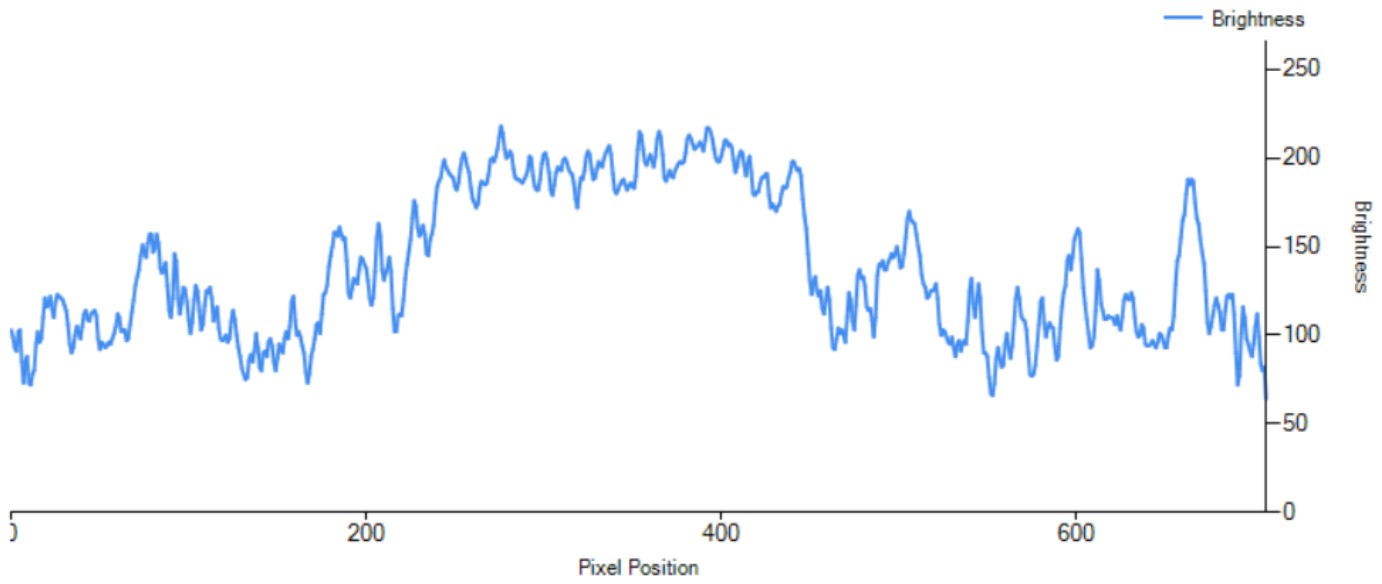
The brightness profile across the eyes shows that the nose, eyes and temples follow the curvature of the skull. The eyes and eye sockets are higher than the temples. If the Shroud was wrapping the head, then the hair should appear with equal brightness to the nose. Conversely, a Shroud suspended in the air above the face would exhibit a brightness profile as found.



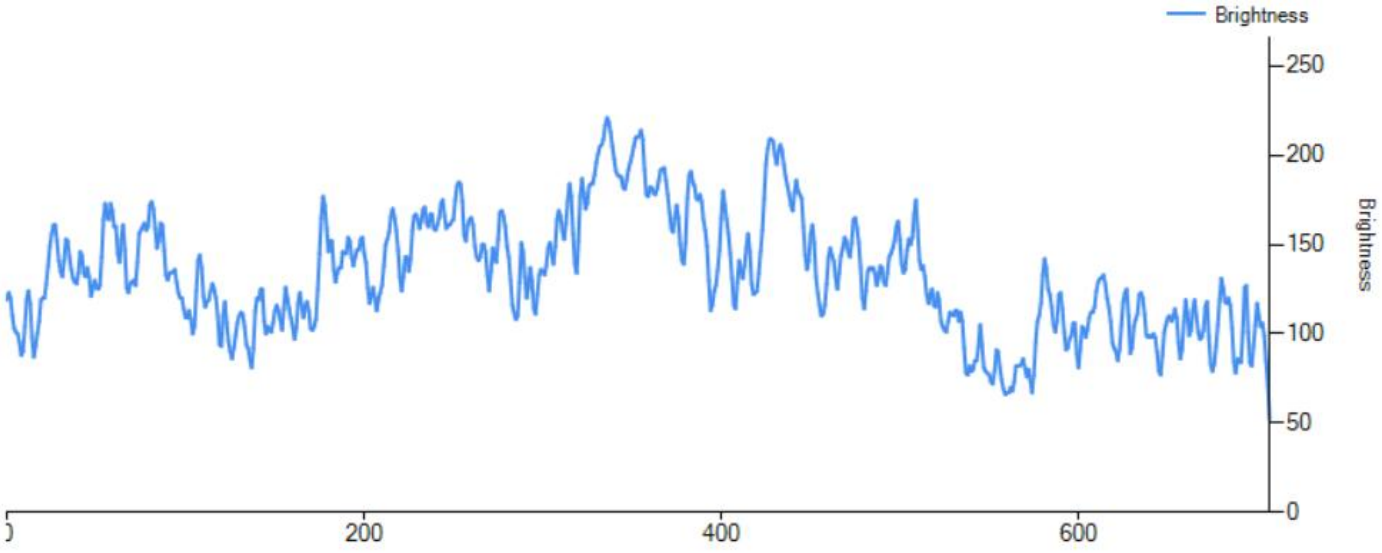
The Moustache of Christ

The upper lip has a far higher profile than the lower lip, as evidenced by a uniform brightness of the upper lip over a distance of 220 pixels with a brightness of 200 units, compared to the lower lip that reaches a brightness of 200 over a distance of 24 pixels. This means that Jesus had a moustache.

Horizontal Section through the Upper Lip

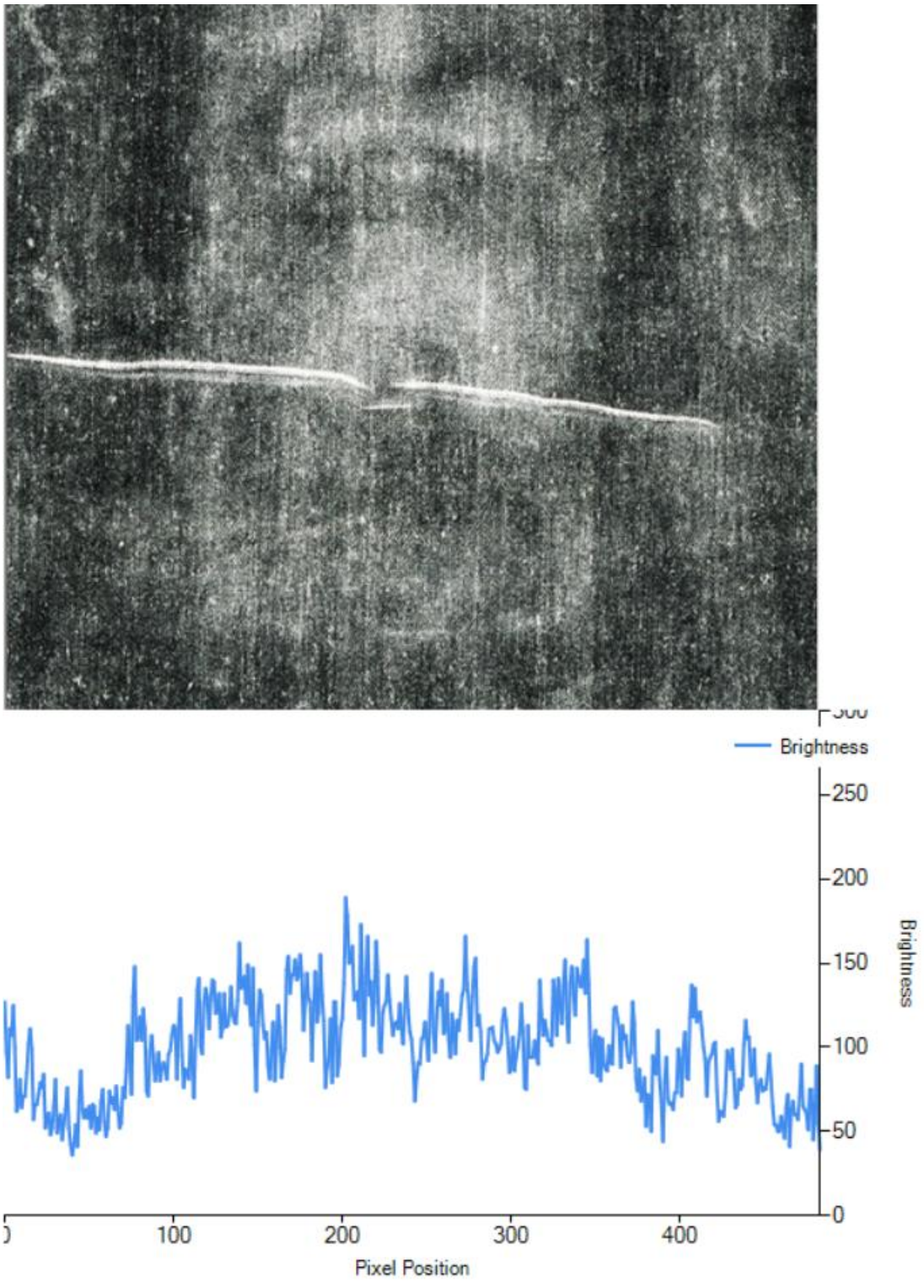


Horizontal Section through the Lower Lip

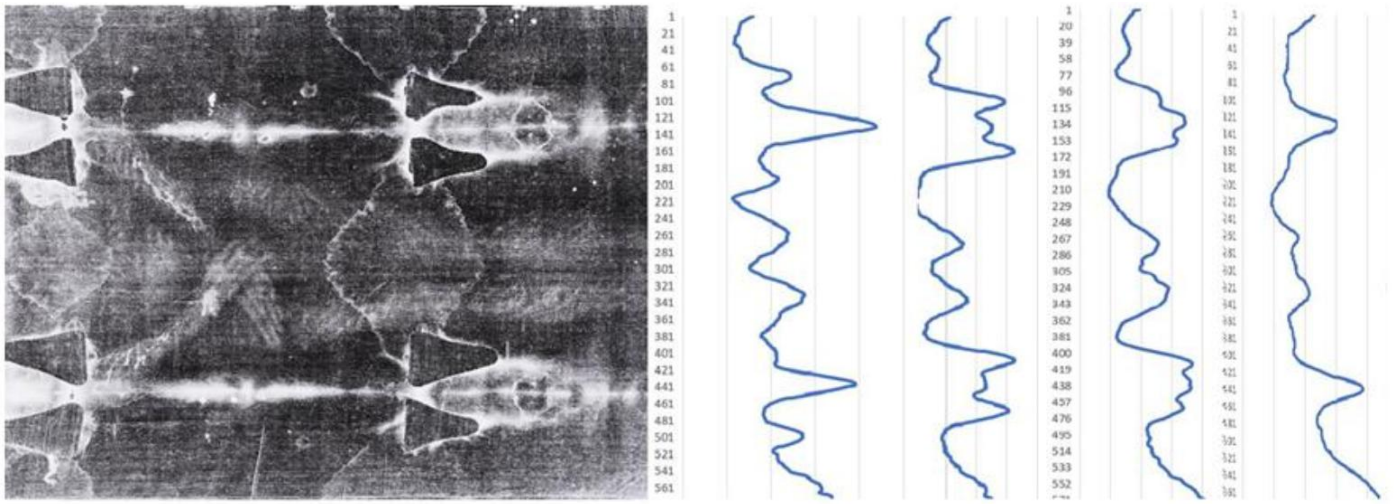


The Neck of Christ

There is a definite brighter banded area around Jesus's neck. It has two parallel edges, has a curved brightness profile, and seems to extend to his right. This could be a cloth band used to hold the mouth shut during the onset of rigor mortis, but now laying relaxed across his neck, or it could be some other band-like covering.



