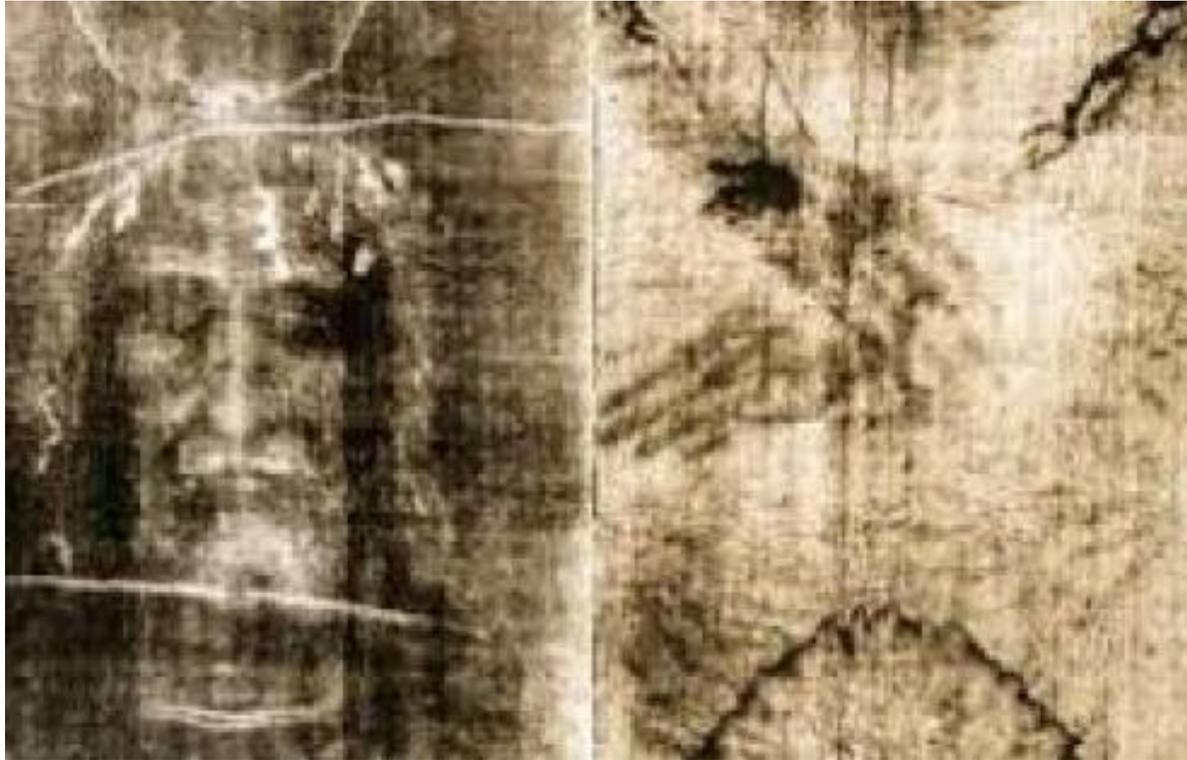


The Linen of the Shroud is Middle Eastern. New Isotope Tests Prove It. Meacham.

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*Marco Tosatti*

***Dear friends and foes of Stilum curiae, we receive from Prof. William Meacham, whom we sincerely thank, this news about the isotope tests conducted on the linen of the Shroud of Turin. Happy reading and sharing.***

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William Meacham

Recent testing on several threads from the Shroud of Turin provided a strong indication that the flax used to make the linen was grown in the Middle East, specifically the western Levant (Israel, Lebanon, western parts of Jordan and Syria).

Now with a probable Near Eastern origin, new doubts must be raised about interpreting the Shroud as simply a fake relic made in medieval Europe, and new questions arise about what the image on the cloth signifies. The possibility that this cloth is actually the burial shroud of Jesus is strengthened by this new evidence. In

my view, that remains the best explanation for the Shroud, even though the C14 dating issue is yet to be resolved.

The isotope results are not proof of origin, however, as there is slight overlap of a couple of samples from western Europe with those of Israel. Similar slight overlap occurred also in the baseline testing done in 1988. Various scenarios can account for the anomalous results and most can be eliminated with further research.

