

San Felice Circeo
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The Turin Shroud: from the photo to the three-dimensional

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The Turin Shroud and the photograph: it goes without saying that the photograph is intimately linked to the study of the Shroud because it was this technique, discovered in the 19th century, which revealed it to the world and which opened the way to various studies which have increasingly stimulated researchers and scholars.

As is universally known, the first person to take a photograph of the Shroud was Secondo Pia in 1898. He only took one frame which, however, had the merit of exposing the negativity of the sindonic impression on the sheet and of revealing to the world through this negative a disconcerting but, at the same time, very real image of the Man of the Shroud.

In 1931, a second photographer, Giuseppe Enrie, took what are probably the best, even though they were in the black and white format of that time.

But a series of fortuitous circumstances - the size of the plates, the improved optics, the particular characteristics of the orthochromatic negative, which is not sensitive to red and which was at that time the best you could buy - brought out the best of the photographs.

When I was younger, I was lucky enough to have known and worked with Enrie and so I was able to understand not only his experience and passion for the Shroud's image, but also his desire that each copy should be made with such a sense of responsibility towards those seeing it as to make him extremely demanding and hard to please.

I printed this image for many years and during the Ostension of 1978 I saw it many times, as did the numerous pilgrims who came to Turin at that time.

At this point, and maybe a little presumptuously, I thought I knew this image well. Somewhat later, in April 1997, following the dramatic fire in Turin Cathedral and the Guarini Chapel, I was asked to document the examination subsequently carried out to determine the state of the sheet and to photograph any eventual damage to it, which fortunately had not occurred.

I therefore had the good fortune to see the Shroud in close up for a whole day; I can assure you that it was a very emotional experience and one which I will try to transmit to you.

When this sheet was unrolled on a long table, all the folds, scorch marks, holes and patching emerged together with that almost imperceptible impression and I realised that everything I had learned up to that point was worth nothing or practically nothing; the image I thought I knew was not that one.

While photography has the advantage of fixing an image in time and of concentrating it so that whichever angle you look at it from it remains the same, with the Shroud itself that is not the case.

Moving around that table from a certain angle I saw this image so faded as if to practically disappear, while from others it seemed as if the figure were almost outside the sheet; it was, I repeat, an incredible emotion. At that moment I knew that this image was unique.

Let me tell you more.

I asked permission to photograph some details of the face. As I said previously, I thought I knew it well..

I approached the face placing my camera at a distance of about 20 - 30 cm, aimed the camera at the face and saw nothing in the viewfinder; "and yet" I said " I know it by heart." I had to beg my friend to point to the position of the eye, because from a distance of 30 cm I could not see it. I could only see it as I moved away from it.

So it is a barely perceptible image, one which escapes you, which leaves you perplexed. I am convinced that if people could see it from close up they would not only feel great emotion, but would also realise the real consistency of this image, which would dispel the many doubts surrounding the authenticity of this sheet which unquestionably enshrouded a corpse, and of this there is absolutely no doubt.

Forgive me if I have bored you with my emotions regarding the Shroud, but I instinctively wanted you to share them with me.

Naturally there are many reflections deriving from such observations, but the most puzzling of all is the astonishment of how a photograph is able to reveal in the finest detail such a perfect image.

While continuing to work with this image, I managed quite by chance to produce several three-dimensional photographs, which I will present to you shortly.

I have been wondering for some time now how and why I achieved such results through photography, and I underline, only through photography. Were they really only the result of a hunch and subsequent hours of trials and a lot of work? What technical explanation lay behind the results?

I had to work backwards trying to understand how it was possible to obtain this relief from the sindonic impression, which is notoriously flat even though it is said to contain three-dimensional information.

And above all, what is this "three-dimensional information"?

Let me try to explain to you with a simple, if rather banal, example. If I dirty my face with soot and place a white handkerchief on top, traces of soot will remain on the handkerchief, but only in those points which come into direct contact with my skin.

If I want a more complete impression, I will have to press it on the face along the sides of the nose keeping it well pressed, obtaining however an obviously deformed widened image, very unlike the sindonic one, which is perfect.

With the sindonic image we have clearer information in the points of direct contact, but we also find equally clear intensity in the areas of indirect contact, gradually fading in those parts where the sheet lost contact with the body and eventually disappearing altogether.

This of course corresponds to the laws of distance.

This is in essence the three-dimensional information contained in the image of the Man of the Shroud.

Reviewing this century of sindonic experience, I learned that in 1902 Paul Vignon, one of the foremost researchers of the Shroud, had already realised that this impression was not just an ordinary image. It had not been formed just by simple contact and he went on to elaborate his theory of vaporisation, whereby ammoniacal vapours emanating from a corpse could have caused this impression.

However a theoretical test of this nature would have produced a faded image, while the sindonic image is perfect.