The Calves of Christ



The right leg was raised higher than the left, because the right foot was nailed on top of the left foot. This is evident from cross sections taken through the legs.

Lower Calf:

A vertical cross-section taken at the lower calf shows that the right lower calf is elevated above the left. This was because the right foot (in this picture) was nailed on top of the left foot during crucifixion.

Middle Calf:

A vertical section taken through the middle calf, still shows the right middle calf is elevated above the left, but the difference in elevation, based on brightness, is slightly less.

Upper Calf:

vertical section taken through the upper calf, shows that the right upper calf is now only very slightly elevated compared to the left.

Knees:

A vertical section through the knees, shows that the right knee is elevated above the left.

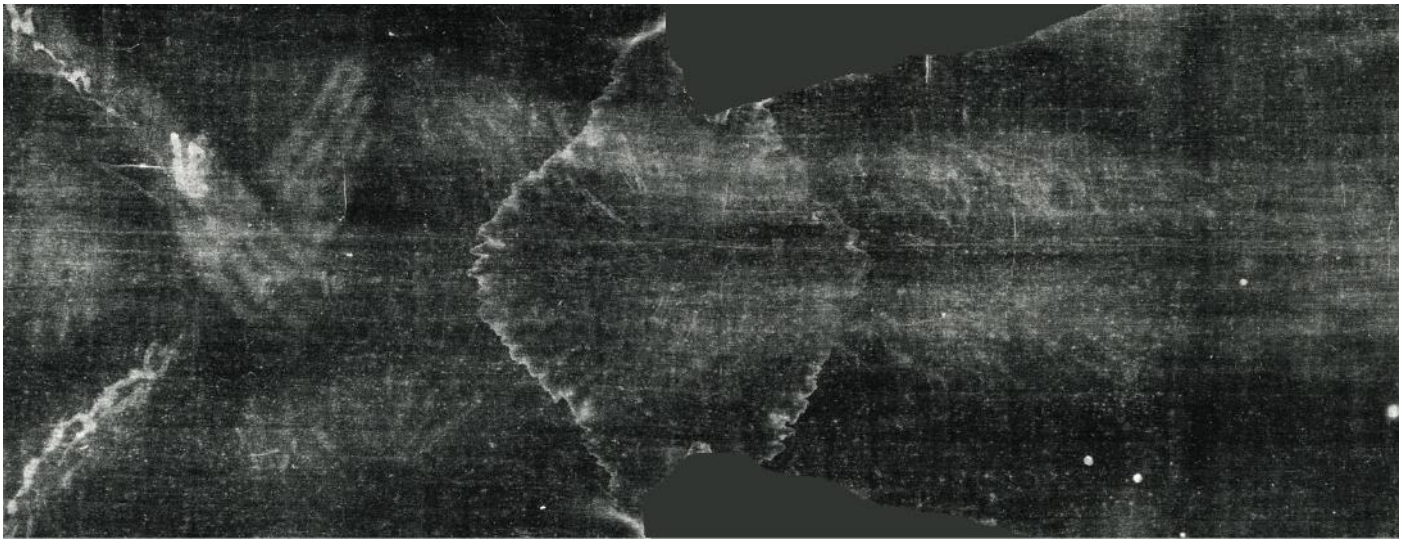
General Elevation:

The right leg is consistently brighter than the left, showing that it is elevated compared to the left.

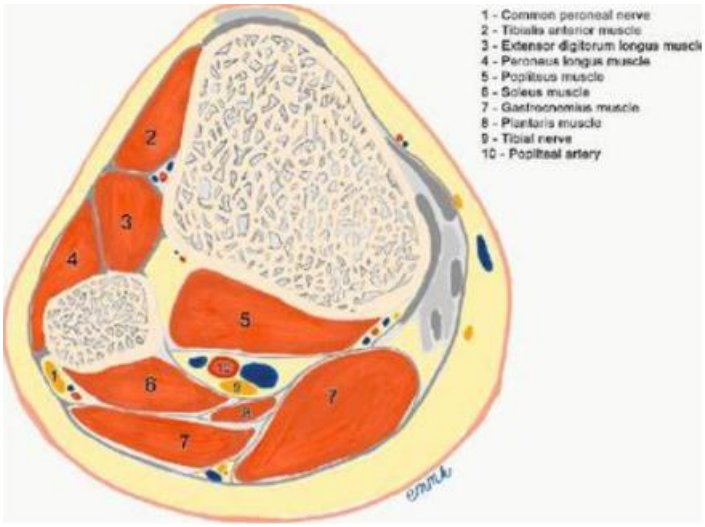
Cross section:

Both legs have a curved cross section, so their edges are more distant than their centres. Therefore, the images of the limbs become dimmer as we move from centre to edge. The gradation from bright to dim is constant, as can be seen from the brightness profiles to the right of the picture above. Since this gradation is caused by a progressively lower density of discoloured fibres, it would be impossible to paint. It is a radiation effect that would be totally impossible to even see in Medieval times. The density of discoloured fibres decreases in direct proportion to the distance from the centre!

I took different left to right cross sections across the knees and recorded the bright-ness profiles. The photo is image 060 found here - Gallery – Page 3 – Shroud Photos.



Viewed from above, the calf has a triangular contour. From below, the calf has a circular contour.



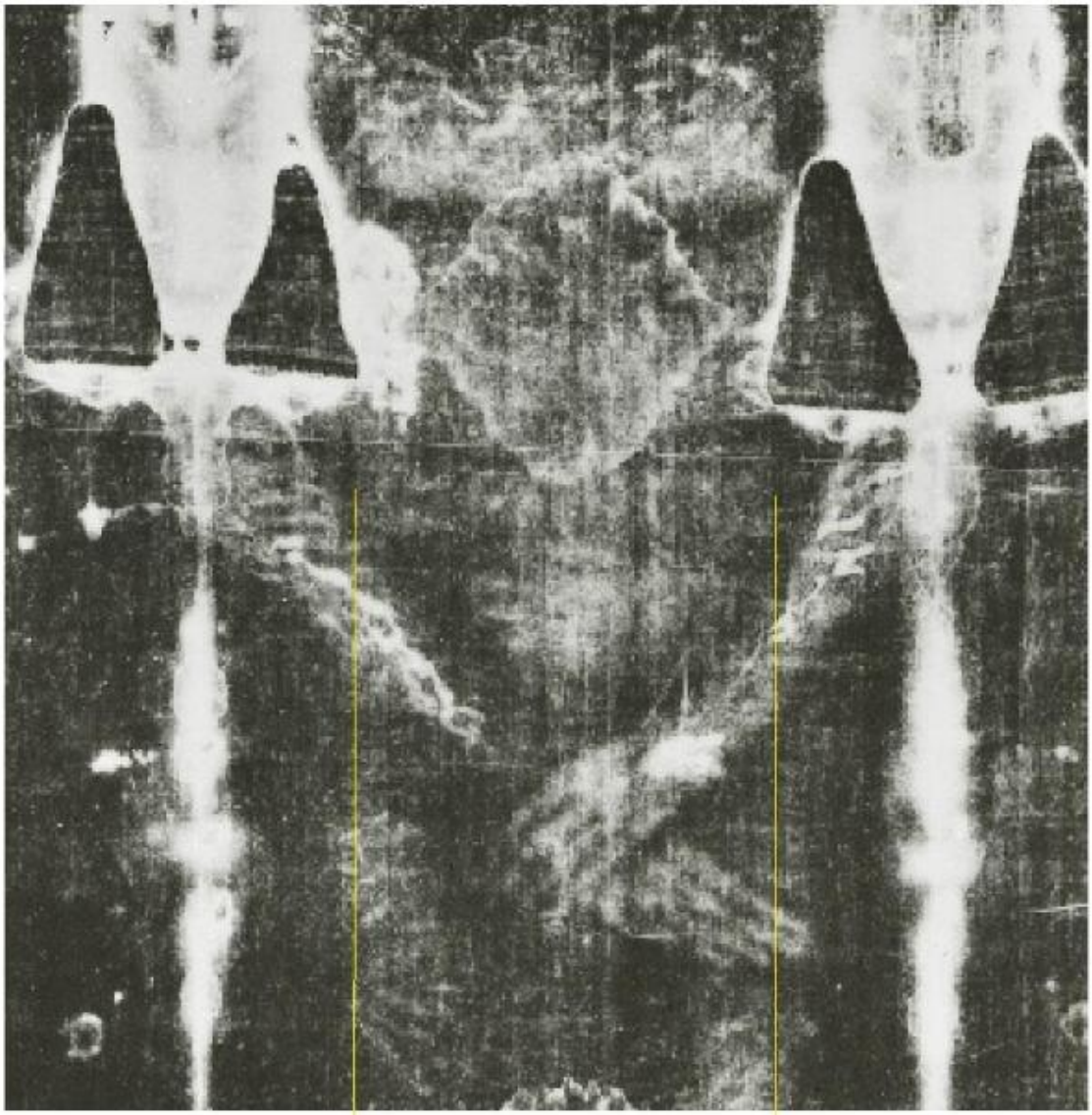
If the Shroud was draped over the calves, then each point on the outer sides of the calves should be the same distance from the Shroud as the centre and so have the same brightness. Consequently, the bright-ness profile should be constant across the calves.

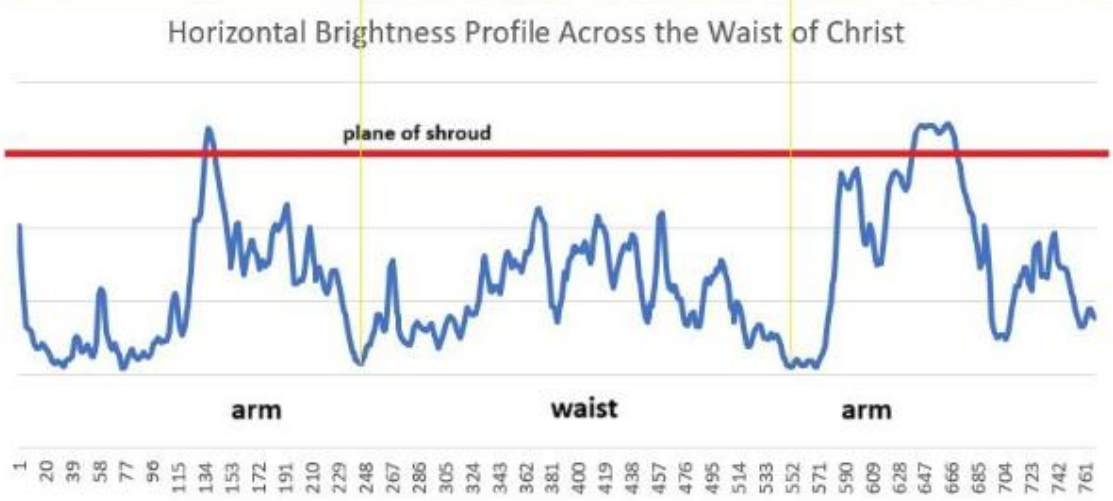
Alternatively, if the Shroud was suspended horizontally above the legs, then each point on the periphery of the calves would be further away from the Shroud than the centre, and therefore produces a dimmer image. Consequently, the bright-ness profile should be sloped towards the outer sides.

What we find is a triangular brightness profile, where the brightness of the calves decreases as we move from centre to periphery.

The Waist of Christ

The brightness profile shows that the waist was progressively more distant from the Shroud as we move from the centre towards the sides of the body.

