

**RECONCILING THE EVIDENCE:  
THE SHROUD OF TURIN AND CARBON DATING**

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To those unfamiliar with scientific method, and even less with its instrumentation, the newly released results of carbon dating would seem to dismiss the Shroud of Turin forever as a forgery. The three laboratories enlisted in the process have given a range in manufacture date between 1260 and 1390. However, this new evidence should not be accepted so quickly, and in no way as the final and complete solution. Carbon dating, at best, is one tool among many. It is complicated and sensitive, but not infallible. The very sensitivity of the test is not what makes it accurate, but in the case of the Shroud, that characteristic which invalidates it.

When a sample is taken in the field by an archaeologist for carbon dating, a number of precautions must be observed: no one in the area can be smoking; the sample must be removed by a sterile tool and not touched by the hand; it cannot be placed in a paper, cardboard, or any type of organic container, and it must be processed in the laboratory before too much time has passed since its removal. With so many possibilities for contamination which would destroy test accuracy, another procedure has been introduced to pre-treat or "scrub" samples to remove contamination which might be contracted. Much of the Shroud's history is unknown and the possibilities of its being contaminated by its surroundings are staggering. We do know that it has been touched by thousands of people, exposed to uncounted hours of candle smoke and direct sun, littered with fibers from many other types of fabrics, survived a major fire (1532) and dowsed with water, repeatedly pierced with a red-hot poker, and contained a human corpse which has coated the cloth with all the substances of death including blood, myrrh, aloes, and the calcium of the rock-cut tomb.

Even if all possible contamination could be accounted for and the Shroud fibers pre-treated removing every bit of contamination, another problem exists which the laboratories have not taken into account - the image process. In 1978 the Shroud of Turin Research Project concluded that the Shroud's image is the dehydration of the cellulose of the flax fibers. In its 1986 Jerusalem testing, the Environmental Study of the Shroud in Jerusalem found that dehydration to be caused by a chemical reaction between the acidic fluids of the body (blood and sweat) and the alkaline limestone of the tomb which was accelerated by the heat of the body causing a corrosion of the surface of the fibers, so that the heat of the body then mildly scorched (rapidly dehydrated) the cellulose of the fibers. The image on the Shroud resides within the fiber, it is not a coating caused by blood, myrrh, aloes, paint, or any type of pigment or stain. **Pre-treatment of fibers before carbon dating will only affect**

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**contaminating substances which have coated fibers. It cannot affect a process which has changed the cellulose itself.**

In any form of inquiry or scientific discipline, it is the weight of evidence which must be considered conclusive. In archaeology, if there are ten lines of evidence, carbon dating being one of them, and it conflicts with the other nine, there is little hesitation to throw out the carbon date as inaccurate due to unforeseen contamination. The Shroud should not be given less than standard procedure. Clearly in this instance the carbon date is conflicting with the weight of evidence - a few examples will suffice:

**1) Written records:** Accounts exist which report the Shroud in Constantinople prior to that city's sack by Crusaders in 1204. This provides solid evidence outside the carbon date range beginning in 1260.

**2) Artistic representation:** The face on the Shroud was copied by early artists and can be identified without doubt in works such as Christ Pantocrator (mosaic) in the Greek Daphni Church from about 1100 and the mosaic of the Transfiguration in the Monastery of St Catherine dated to about A.D. 540. Again, both examples long before the carbon date of 1260.

**3) Tradition:** If a medieval forgery was created, to be accepted, it would not have challenged the traditional representations of the crucifixion, namely, placing the nail holes in the wrists rather than palms of the hands and using an entire cap of thorns instead of a single wreath.

**4) Scientific analysis:** Researchers have not only identified human blood, microscopic muscle fragments, and hair on the cloth, but also plant pollen from Judea, and even calcium particles from limestone found only in Jerusalem.

**5) The medieval mind:** No medieval forger would have considered all the details we now look for in the identification of faked art. The use of a real human corpse to produce an image, the exact distribution of calcium particles from the enshrouded body's contact with the bench in the tomb, the greatest concentration of calcium around the feet of the man from his walk to execution, the audacity to think that the traditional placement of the wounds could be ignored and an alternative accepted - all these things were not within the medieval scope.

The Shroud of Turin has weathered many attempts not only to discredit it, but even destroy it. This challenge is no different. Time and further research will vindicate the cloth's authenticity.