

How was the Shroud made?

The Shroud of Turin, considered to be a clever medieval fake after the C-14 dating, is still believed by many to be the real burial cloth of Jesus, on the basis of other evidences.

Part of the controversy arises from the fact that - although some agreement has been reached as to what constitutes the image - until now it has proven very difficult to understand its mechanism of formation, and to achieve by simple means an acceptable reproduction of the Shroud and its features (“an impossible image”).

The most likely explanation, in our opinion, is that the image, as it can be seen nowadays, is a chemical etching of the cellulose of the linen fibers. This degradation can be accounted for by non-neutral impurities contained in the ochre that a mediaeval artist used to generate the image by a simple frottage technique. The original pigment came off during the many years of the Shroud's history, leaving the well-known ghostly weak image. This hypothesis, originally put forward by Joe Nickell, had never been experimentally tested.

We have now shown that full-size Shroud-like images can indeed be produced by a rubbing technique on a human body.

In practice, a linen sheet is laid flat over a volunteer, then rubbed with a pigment. The image is then completed free-hand; the face, however, must be obtained from a bas-relief to avoid the unescapable wrap-around distortion.

We have also shown that pigments containing traces of acidic compounds can be artificially aged after the rubbing step (by heating the cloth in an oven) in such a way that, when the pigment is washed away, an image is obtained having the expected characteristics as the Shroud of Turin.

In particular, the image is a pseudo-negative, is fuzzy with half-tones, resides on the topmost fibers of the cloth, has some 3D embedded properties and does not fluoresce.

For a best visual comparison, we also added blood stains, burn holes, scorches and water stains to our 4-meters long reproduction.

We believe that our attempts represent - more than a reproduction - an interesting addition to the ongoing debate on the origin of this maybe-not-so-impossible image.