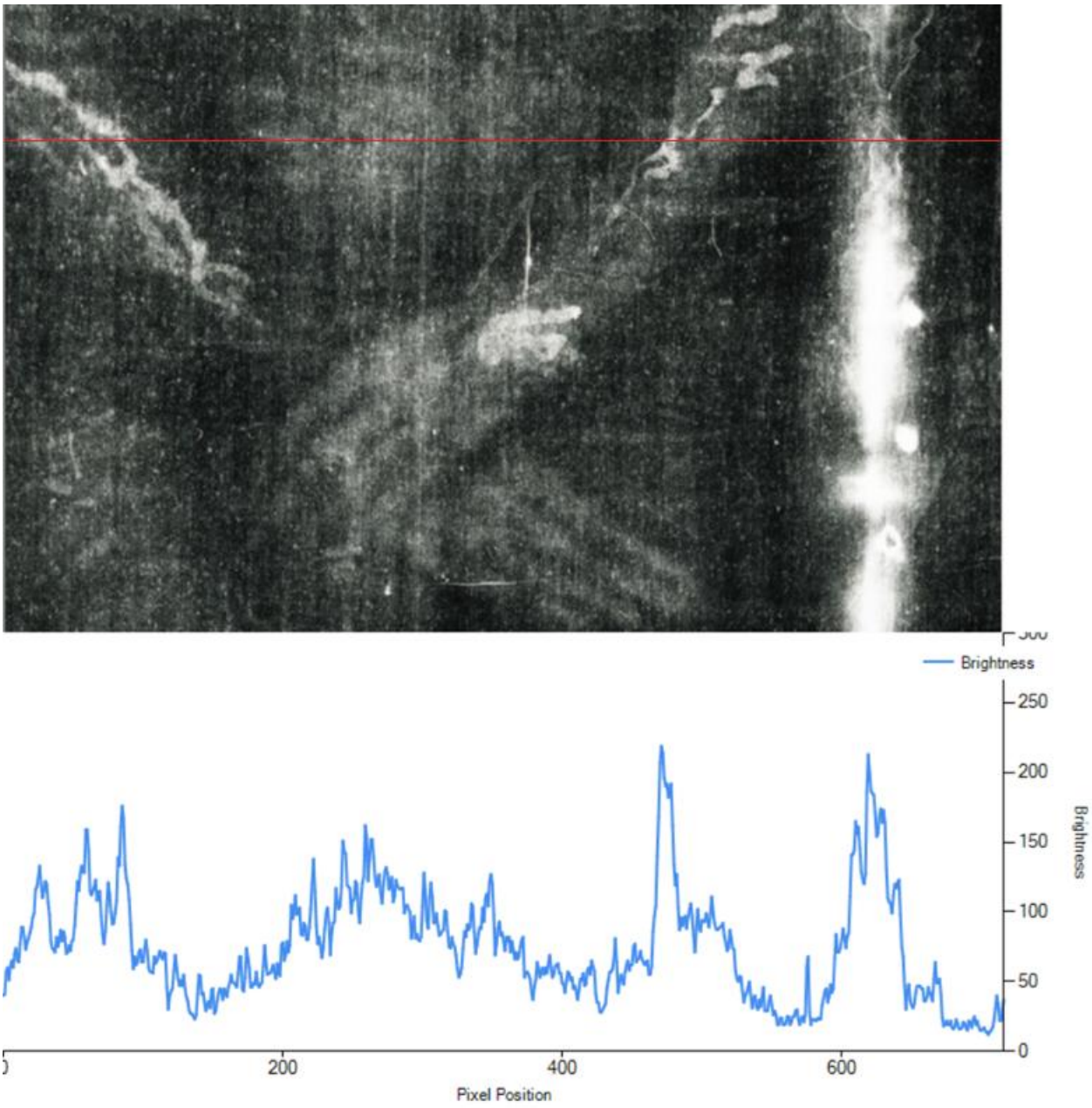




There may be a belt around the waist, with parallel edges that remain equidistant over its length. There also may be a circular object over his stomach, below the belt. This may be a buckle of some kind.

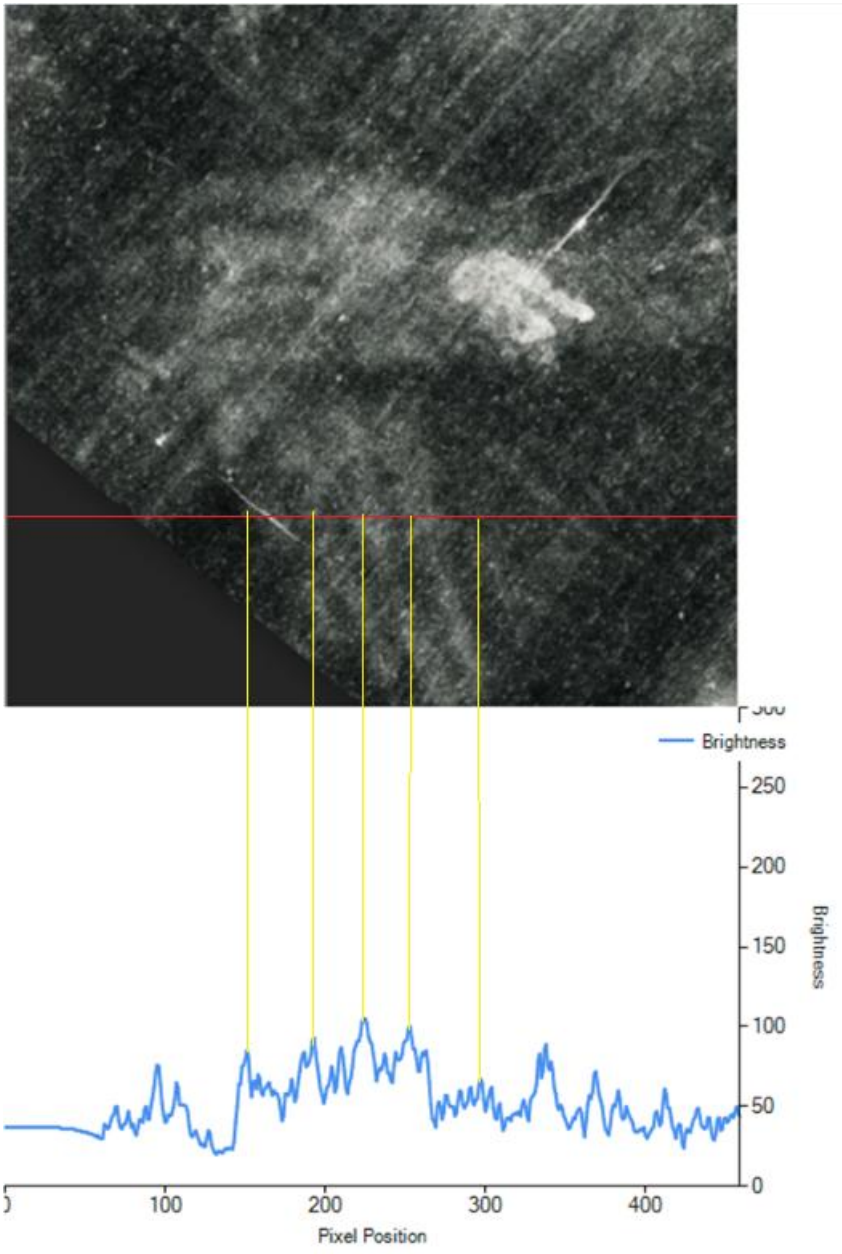
The Stomach of Christ

The arms enclose the stomach which rises and falls gradually between them. This is further evidence that the Shroud was suspended flat above the body rather than wrapping the body.

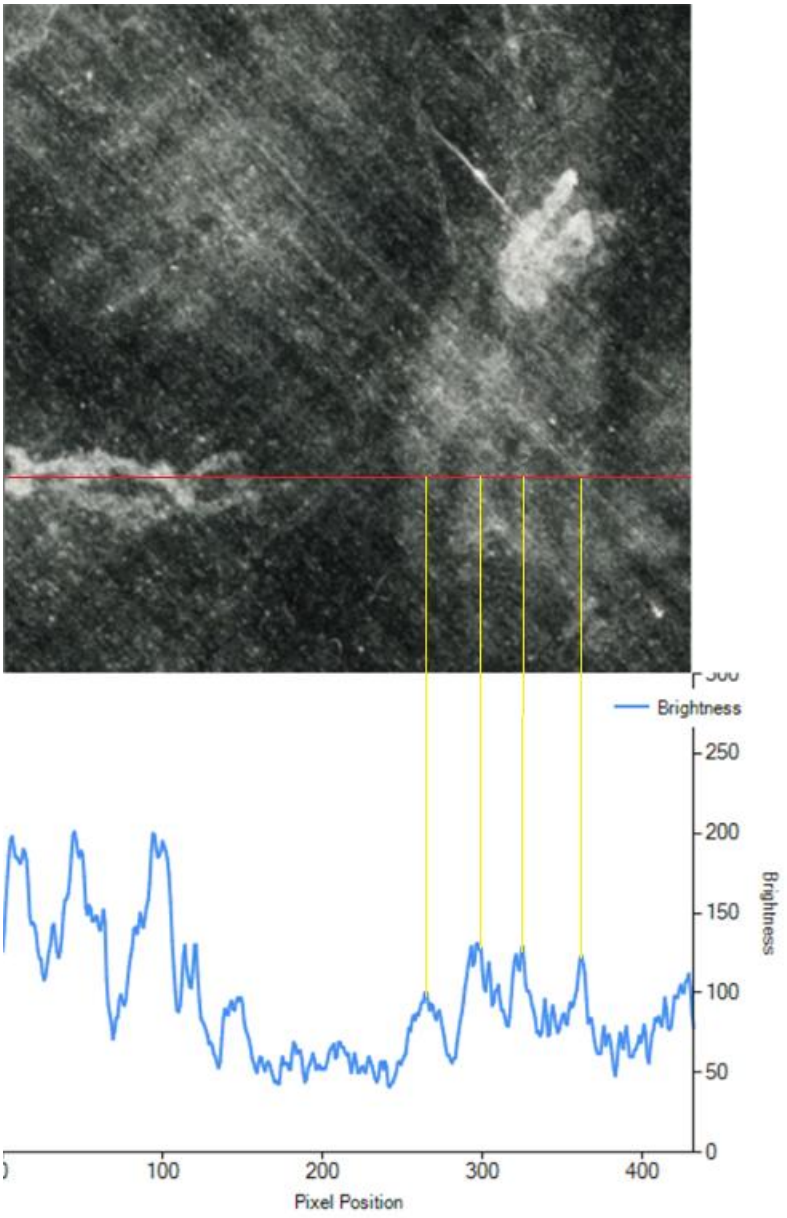


The Hands of Christ

The brightness profile of the right hand shows the 4 fingers and a much fainter thumb that is receded back. Each finger shows a central axis that is brightest, with dimming towards its periphery. Notice that the contour of the knuckles shows that the middle finger is highest (and therefore brightest), exactly as we find on a human hand. So, when Jesus gives us the finger, it provides further evidence of his radiative transformation.