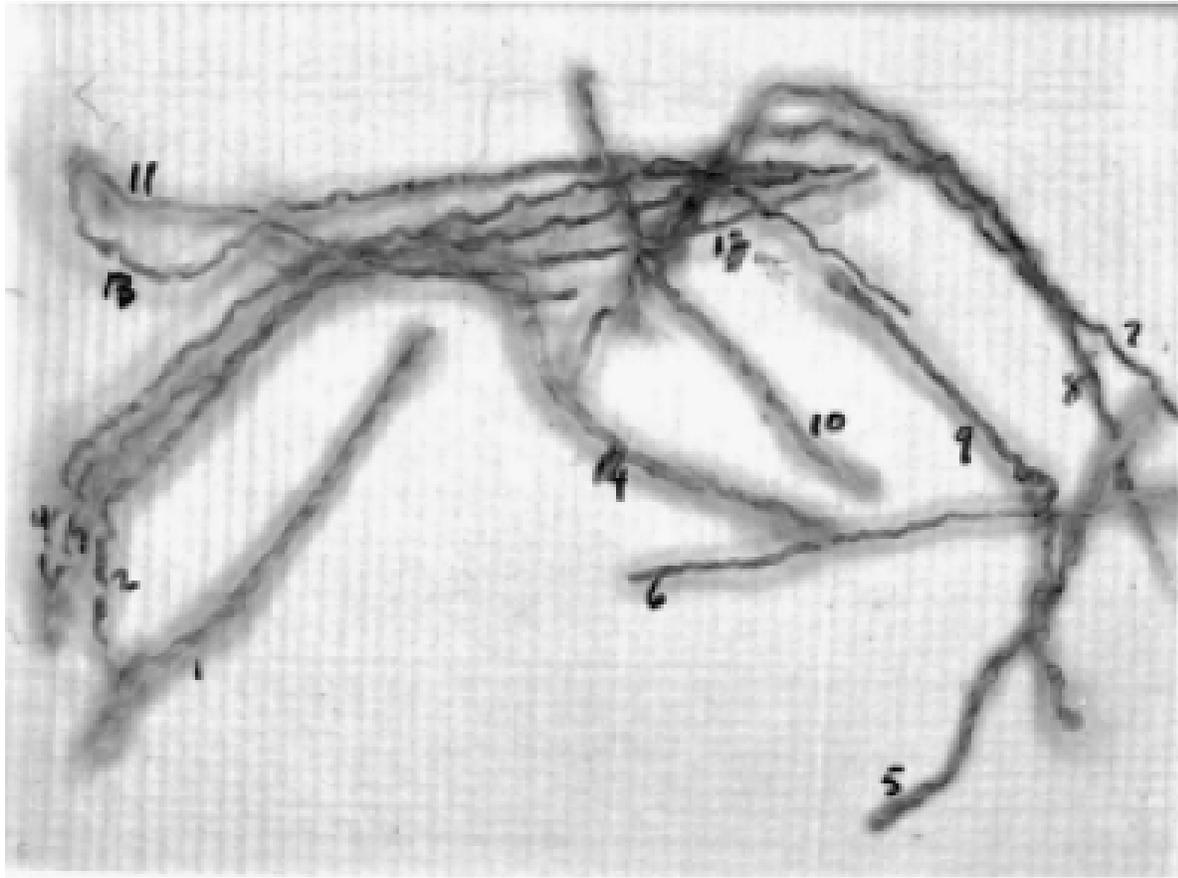
The previous testing project was conducted with a goal of eventually determining the place of origin of the Turin Shroud linen using hydrogen and oxygen isotope ratios.

This aim was subsequently not pursued because the C14 dating published later in 1988 indicated to most scientists a medieval European origin for the Shroud. A second issue was that the sample size needed then (100mg) was much too large to be permitted by the Church authorities.

The same technology (mass spectrometry) that led to the great reduction in sample size for C14 dating also was applied to other isotope studies, reducing the minimum sample size to as little as 1mg in some labs.

