

# Observations regarding the blood stains and body image on the Turin Shroud

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## Introduction

Simple observational study of the blood stains and the body image can be very informative to help us arrive at a consistent history of the events leading up to the death of the man of the Shroud and their aftermath.

Several forensic experts have studied the blood stains and the body image and most agree about certain key features<sup>1</sup>. There is a consensus that the Turin Shroud once wrapped the dead body of a man who had been tortured and executed by crucifixion. He had been whipped by something with the features of a roman flagrum. He had had a cap of thorns placed over his head such that his scalp bled profusely. He was made to carry a heavy beam over his shoulders. While carrying this he would seem to have fallen to the ground grazing his knee. He was impaled upon a cross through the wrists and the heels and once he had died a sharp object was driven into his side which resulted in the issuing forth of blood and a watery substance which would be consistent with pleural fluid.

This paper will present some evidence and speculations about what happened next.

In particular the evidence based on the blood stains and body image of the dorsal aspect of the man of the Shroud will be considered.

## Background

The markings which appear to be blood stains on the Shroud have been studied microscopically and chemically as well as with various photographic techniques such as UV fluorescence. The evidence is all consistent with the conclusion that they are actual human blood<sup>2</sup>. The blood stains are even surrounded by rings of fluorescent serum. This would not happen if the blood had been 'painted' onto the cloth but is consistent with the notion that the blood stains formed by a contact process when the Shroud was wrapped over the body of a man who had died by crucifixion shortly before being wrapped. The body image formed after the blood stains and has many unique characteristics including:

- 1) Superficiality (the thickness of the altered colouration of fibrils extends less than one thousandth of a millimeter into the cloth)
- 2) Photographic negative properties as discovered by Secondo Pia in 1898

### 3) Three dimensional distance coded information as discovered by Dr John Jackson in the 1970s

Unlike the blood stains the image does not appear to have been formed by a contact mechanism and in fact it appears as though the cloth had been taut in two planes in front of and behind the body. Blood stains originating from contact with the face, for example, appear superimposed near to the image of the hair<sup>3</sup>.

## Discussion

On the ventral or 'front' side of the body image there is evidence that blood stains from the face can be seen superimposed on the image of the hair. Actually some are superimposed on the space between the face and the hair and there is even staining lateral to (i.e. further out than) the image of the hair.

Looking at the dorsal side of the body image however we see that the blood stains from the back of the head appear to be mainly confined to a narrower area than the image marks of the back of the head i.e. they are clumped closer to the mid-line of the body, not extending so far to the left or the right. This is consistent with the notion that the medial aspect of the occiput had more contact with the cloth than the lateral during the crucial time window during which transfer of blood stains from the body could have taken place.

The off image stain from blood on the face is unusual. Most of the contact blood stains appear to coincide with the anatomical part of the body from which one can deduce that they arose. The post mortem 'issuing of blood and 'water'' is consistent with having been caused by the 'lance' wound in the chest wall and extends beyond the image as does the off image stain near the elbow which would appear to have been formed by a contact process with the body which has not produced a corresponding image<sup>3</sup>. Much evidence suggests that the image formation mechanism could not have been a contact process with a body as distortion would be expected to appear once the cloth is seen stretched flat and also the image includes recesses of the body which would not have come into contact with the cloth<sup>4</sup>. As the image appears 'projected' anteriorly and posteriorly there is no side image and so this elbow stain is known as an 'off image' stain. There is also some 'off image' staining near to the feet.

On the buttocks and the backs of the legs one can see that the contact blood stains extend close to the edges of the image as though the weight of the body flattened the tissues to bring more of the blood into contact with the cloth. However, the flattening appears to have gone by the time the image formed. The lack of flattening of the dorsal image together with the appearance of the hair hanging down on the shoulders suggest to many people that while the blood stains were formed by a contact process with a supine body in a horizontal position, the image may have been formed from the same body but in an upright position.

One suggestion for how to account for the relative paucity of 'off image' blood stains would be to consider speculations about the sequence of events following the death of the Man on the Shroud. One possibility is that the body was first taken down from the cross and laid out on the Shroud. The Shroud could then have been folded over the top of the head and down over the front of the body. The body may have been left undisturbed for some time such that by the time that the body in the Shroud was

moved to the tomb the blood had dried too much to transfer to the cloth 'in transit'. Lavoie's experiments suggest that there is at most a two hour window after blood is shed within which transfer to a cloth is possible<sup>5</sup>. If the Shroud had been bound around the body perhaps this happened at some point after the 90-120 minutes during which transfer of stains was possible. If one were to speculate about the explanation for this delay one could imagine that the grieving friends and family could have taken time to find out where the tomb is and to obtain authorisation from the Romans to transfer the body to the tomb.

### References

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