In 1974 another Frenchman, Ing. Paul Gastineau, made a negative relief mould using his own system.



This technique consisted in having every single point on the Enrie photograph of the face examined using his own equipment and a concentrated light source; the measurements of the quantity of light which was more or less reflected was transmitted to another part of the apparatus in which there was a white-hot point which at the same time engraved an image into a soft material, thus visualising this hidden information and obtaining the first three-dimensional sindonic face

In 1978, Jumper and Jackson using an apparatus known as the VP-8 image analyzer, subsequently followed up by Prof. Tamburelli of Turin Polytechnic using computerised equipment, obtained outstanding results which are well-known to everybody.

These unique characteristics of the Shroud have been brought to light in different ways and by using completely different techniques.

The technique of photo relief has also been added to this experimentation. The application of this technique on the sindonic impression has led to results which are quite frankly astonishing.



The placing of one film over another, one negative and the other positive suitably offset and the continual gradualness of this information create a consequent effect of alternating light and shade on this image giving the impression of relief.

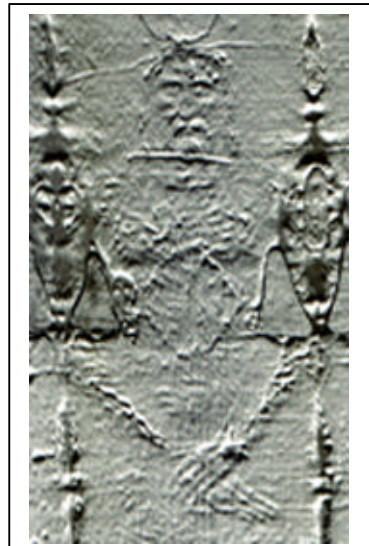
The result, as can be seen by this sindonic face, is that of light striking it from the left, lending depth to its features.



In a second effect the light seems to be coming from the right. It is the same clear and precise face, but the effects have been changed.

Regarding the blow on the right cheek, for example, in the first case with the light coming diagonally from the left, a very pronounced shadow is created, while in the second coming diagonally from the right, it is less prominent since the light is almost parallel to the swelling itself.

The application of this system to the entire body has also produced notable results.



In fact in this half-length image you can see the upper part of the very dilated chest with shadows which highlight it very well, the stomach which goes in, the abdomen which comes out...
... and the very pronounced and natural hands, with the upper part slightly flexed over the lower.



In the full-length photo the legs show quite a pronounced relief: the two knees are very tightly together, really immobilised by the rigidity of a corpse in an anomalous, but at the same time, logical position for someone who had been crucified.



I got the biggest surprise while working on the back .

It had been thought, and even the Americans had said, that there was less information about the back. In fact this is true, but by pushing this procedure to extremes, I was able to highlight even the little information available.

The buttocks, for example; it can be clearly seen that they are not parallel but out of its axis; the legs are slightly bent.

Finally, the greatest surprise of all came from the hair.

This unexpectedly emerged as a soft, silky mass, more marked on one side than on the other maybe underlining a slightly rotated head.

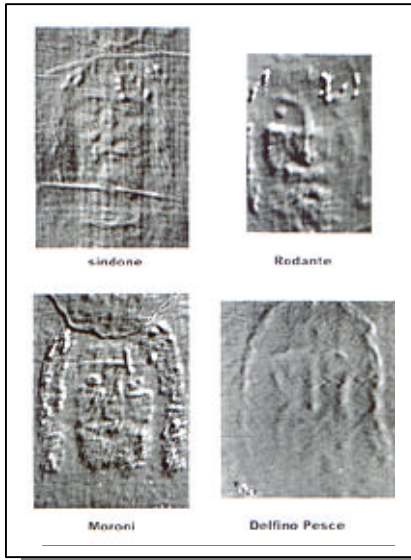
A curiosity: I started out taking small images because I thought that by enlarging them I would lose in terms of quality, but I was mistaken.

In fact by doing some trials, and here you can see the results in real size, I noticed that the more I enlarged the less I lost, with the result that the details are highlighted better.

Here I must add that this relief effect is only obtainable with the sindonic image and not with other photographs.

In fact by applying this technique to this entire photograph which shows a positive of a girl holding the sindonic face, you can see that the relief effect is obtained only on the sindonic face.





Moreover the comparison between the sindonic face and the faces artificially produced by the sindonologists Rodante, Moroni and especially Delfino Pesce demonstrates how only the sindonic image has a real and natural relief.

I would like to conclude by saying that this entire experience has made me understand that this image is absolutely unique, extraordinary and cannot be forged: up to now nobody has succeeded, and I do not think they ever will, in creating a similar one or in understanding how this image was formed..

Let's just leave it shrouded in its own mystery.

Thank you.