## **THE SAMPLES**

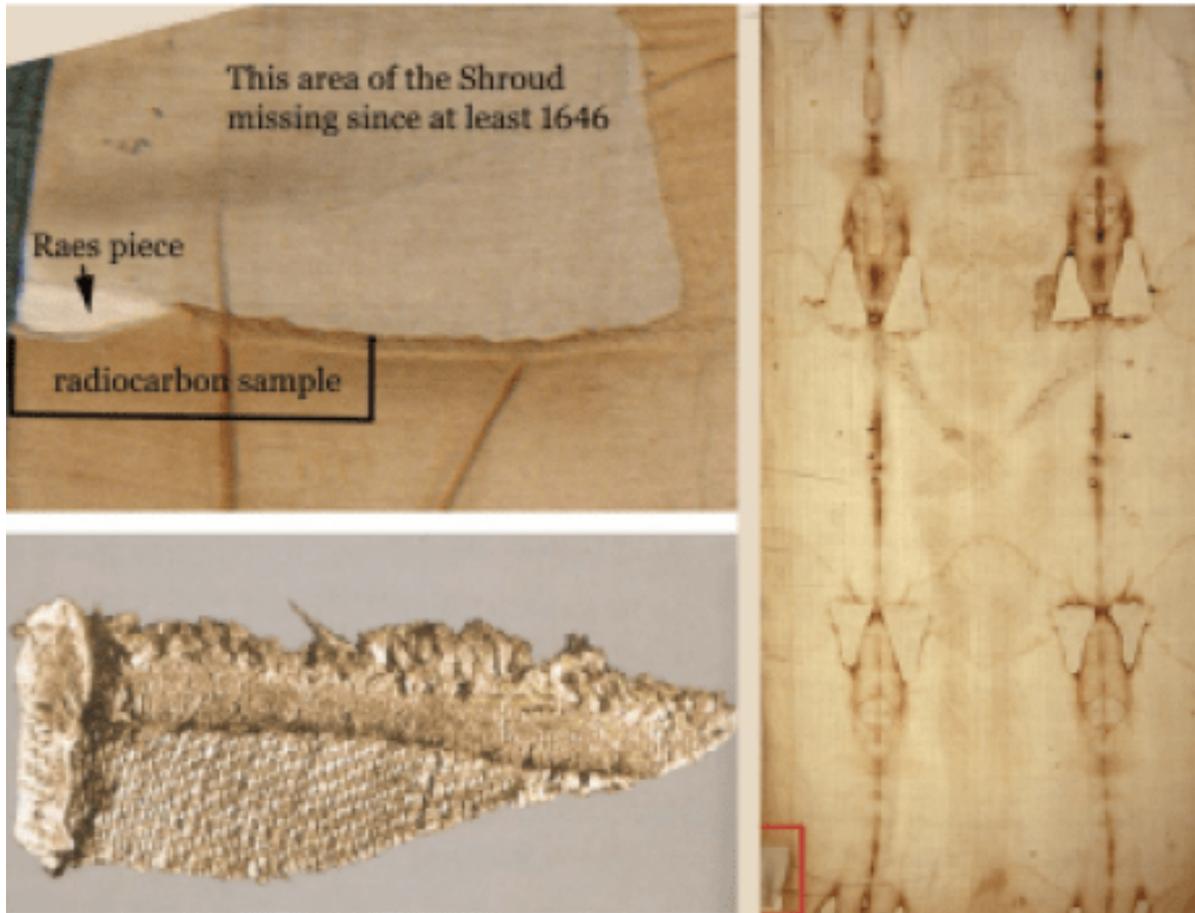
In 2022 I came across the 1988 report, and inquiries revealed that even one or two short linen threads would be sufficient for testing. As a member of the Board of Directors of STERA (The Shroud of Turin Education and Research Association), I knew of some Shroud threads in its possession. I then sought and obtained approval to test five of the seven that remained.



*The threads as photographed upon receipt by Rogers in 1979.*

The threads as photographed upon receipt by Rogers in 1979.

The samples came from the “Raes piece” that was removed from the Shroud in 1973 for textile research. Fourteen threads were provided by the Turin Archdiocese to the physicist Ray Rogers, member of the American scientific team that had conducted an onsite study of the Shroud in 1978. When he passed away, STERA inherited the threads. The chain of custody from 1973 to the present is well documented and absolutely secure.



*The Raes piece and where it came from on the Shroud, next to a section removed centuries ago, and the radiocarbon sample taken in 1988. Photos on the right and upper left copyright STERA, Inc. 1978; lower left public domain.*