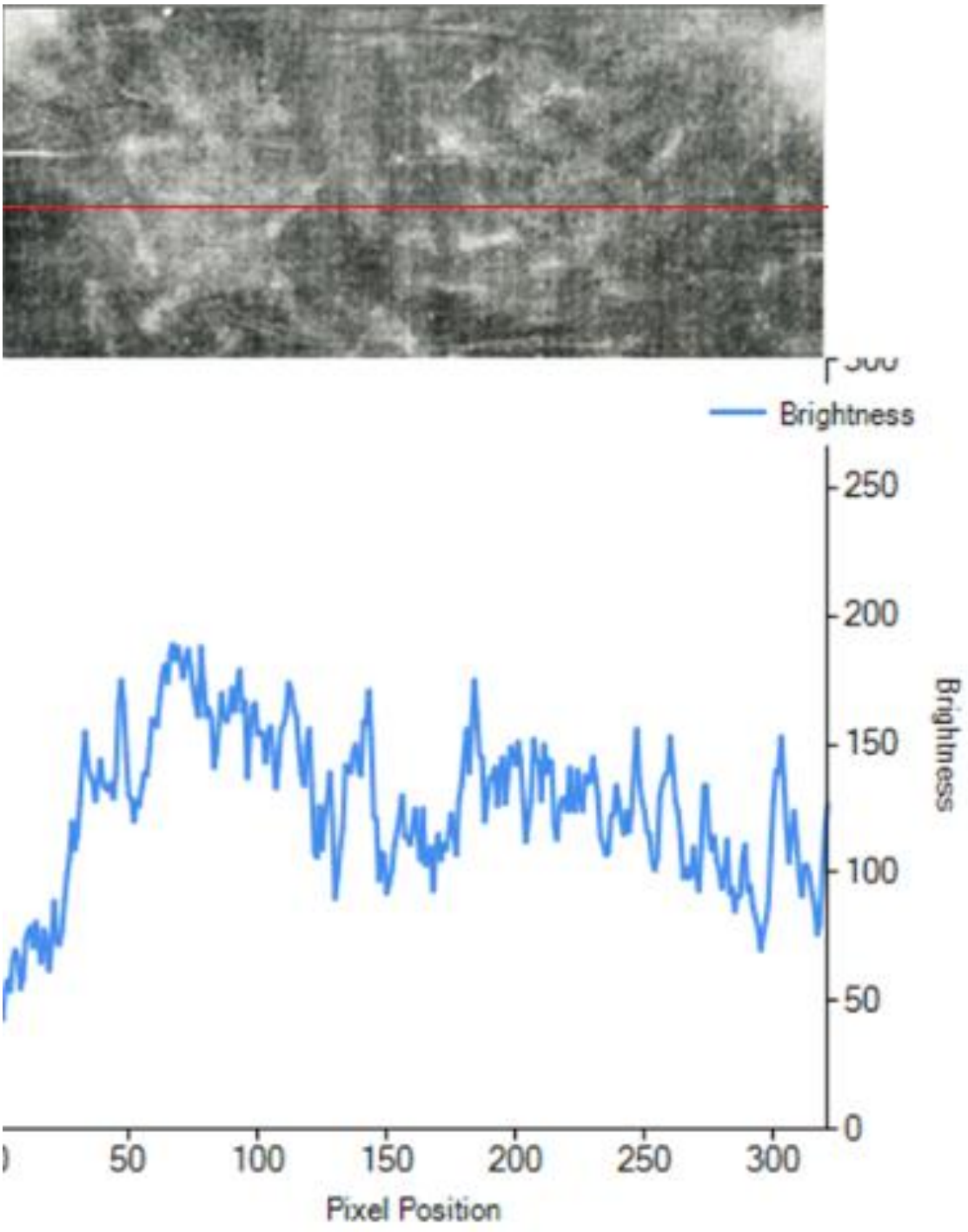


The brightness profile of the left hand is shown below. Once again, the brightness of each finger is highest along its central axis, and dims toward its periphery on each side. Four fingers are discernible here, but no thumb. Once again, the middle finger has the highest brightness – the brightness profile following the actual elevation of the knuckles on a human hand.



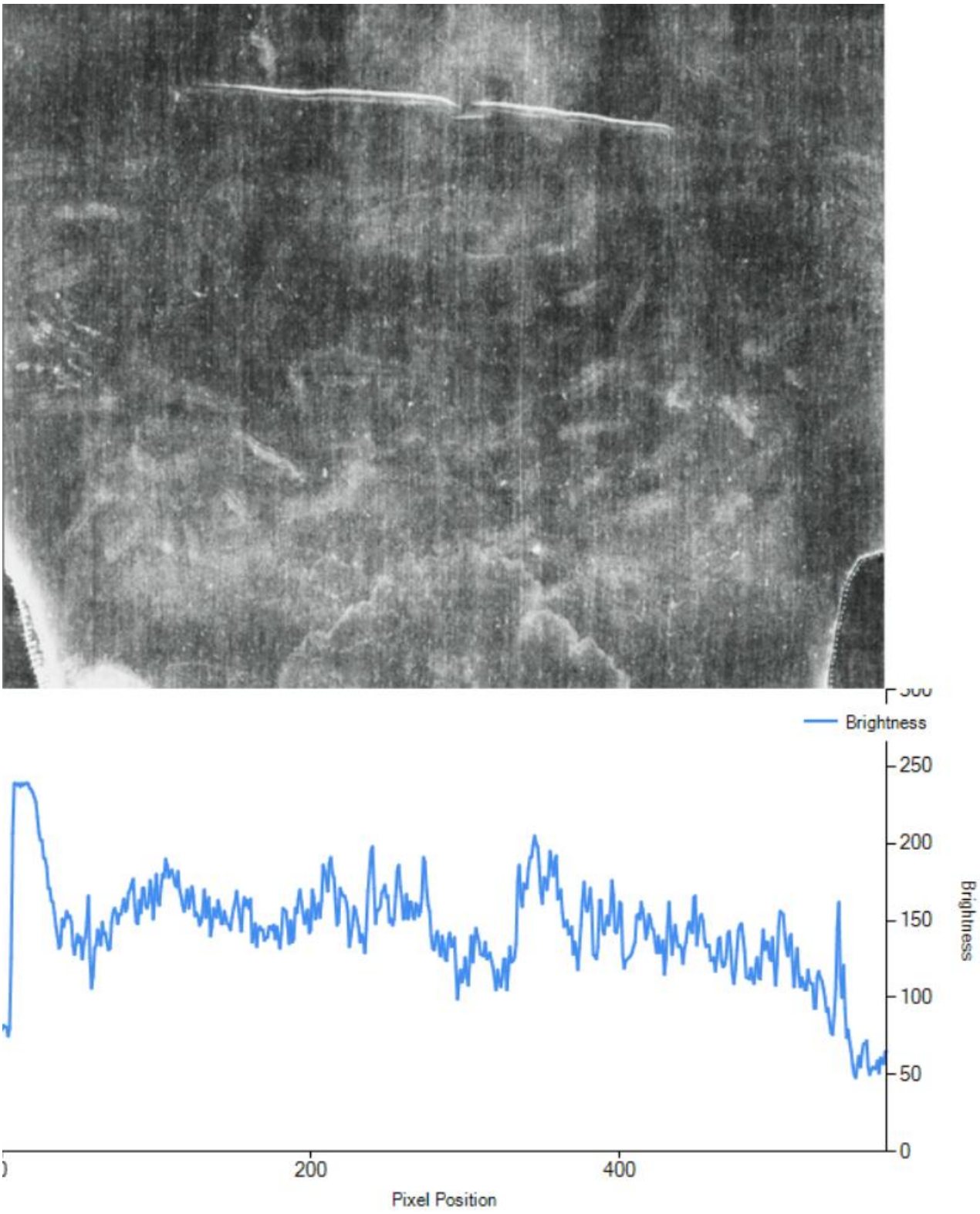
The Shoulder Blades of Christ

The brightness profile of the shoulder blades shows two prominent peaks as expected from human anatomy. However, the peaks are asymmetrical – the left peak being higher than the right – due to the weight of the body being carried on the left leg when the right leg was nailed on top of it. This produced a twisting of the torso and therefore greater compression of the left shoulder blade against the Shroud.



The Pecs of Christ

The two pecs are discernible, with a dip between them. The right pec is raised and the left pec depressed, confirming the twist of the torso seen in the profile of the shoulder blades. The brightness also reveals that the outer periphery of the pectorals has a raised vertical region caused by the muscle connecting the pectoral to the arm.



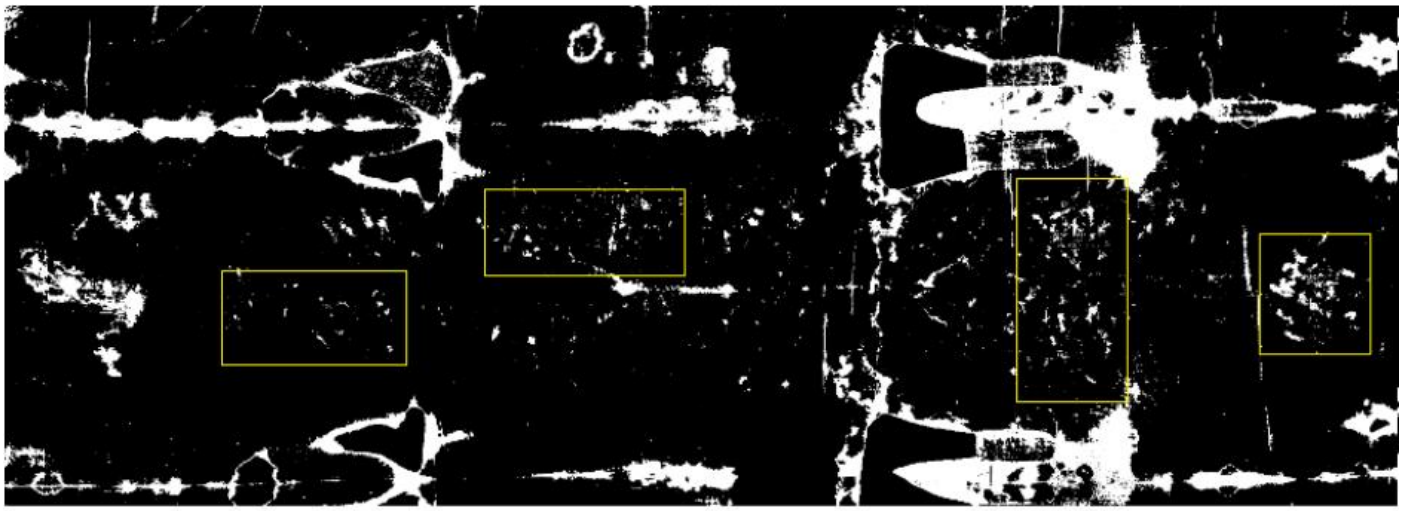
The Rear of Christ

The brightness of the rear of Christ reveals some interesting phenomena. I obtained a high-resolution dorsal image of Christ from https://www.shroudphotos.com, and used the Threshold tool at https://www.photopea.com to slowly increase the threshold from zero. Initially the image appears completely white, since areas only appear as black when they fall below the threshold. This revealed the areas with the least brightness and provided the brightness in units.

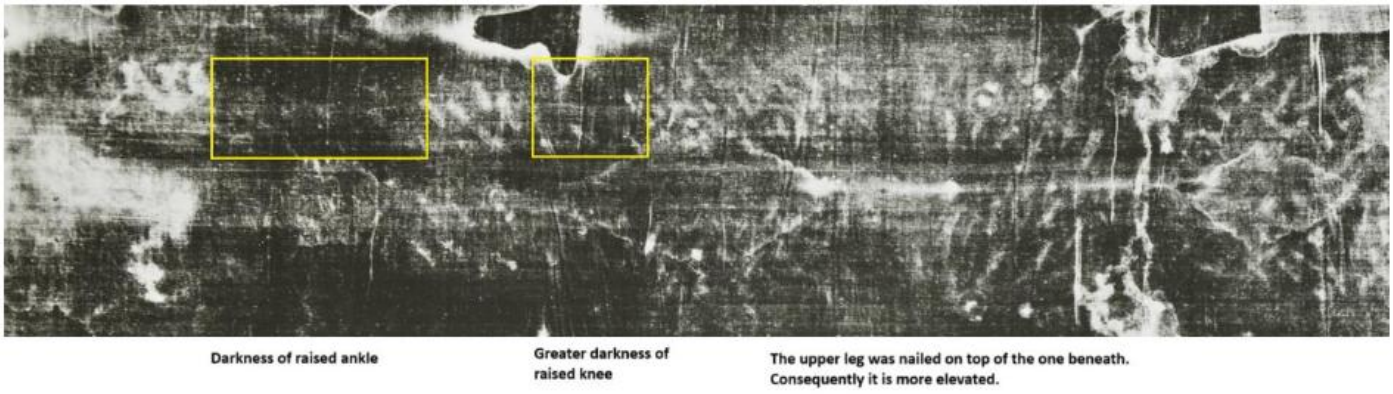
The first areas to appear (the most distant from the Shroud) were the underside of the knees and the arch of the back. These are close in brightness to the general linen background. They first appeared at 43 brightness units. The general background has a brightness of 41 brightness units, which means that these features have general background darkness. In other words, they represent areas of the body where radiation emitted barely made any impression on the shroud because they were too distant from the Shroud.

Considering that the Shroud lay directly under Jesus, then we can conclude from this that the distance from the Shroud to the underside of the knees (or to the arch of the back) is the maximum effective range of the radiation emitted.

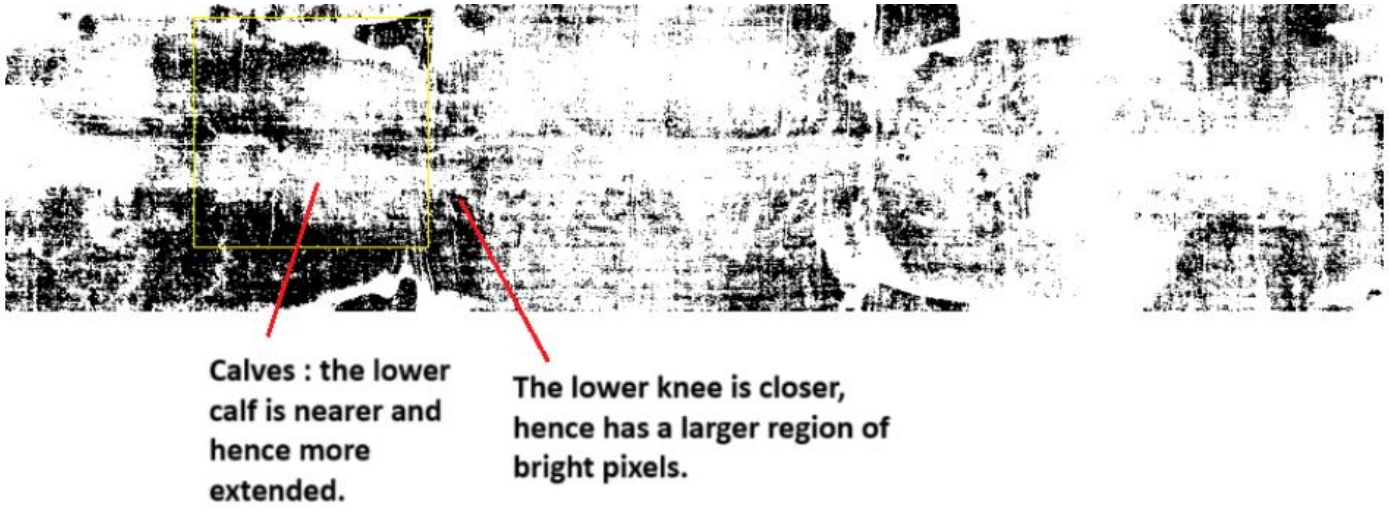
We can now look at what are the brightest areas on the dorsal image. We can detect the brightest areas by setting the threshold tool to 255, which is the maximum brightness, then slowly decreasing the threshold. Initially the entire image appears black, but as the threshold is decreased then any area with higher threshold appears as white. Those areas that appear first are the brightest. The areas to appear first are the head, shoulders, buttocks, feet and calf of the lower leg– which have a brightness of about 220 brightness units



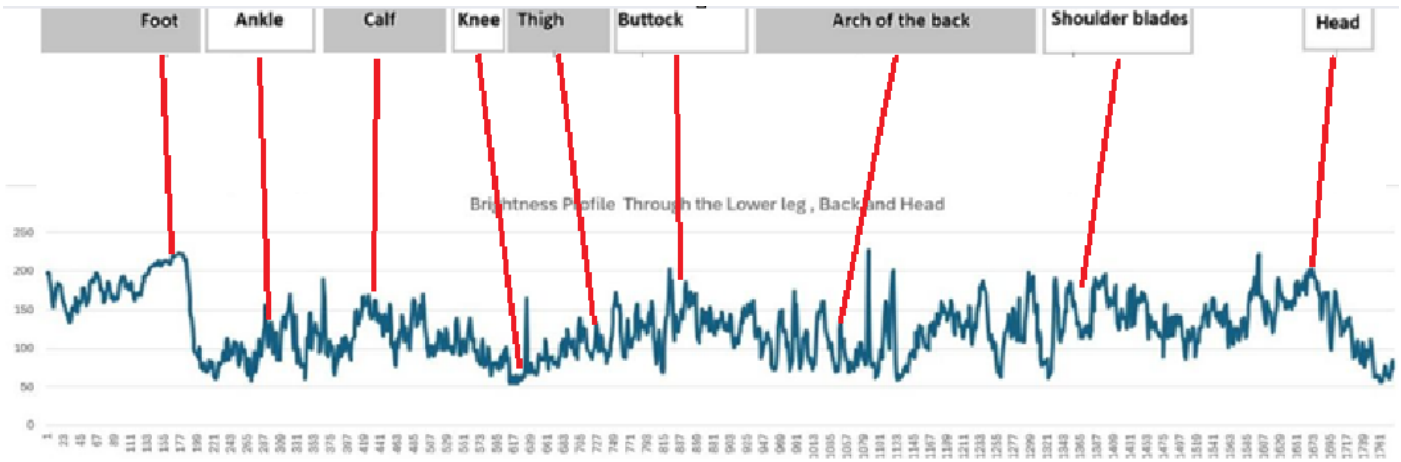
The lower ankle appears has a brightness of 200, whilst the upper ankle has a brightness of 175. The upper ankle is further away because the foot of this leg was nailed on top of the other foot – consequently the image of the upper ankle is dimmer because the radiation was more attenuated. The higher elevation of the upper leg is indicated also by the more extensive darkness of its of its calf, and the greater width of darkness at its knee, indicating a greater elevation – because it was further away from the shroud.



The dorsal picture above shows how the lower leg is nearer the Shroud compared to the upper leg – for the upper leg, the calf is noticeably darker, and so is the area beneath its knee.



There is an asymmetry to the elevation of muscles in the back. The side where the foot was nailed on top, has an extended region of muscle that is nearer to the shroud - this is absent on the other side. The effort to push upwards on the cross, in-order to breathe, may have required an asymmetrical effort. The same applies to the buttocks – the muscle tension is asymmetrical. Raising one leg has the effect of lowering the back on that side, which might also explain this effect.



The brightness profile of the dorsal image of the Shroud shows the appropriate brightnesses for a body laying directly upon the Shroud. Both the front and dorsal images were produced by an identical process – namely the emission of a radiation that attenuated with distance. We can see that the figure that produced this was a full 3 dimensional body, not just a one-sided profile.

The brightness profile matches the natural elevation contours of the body, demonstrating that brightness varies with distance.

We have found that radiation diminished in intensity, corresponding to a reduction in image brightness from 50 to 220 units over the distance from the Shroud to the underside of the raised knee.

Previously, when I looked at the frontal image, I found that brightness decreased from 220 at the pectorals down to 50 at the hips. In the diagram below I depict the two radiation ranges –

In the bottom range the back arches until it touches the brightness minimum, and the knee of the near leg is bent so its underside is at the minimum also. The bottom range includes the shoulders, but these are missing from the top range.

In the top range, the nose and pectorals touch the brightness maximum, and the knee of the far leg touches the brightness maximum also. In the top range, the brightness minimum runs through the hips, the knee of the near leg, and the upper thigh of the far leg, and through the temples of the head. The forearms encircle the stomach and are above the minimum of the top range, so they are visible. The hands both cover the groin, and stack on top of each other, so the knuckles of the highest hand touch the maximum brightness of the top range.

The unrecorded dark region includes a region bordering the face on both sides, the neck, the shoulders and upper arms, the hips, the low area bordering the stomach, the thigh of the near leg, and both legs below the knee.

So, what have we found?

The same pattern of reduction of radiation intensity occurs for both the frontal and dorsal images and explains why the various parts of the frontal and dorsal images fall into darkness.

1. Brightness decreases systematically with distance. This is very strongly evidenced in all parts of the Shroud.
2. Brightness decreases with distance in a regular manner, rather than in a random manner, in accordance with the laws of physics regarding attenuation of radiation.
3. It is therefore logical that some fixed distance, the brightness will always fall below that of the linen background rendering those areas of the image invisible. For those areas of the body that are further away from the Shroud than the brightness minimum, the radiation emitted will be too attenuated, and not able to impress the cloth with a greater brightness than the background brightness of the linen.
4. The range of brightness is from 50 to 220 for both front and dorsal images
5. The distance of this range is the same for both front and dorsal images, and is equivalent to –
    a. The vertical distance from the Shroud beneath the body to the underside of the near knee
    b. The distance from the Shroud beneath the body to the arch of the back
    c. The vertical distance from the pectorals to the hip

d. The vertical distance from the nose tip to a line running horizontally just above the neck, through the clavicle.

6. The Shroud is positioned in a horizontal plane beneath Jesus, where it is in contact with the body. It loops over his head then adopts a horizontal plane above his body that coincides with the top of his nose, pectorals, folded hands and raised knee.

7. The Shroud is horizontal in the width direction, since it records the curvature of the face and skull, the contours of the chin, and records the cross-section curvature of the knees, thighs and calves, and there is none of the expected distortion if it was wrapped around the body (such as Mercator projection of the head).

8. The Shroud is horizontal in the length direction, since

a. it records the sloping of the legs from knee to ankle, and the sloping from knee to thigh.
b. the regions of darkness begin at the same elevation across all parts of the body. I refer to this boundary as the “invisibility line”.

Part 2: Direct Proportion

An Intensity Graph

The Shroud image looks like a photograph, but it is not. Rather it is an intensity-graph, meaning that all its shades are produced by different intensities of radiation. The greater the distance that the Shroud was from the body, the weaker the radiation was that reached it, and the fainter the image was that the radiation produced.

Radiation is not random but obeys fixed laws such that it will decrease in intensity over distance in a constant and regular manner – either linearly or in accordance with the inverse square law.

If the intensity is to convey distance accurately, then the shroud must have been flat at the moment of impression. If it were not flat, then the image produced would be distorted.

Elevation and Brightness

I used the threshold tool available on photopea to measure the brightness at which each of the darker areas of the Shroud image first appears.

- Background brightness = 42
- neck 48
- right side burn 49
- Left sideburn 51
- around tummy 53
- pelvis 53 under hand
- left thigh receded part 50
- dark areas of right thigh 56
- dark areas of left thigh 56

So, these areas have the lowest brightness level – near to the minimum background brightness, and are approximately equal in brightness, all occurring within the lowest 5% of the brightness range (48 – 219). These image areas correspond to the body parts with lowest anatomical elevation.