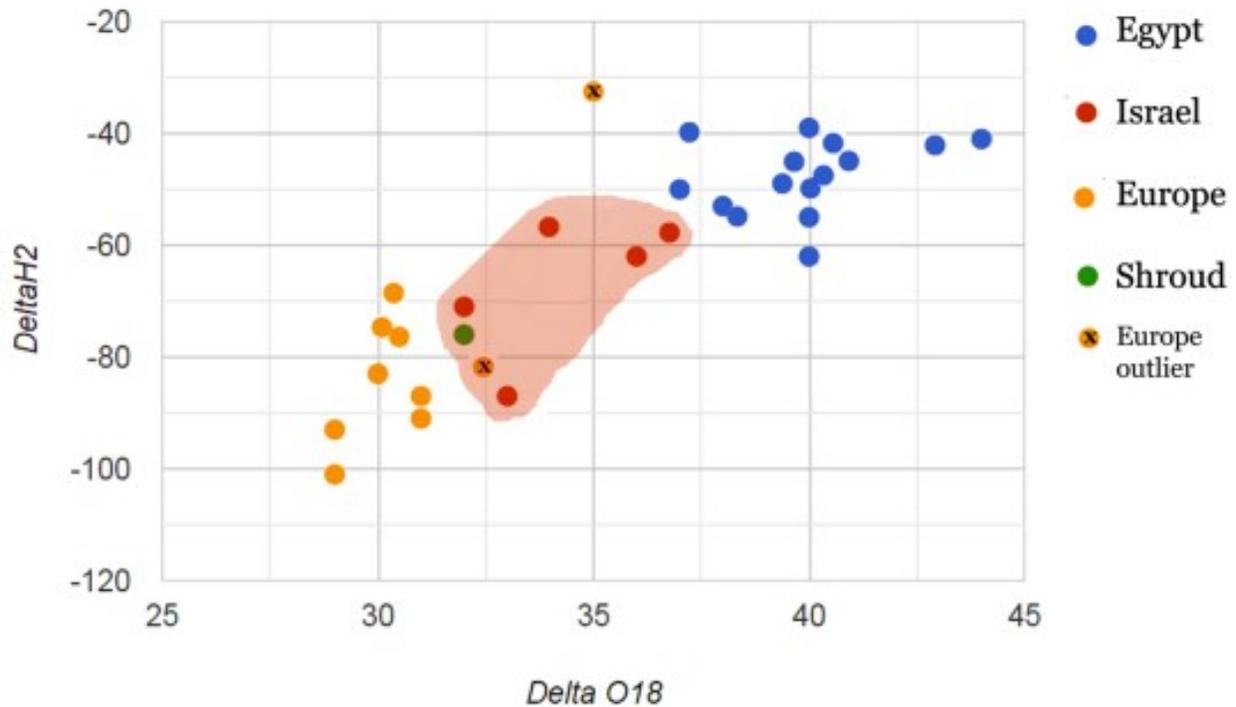
Linen and flax plant samples were then collected from the same regions as the 1988 study. A total of 30 comparison samples was ultimately obtained for testing: from various periods of ancient Egypt, prehistoric and Roman Israel, and 19th-early 20th century Europe. Samples were provided by the Metropolitan Museum of Art in New York, the Israel Antiquities Authority, the Royal Institute of Cultural Heritage in Brussels, and private collectors.

Testing was done at the Stable Isotopes Laboratory of the University of Hong Kong, which is able to test very small samples of even less than 1mg. All of the Shroud threads were under even that lab's most reliable minimum (0.8mg), thus threads were combined into two pairs, with one held over for future testing.

Some of the same samples from Egypt tested in 1988 were obtained and tested again, as controls. The results were almost identical and confirmed the methodology.

## RESULTS AND INTERPRETATION

Testing yielded the expected regional grouping. The two Shroud samples gave virtually identical results that fell into the cluster from Israel, as shown in the diagram below:



There are several hypotheses to account for the outliers: linen fiber imported from another country, irrigation using water from deep ground, or contamination due to pest repellent or preservative.

Further testing of single threads from other parts of the Shroud should be done to confirm these initial results. A proposal for such an extended testing project has been submitted to the Archbishop of Turin, Most Reverend Roberto Repole, and is now under consideration by his advisers. The Chancellor of the Pontifical Academy of Sciences, Cardinal Peter Kodwo Turkson, has expressed strong interest in the isotope results.

This new evidence that the Shroud linen probably had a Middle Eastern origin is important. It reinforces other features that point in that direction. Most notable was the pollen; even though many identifications have since been discounted, certain species taken together still indicate an Eastern Mediterranean presence. Similarly, the crown of thorns in helmet style rather than Roman circlet is a feature characteristic of Asia Minor and the Levant.

Another is the claim of coins on the eyes in the Shroud image that matched a documented instance from a 2nd century AD burial in Judea. This was an impressive confirmation of an hypothesis generated by computer 3D analysis in 1977, at a time when there was no known instance (outside of Israel) of such a practice in antiquity.

Since then other examples of coins (often a pair) inside a skull or in a Jewish burial context have been unearthed, including in the family gravesite of Caiaphas himself!