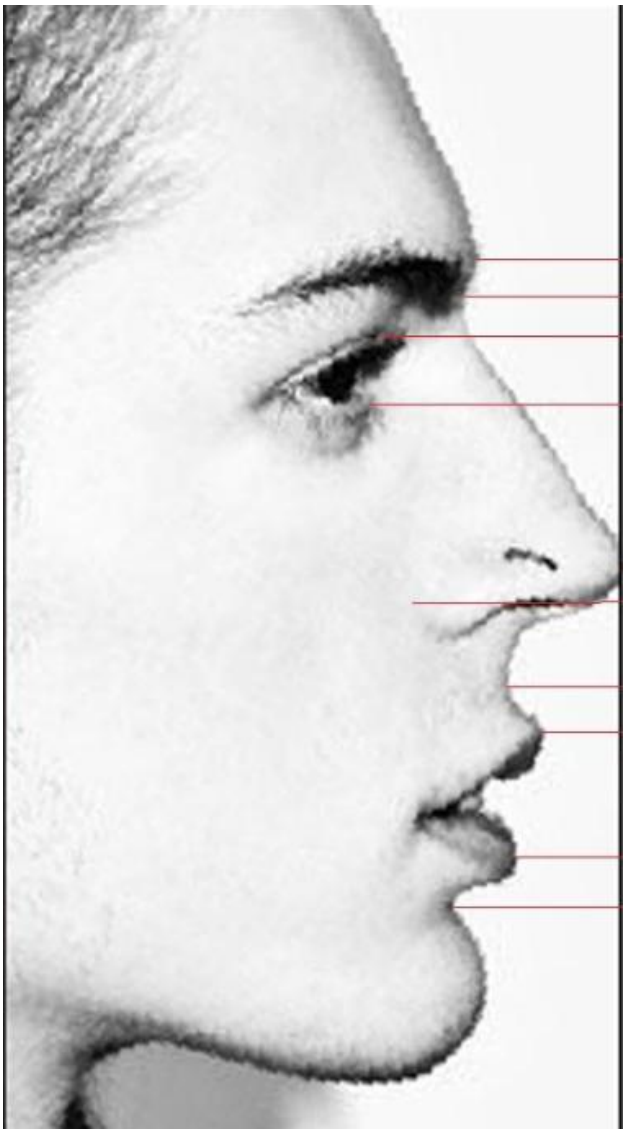
The brightest areas on the Shroud image correspond with the body parts with highest anatomical elevation - all occurring within the top 5% of the brightness range

- Nose tip 217
- Pec 219
- Left knee 217
- Knuckle 217
- Stomach top 211

Elevations of the Human Face

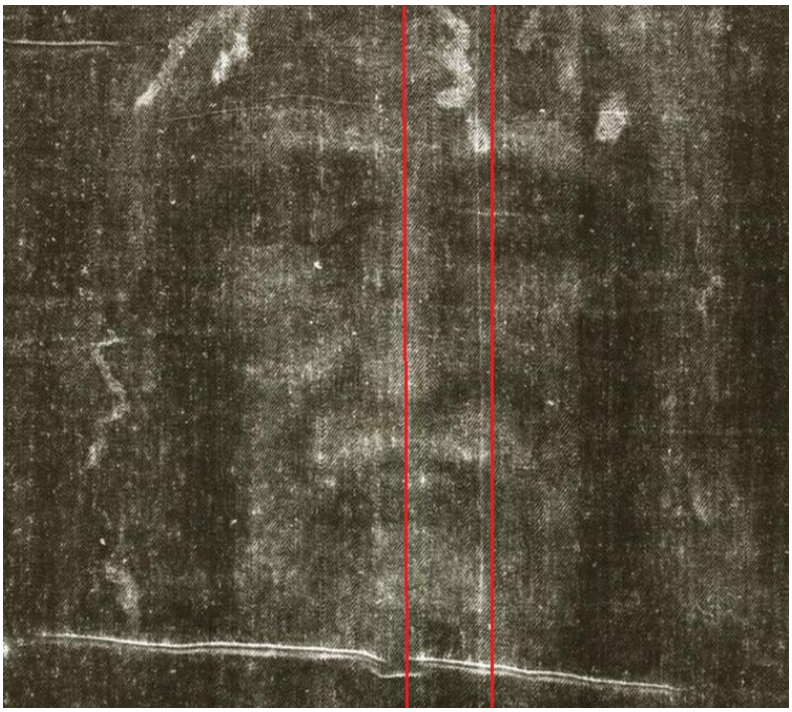
I wanted to see if the elevation of physical features correlates with the brightness of these features in the Shroud image. I used a human face to gauge the depth of a series of physical features, then measured the brightness of each of these features on the Shroud image.

My first task was to obtain depth measurements of a series of distinct facial points. Measurements were made of the distance of each feature on a human face from a randomly chosen vertical line. I chose the right edge of the picture as the line. The head was tilted to the same angle as the Shroud image. Each of the red line distances was measured using a digital calliper.



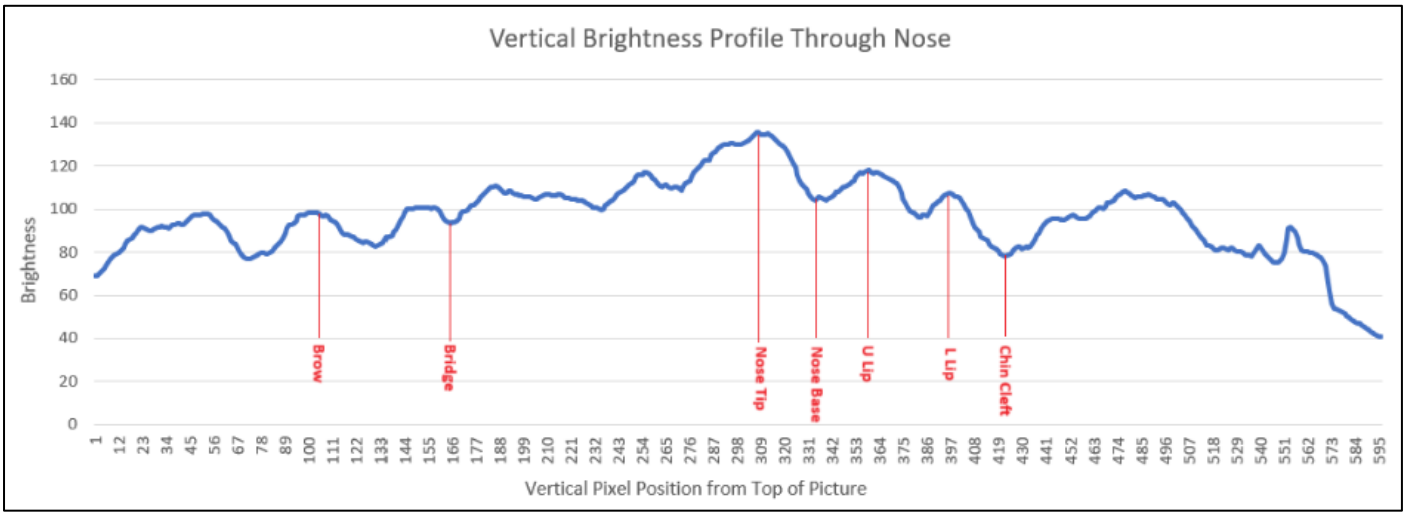
Feature	Distance from Right of Picture (mn
Brow	40
Bridge	42
Top Eyelid	51.5
Eyelash	53.7
Nose Tip	20.5
Nose Base	36.2
Top Lip	32.1
Bottom Lip	35.3
Chin Cleft	43.2
nostril	47.7

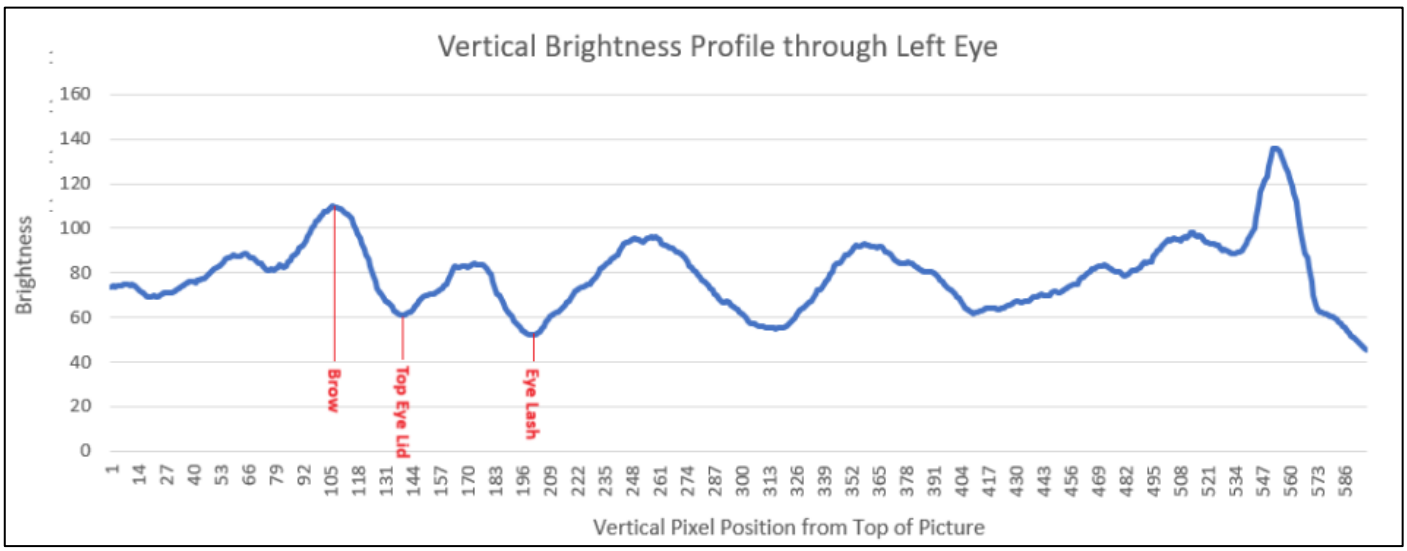
Measuring Brightness of Each Facial Point

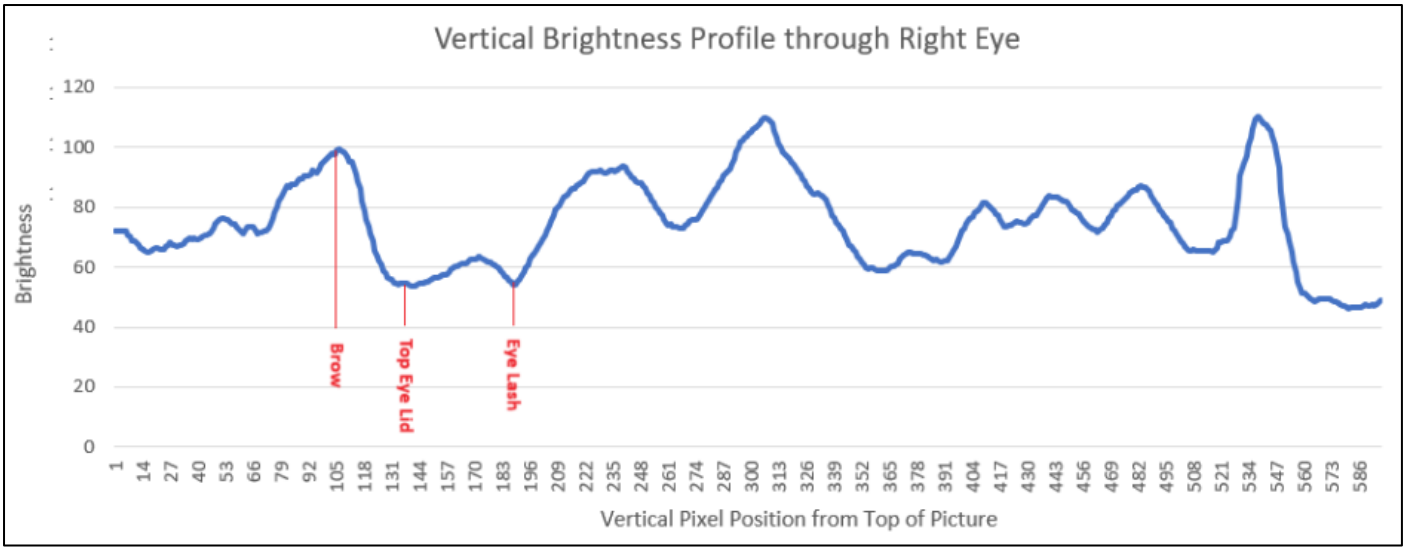


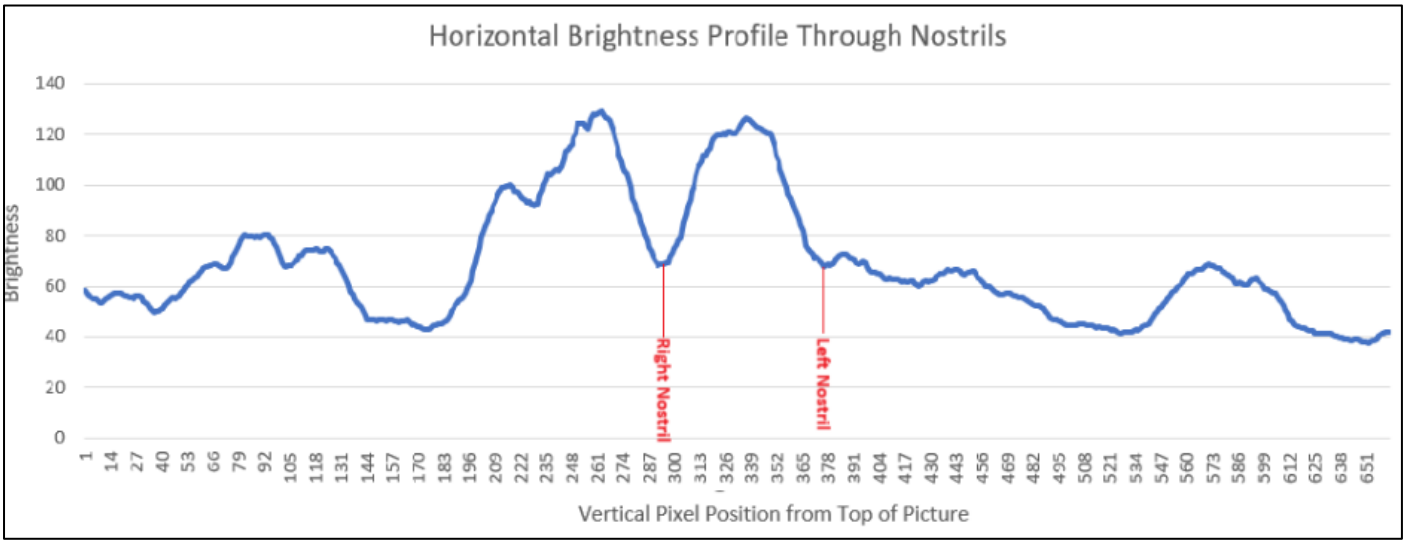
Having obtained realistic depth measurements of a series of facial points, my next task was to measure the brightness of corresponding points on the Shroud image. I took a vertical brightness profile through the nose, and another vertical brightness profile through the left eye.

The brightness of each pixel and 5 pixels horizontally on either side of it were averaged. Then the resulting profile was smoothed using a 20-point moving average to obtain a graph of the brightness at each point.









The raised area below the left eye is the left cheek, followed by the area left of the mouth. The eye brow of the left eye is more swollen than the brow of the right eye. The right eye ball is flatter than the left, perhaps indicating that it is ruptured.

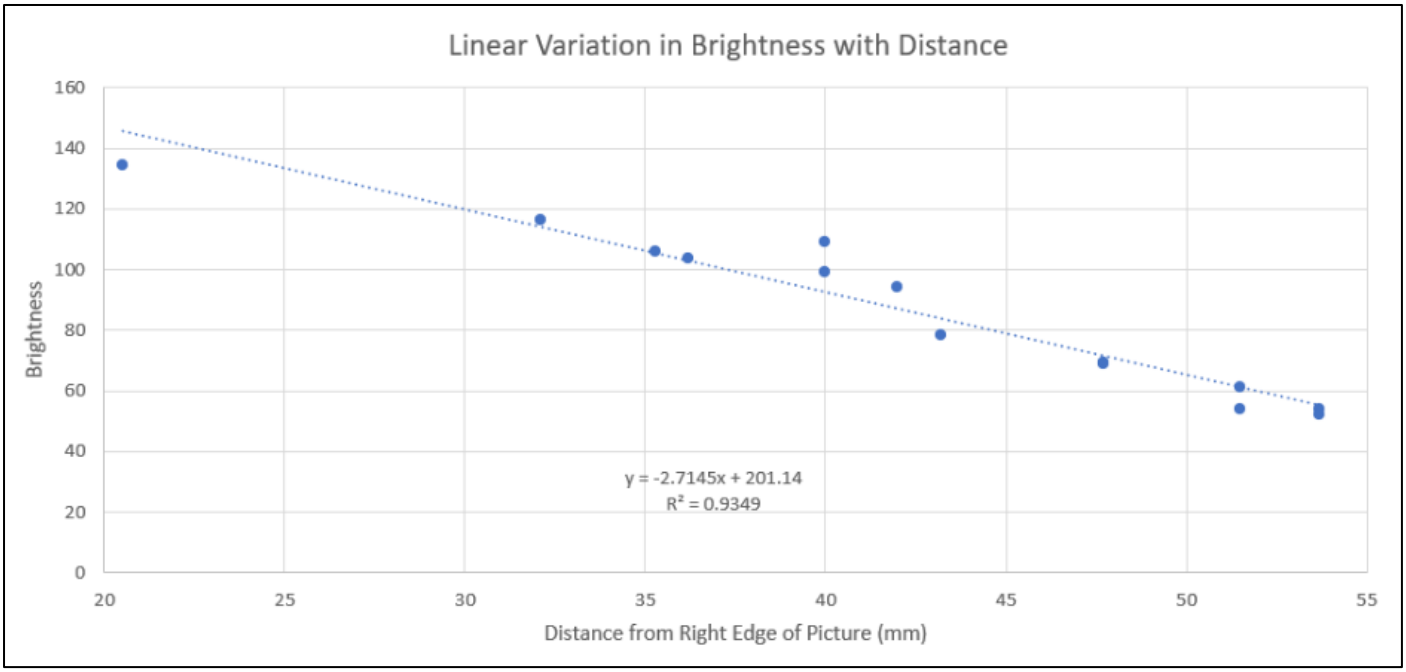
Results

I compare the brightness of each point with the estimated distance of that point on a human face from a horizontal line, representing the plane of the Shroud.

Feature	Distance from Right of Picture (mn	Brightness
Brow(right)	**40**	**99**
Brow (left)	**40**	**109**
Bridge	42	94
Top Eyelid (right)	**51.5**	**53.83**
Top Eyelid (left)	**51.5**	**61**
Eyelash (right)	53.7	54.17
Eyelash (left)	53.7	52.27
Nose Tip	**20.5**	**134.4**
Nose Base	36.2	103.79
Top Lip	**32.1**	**116.475**
Bottom Lip	**35.3**	**105.76**
Chin Cleft	43.2	78.57
Nostril (right)	**47.7**	**69.01**
Nostril (left)	**47.7**	**69.27**

Correlation

R2 was 0.93 which is a very good fit.



Distortion

If the Shroud was wrapping the body, then it would have captured images of the sides of the body, and this would appear on a flat shroud as a “Mercator” projection. However, images of the sides are completely absent. The absence of side images indicates that either the object was only emitting radiation in a top-down direction, or that the shroud was not in contact with the sides. If the Shroud was flat, then it would not be in contact with the sides.

Besides, a “Mercator” projection would be a highly distorted image, and such distortion is absent in the Shroud image.

The absence of side images of the head indicates that the Shroud was stretched flat, confirming what we found from the left right brightness profile over the brows.

Part 3: The Invisibility Line

The Body Disappears at a Common Elevation

There seems to be a distance limit, after which a clear image ceases. This distance limit is at the level of the temples on the face, and persists cross the whole body. Its as if Christ were partly submerged in water so that only his face above his temples was exposed, his chest, the higher part of his tummy, and the arms resting on his legs, but his thighs are submerged and his ankles. Only his knees are above the surface. Anything below the line has not left a clear image. This occurs because the radiation emitted by his body had a range, and that range limit excludes the recording of anything at the pelvis and lower. The lower tummy, pelvis, neck, shoulders, upper arms, top of thighs and ankles are all excluded. The knees, calves and lower thighs push up above this limit because the legs are bent.

The “invisibility” line is constant across the whole body, as shown by the yellow line above. This indicates that the shroud lay at a constant distance from this line. Any part of the body at a greater distance emitted radiation but it was not intense enough to leave an image when it reached the shroud. A horizontal range line spanning the whole body, indicates that the shroud itself was suspended in a horizontal configuration above the body.

this invisibility limit is because the image falls below the background brightness

of the linen (rather than reaching zero brightness), so marks a distance from source where radiation intensity was unable to impress an image in excess of the background. That this limit should form a horizontal plane across the whole body, indicates that the shroud was also in a horizontal plane.

His ministry began with Baptism, and when he arose from the water, he received the Spirit. It is curious that at the moment of resurrection his image looks as if he is submerged once more ... and emerging to receive new life. The invisibility range creates the impression that Christ is floating part submerged.

The criteria that the invisibility line must be -

1. above the pelvis
2. just above the breast bone
3. just behind the eyes (temples)
4. Completely exclude the legs

means that the invisibility line was horizontal and consistent across the length and width of the body.

We know that the image was produced by radiation, since the intensity of the image decreases with body-cloth distance.

The invisibility line marks the distance (from the shroud) over which radiation emitted from the body becomes so attenuated that it can no longer impress an image on the shroud.

All points equidistant from the invisibility line should have the same brightness.

A horizontal invisibility line means that the shroud occupied a horizontal plane at the moment of impression.

Where is the Invisibility Line?

I measured the brightness levels for each of the regions that were part of the body, but blacked out. In every case the brightness was the same as the background outside of the body image. The brightness level varied slightly around 55.

In this picture, I used photo 093, which can be downloaded here - Gallery – Page 4 – Shroud Photos. I imported it into the online photopea tool here –Photopea | Online Photo Editor. I used the adjustments→threshold tool to reduce brightness threshold, and see which parts of the image had the same brightness.

So, the picture here is a threshold picture.

The areas around the edge of the face, the neck down to the breast-bone, the areas bordering the tummy below the rib cage, the pelvis and upper thigh area, and the ankles were all plunged into darkness, and all are at about the same elevation on a human body.

What is interesting, though, is that this boundary forms a constant level, just as water levels when a man might lay in a pool. If the boundary forms a horizontal plane of equal brightness, and if brightness diminishes with distance from the Shroud, then the Shroud must be the same distance from all parts of this boundary. This means that the Shroud was horizontal relative to all parts of the body.