The massive weight of evidence against the Shroud being a mere relic faked by a medieval artisan in Europe led the prominent British scientist who managed the Shroud C14 dating project to propose another interpretation. Realizing that the image must have come from a human body, Dr Michael Tite suggested in a BBC interview that it might be that of a crusader who was crucified in the same manner as

Jesus. Such a scenario would be as far-fetched as is the proposed creation by an unknown medieval artist of the body image with its extraordinarily high degree of anatomical and pathological accuracy.

Though severely weakened by the total silence of history on such an event, the crucified crusader hypothesis could at a stretch account for certain features not known in medieval Europe but possibly still in collective memory in the East.

Examples are the wrist nailing consistent with Roman crucifixion, or the helmet style crown of thorns. However no natural hypothesis yet proposed has been able to account for the characteristics of the body image nor explain how it formed or was created on the cloth.

Science has been grappling with the Shroud of Turin since 1898. That process continues, in spite of an unjustifiable 20-year ban on taking any new samples of the relic, even barring the testing of materials removed from it in an ill-advised “restoration” in 2002. The Vatican has persistently refused to allow a rigorous, properly designed second C14 test, despite firm evidence that the first dating was flawed, even though the amount of sample required is tiny, less than a postage stamp. It seems that the spirit of Cesare Cremonini (1550-1631), infamous professor at the University of Padua, is haunting the Vatican. He did look through Galileo’s telescope once, but said it made him dizzy and nothing of value could be seen in it!

One may dare to hope the ban will soon be lifted by new and more enlightened Church authorities in Rome and Turin.

### **BACKGROUND: THE SCIENTIFIC STUDY OF THE SHROUD**

The “Holy Shroud” has been held in Turin, Italy since 1578, prior to that it was kept in Lirey then Chambery, France from the 1350s. While long revered in some Catholic circles, it was rejected by a few clerics and canons for various reasons. It made a dramatic entrance on the European intellectual stage in 1898 when the first photographs were published, showing a lifelike facial image in the negative. Ironically, its first academic proponent of authenticity was an atheist professor of anatomy at the Sorbonne, while its most vehement opponent was a Catholic priest and prominent historian, also in France.



*Negative of the Shroud face, photograph by Secondo Pia in 1898; public domain.*

In the first half of the twentieth century the Shroud won adherents from the medico-legal community, most notably the French surgeon Barbet. It gained popularity as more scientists studied it. This reached a zenith of worldwide proportions in 1978 when an American team of scientists (STURP) was granted a week-long onsite direct examination of the cloth, and allowed to take sticky tape samples. In the end, they were unable to explain what had caused the image, leaving a mystery that persists today, but their final report asserted that it had come from a human body.

The publications that followed propelled the relic to a worldwide status as the evidence mounted in favor of authenticity as the actual burial cloth and image of the crucified Jesus (Meacham

1983). At the same time, as fate would have it, developments in radiocarbon dating had dramatically reduced the amount of linen sample required, from a hankchiefsize to that of a postage stamp. The pressure on the Church authorities from all sides to allow C14 dating was enormous, and in 1988 one sample were taken, divided into pieces and dated by three prominent laboratories. The result of 1260-1390 had huge public impact, and the Shroud's fall from grace (so to speak) was as rapid as its rise.

Doubts were raised immediately by Shroud proponents about the representativeness of the sample taken, and the statistical validity of the calculated age.

But the Church authorities refused all appeals for new testing, seemingly embarrassed and/or disappointed by the result. A new archbishop was installed shortly thereafter in Turin, and the focus shifted to conservation, rightly focused at first but eventuating in a scientifically unjustified and disastrous "restoration" in 2002.

### **AUTHOR BIO**

William Meacham is from Nashville, Tennessee, educated at Tulane University in New Orleans, the Sorbonne in Paris and the Gregorian University of Rome. From 1980 to 2012 he was Honorary Research Fellow at the Centre of Asian Studies, University of Hong Kong. Meacham is an archaeologist who specialized in South China; he directed 23 major archaeological excavations in Hong Kong and two in Macau, on government or private contract. The largest of these was the 16-month survey and salvage excavation of sites on Chek Lap Kok island in 1991-92, prior to the construction of Hong Kong's new airport.

In 2014-15 he discovered and excavated a large Confederate burial ground lost since 1899 within the city of Hopkinsville, Kentucky. His other research interests are the Shroud of Turin, the origins of the Austronesians, and genealogy.

Major publications are listed at:

[https://hub.hku.hk/global-search?\\_query=&query=Meacham%2C+W.&v=Meacham%2C+W](https://hub.hku.hk/global-search?_query=&query=Meacham%2C+W.&v=Meacham%2C+W)

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