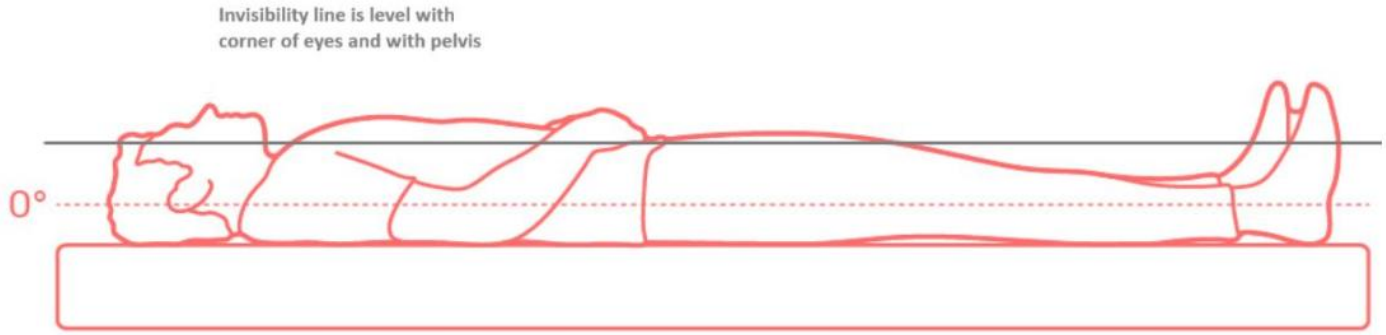
Pool Experiment

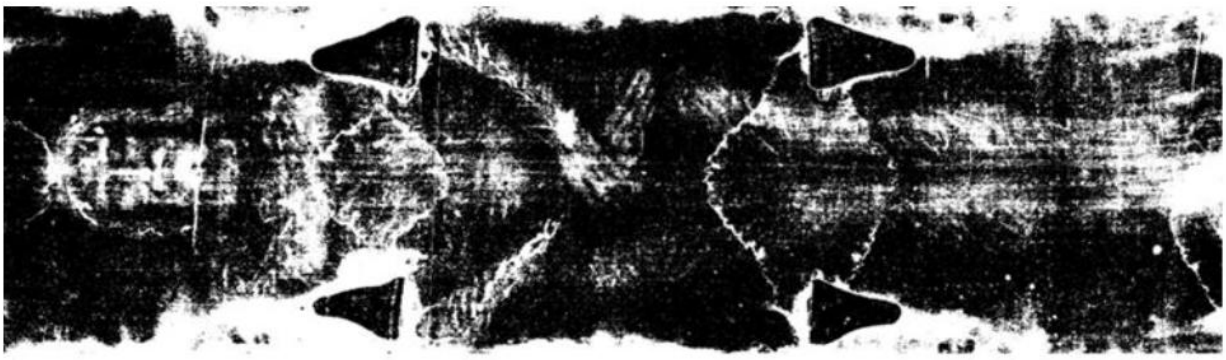
If you lay in a bath with the water reaching up to where your sideburns meet your face, you would find that your neck and shoulders are still submerged. You will also find that your pelvis and legs are submerged.

Now bend your knees into the crucifixion position. Raise your left leg so that the foot is pressed flat on the tub floor (as if it was nailed in that position) and place your right foot on top of your left foot (as if it were nailed in that position also).

You will find that your right knee is raised higher than your left knee. The left knee is just above the water, but your right thigh will be almost all above the water, except for the pelvic region. The ankles of both legs will still be submerged.

Now look at this image of Christ and note which areas are submerged in darkness.





What this shows is that there is an elevation below which the shroud image fades into darkness, and this occurs at the same elevation around the head, tummy, pelvis thighs and ankles. The shroud image fades when a critical distance is reached between the shroud and any body part. Since fading occurs across all body areas at the same elevation, this means that the shroud must occupy a horizontal plane across the entire body, at least approximately.

Conclusion

The Shroud depicts a man who was scourged, crowned with thorns, crucified, and laid in a tomb as dead. It depicts both sides of the man in great detail. This image was impressed by radiation which diminished in intensity with distance. This indicates that the energy was emitted by his body because the intensity of the impression decreases with distance from the body. The image disappears at a common distance, creating the impression that he is laying in a pool of water where only the anatomy above the water level is visible.

Reconstruction

So, at some moment soon after death, the Shroud became suspended in the air in a horizontal plane. Then, there was a burst of radiation emitted by his body, which impressed an image onto the Shroud. The image disappears at a common level, as if he were laying in a pool – creating the impression that he is emerging from water.

So, you can see why this phenomenon looks very much like the Resurrection. The body of a person bearing all the wounds of Christ, laid in a tomb as dead, suddenly unwrapped, the cloth floating above him, perfectly flat, then a sudden burst of energy – a transformation – a transfiguration – a witness to that moment for our benefit.

Previous ages lacked the means to see most of what we can see. They did not have photography to see an inverted image, or computers to analyse brightness, or even detailed pictures of the Shroud. So, it is a sign for our generation – for us – for you.

Part 4: Software Used to Measure Brightness

Image Upload

Image Source: Images were obtained from shroudphotos.com. Image Inversion: Photopea.com was used to invert and rotate images.

Image Upload: The image was uploaded with this code

```
Dim OpenFileDialog As New OpenFileDialog

OpenFileDialog1.Filter = "Picture Files (*)|*.bmp;*.gif;*.jpg"

If OpenFileDialog1.ShowDialog = Windows.Forms.DialogResult.OK Then
    PictureBox1.Image = Image.FromFile(OpenFileDialog1.FileName)
End If

Label4.Text = PictureBox1.Image.Width
Label3.Text = PictureBox1.Image.Height
```

Selection of Cross-section: (defines x1 and y1)

```
Private Sub PictureBox1_MouseDown(sender As Object, e As MouseEventArgs) Handles PictureBox1.MouseDown
    'This code selects an x,y coordinate when mouse is clicked over the shroud image.
    'This coordinate defines the axis of the cross-section.
    If Record2.Checked = True Then
        Label5.Text = e.X
        x1 = e.X
        Label6.Text = e.Y
        y1 = e.Y
        If RadioButton1.Checked = True Then
            GetBrightnessVerticalSection()
        ElseIf RadioButton2.Checked = True Then
            GetBrightnessHorizontalSection()
        End If
    End If
End Sub
```

Image Brightness (Vertical Section)

```
Sub GetBrightnessVerticalSection()  'Gets brightness of a single pixel.
    Dim brightnesstotal As Integer = 0
    Dim sourcebmp2 As New Bitmap(PictureBox1.Image)
    Dim pixelColor As Color = sourcebmp2.GetPixel(x1, y1)
    Dim brightness As Integer = (CInt(pixelColor.R) + CInt(pixelColor.G) + CInt(pixelColor.B)) / 3
    Label9.Text = brightness

    For q As Integer = 0 To PictureBox1.Image.Height - 1
        For r As Integer = x1 - 20 To x1 + 20
            pixelColor = sourcebmp2.GetPixel(r, q)
            brightness = (CInt(pixelColor.R) + CInt(pixelColor.G) + CInt(pixelColor.B)) / 3
            brightnesstotal += brightness

        Next
        TextBox1.Text &= brightnesstotal / 40 & vbCrLf
        brightnesstotal = 0
    Next
```

Image Brightness (Horizontal Section)

```
Sub GetBrightnessHorizontalSection()  'Gets brightness of a single pixel.
    Dim brightnesstotal As Integer = 0
    Dim sourcebmp2 As New Bitmap(PictureBox1.Image)
    Dim pixelColor As Color = sourcebmp2.GetPixel(x1, y1)
    Dim brightness As Integer = (CInt(pixelColor.R) + CInt(pixelColor.G) + CInt(pixelColor.B)) / 3
    Label9.Text = brightness

    For q As Integer = 0 To PictureBox1.Image.Width - 1
        For r As Integer = y1 - 20 To y1 + 20
            pixelColor = sourcebmp2.GetPixel(q, r)
            brightness = (CInt(pixelColor.R) + CInt(pixelColor.G) + CInt(pixelColor.B)) / 3
            brightnesstotal += brightness

        Next
        TextBox1.Text &= brightnesstotal / 40 & vbCrLf
        brightnesstotal = 0
    Next

End Sub
```

The Output

The mean brightness at every pixel point (horizontally or vertically) was output to Textbox1, and then copied into excel. Excel was then used to smooth the output using either a 20-point moving average or a 40-point moving average. Excel was then used to generate a line graph, which was superimposed upon the shroud photo, so I could see how brightness (elevation) corresponded to anatomical features.

Matching Brightness Profile to Shroud Image

```
Private Sub PictureBox1_MouseMove(sender As Object, e As MouseEventArgs) Handles PictureBox1.MouseMove
    Label15.Text = e.X
    x1 = e.X
    Label16.Text = e.Y
    y1 = e.Y
```

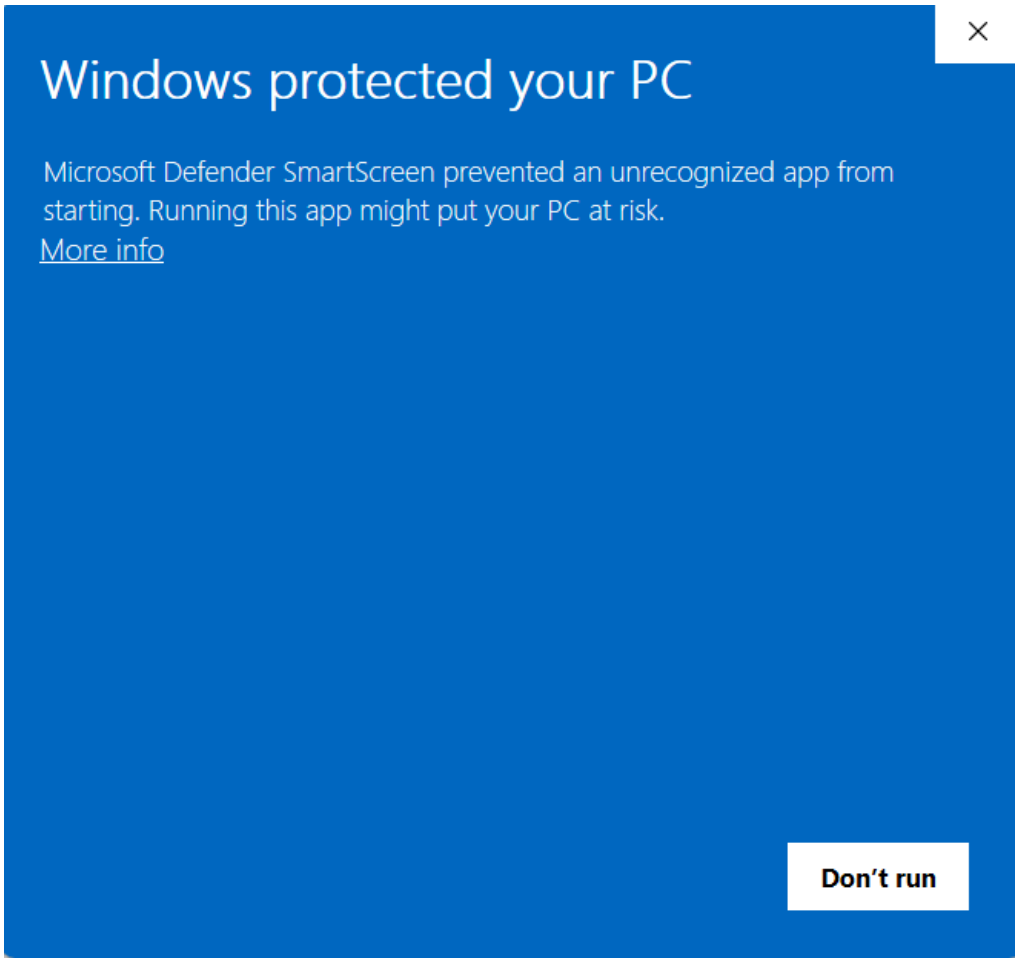
This code simply fetches and displays the pixel coordinates where-ever the mouse is. This enables me to match the coordinates on the shroud image to the excel graph of brightness against pixel coordinate. If I used a 40-point moving average to smooth the output, then the excel coordinate is 20pt displaced from the image coordinate, such that excel coordinate = image coordinate – 20pt.

So, if the Excel moving average is x points, then the corresponding image coordinate is Excel coordinate + x/2 points.

Software Available

I have created a desktop application of this software, available at https://howbad.info/shroudanalyser.zip

1. Download the zip, and extract the files
2. Click on setup.exe
3. You will get a blue box warning to say the software has no digital certificate. This is normal for independent software.



Click on "**More Info".** Microsoft makes money by requiring any independent software vendor to have a digital certificate for £100 per year and implies that anyone who does not pay for a certificate has risky software. It's a ruthless sales ploy.

Click **"Run Anyway"**

4. Once installed, the software is called **"Pixel Density",** and you can find it by typing in the Search box at the bottom of your screen.

I have added several Shroud images in the zip file – in a folder named **"Shroud Images"** that you can analyse with the software.