

OBJECTIONS TO THE SHROUD'S AUTHENTICITY: THE RADIOCARBON DATE

by

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On October 13, 1988 occurred the "Black Day" in the history of the famous Holy Shroud of Turin. It had been radiocarbon dated between 1260 and 1390. Thus it was proclaimed by a single scientific discipline as a medieval artifact, and therefore it could not possibly be the burial cloth of Jesus. Even were this test to hold up as factual, it does not speak to the question of an intent to deceive in the creation of the Turin Shroud. For all anyone knew, it might have been a pious but very good rendering of the medieval "Man of Sorrows" motif. Michael Tite of the British Museum understood this when he wrote in his letter to Cardinal Balestrero of Turin on September 14, 1989, that the Shroud ought not to be categorized as a "fake," and he deplored such references to it as such.

Moreover, even after the C-14 dating, the evidence seems so overwhelming that the image was transferred to the cloth by a crucified human body that many who accepted outright the late date were suggesting that some fanatical Christian in that rather fanatical age volunteered himself for a Good Friday re-enactment. But again, how would he know that his image would transfer to HIS shroud? And, from the object itself, where is there evidence of an intent to deceive?

Finally, C-14 notwithstanding, scientific testing by a hundred qualified practitioners working in dozens of disciplines continues to support its possible authenticity as Christ's burial sheet.

THE LIMITS OF RADIOCARBON DATING

The thrust of my remarks on C-14 is to highlight the multifarious problems, WELL KNOWN TO THE C-14 SCIENTIFIC COMMUNITY, which have produced "nightmare dates." Having studied the Shroud long and hard, I frankly admit that I smugly expected C-14 to show a first-century date. But I learned long ago that where the Shroud is concerned, nothing is sacred. Since God disappointed me, I (and other Shroud researchers) began to look for possible problems with the C-14 date for the Shroud. Now we are learning that not even C-14 is sacred.

Elementary textbooks of archaeology and geology as well as specialist papers universally warn against too great a reliance on C-14. Here are some statements of the C-14 community:

"Removal of contaminants from pores, spaces and fissures is almost impossible."
(Stuckenrath, Archaeology 18.1965, 279).

Excavated samples are "liable to absorb humic matter from the solutions that pass through them (causing) contamination by carbon compounds of an age younger than its own ... There is also possibility of exchange of carbon isotopes under such conditions. ... (That) other pitfalls are involved in this method is obvious enough." (Zeuner, *Dating the Past*, 1970, 341-6).

"Over the years, we have learned that radiocarbon dating is not quite the alchemist's stone we once hoped it might be." (Wormington, *Early Man in the New World*, 1983, 191).

"No historian would ... point to a radiocarbon date (or even a whole series of C-14 dates) and assert that this type of data ... provides ultimate proof of the reliability of a certain point of contention." (Barnard, "Radiocarbon Dates and their Significance in the Chinese Archaeological Scene" *Archaeology* 1980, 34).

"One or two dates should never be used by themselves to establish a site's chronology. So many dates have proven to be useless because of contamination and other causes that one can only establish a radiocarbon chronology with some degree of confidence if several dates from the same site fall into a consistent pattern that agrees with the stratigraphic sequence." (Betancourt et al, *Archaeometry* 20, 1978).

"For C-14 the challenge of high precision has not yet been met, though each AMS (Accelerator Mass Spectrometry) conference shows progress." (Dr. James Arnold, former colleague of Dr. Willard Libby, 1947 inventor of C-14, "Nuclear Instruments and Methods in Physics Research," B29, Nov. 1987. 193-5). [NB: Arnold was referring to C-14 in geophysics, where the sample size is tens of grams; the Shroud samples were in milligrams.)

"Despite the euphoria ... directed for a decade at the AMS technique, it remains to prove fully its capabilities in terms of accuracy ... and affinity for small samples." (Scott et al, *Radiocarbon* 1986, 167-9).

Batten et al (*Radiocarbon* 28.2A, 1986, 571-7), quoting Oxford University List #3: "At least one in five dates are (sic) contrary to expectation." Oxford also reported that a major source of error in their dating procedure was in ... their methods of pretreatment of samples, i.e., in removing contamination. [Although Oxford had had little experience in dating cloth, Oxford "dated" the Shroud.]

"Before AMS is accepted as the final arbiter of chronology, criteria are needed to decide if and when an AMS date is unacceptable." (Dennell, *Review of Archaeological Results From Accelerator Dating ...* by the Oxford Radiocarbon Accelerator Oxford, 1987 in *Archaeometry* 61.231, March, 1987, 137f.)

"One single date is no date... For the particular case discussed here [i.e., Egyptian cloth] it is obvious that the number of 4 investigated samples is still too small to properly understand the observed disparity between radiocarbon dates and historical chronology." "Nuclear Instruments and Methods in Physics Research," B29, 1987 1-13. Dr. W'lfli is the University of Zurich C-14 expert who was 1000 years off in dating Egyptian linen but who "dated" the Shroud with a single 50 mg sample of the Shroud.)

W'lfli again: "The existence of significant indeterminate errors can never [my emphasis] be excluded from any age determination. No method is immune from giving grossly incorrect datings when there are non-apparent problems with the samples ... the results

illustrated [in this paper] show that this situation occurs frequently." (Paper read at International Radiocarbon Conf. at Trondheim, Norway, 1985: "Archaeological Sherd Dating: Comparison of TL Techniques with Radiocarbon Dates by Beta Counting and Accelerator Techniques."

"Every radiocarbon lab stresses the proper handling of excavated samples to avoid contamination additional to what may already have been deposited. The sample should be dried out immediately upon excavation to avoid mold growth, it should not be handled in a cloud of cigarette smoke or taken back from the field in a lunch box, it should not be placed in contact with a paper label ... contamination is a real danger for any C-14 material..." (Meacham, "Radiocarbon Measurement and the Age of the Turin Shroud: Possibilities and Uncertainties," Proceedings of Shroud Symposium, March, 1986. (NB: This paper appeared before the Shroud was carbon-dated.)

It is known that Shroud contamination includes oil, wax, tears, incense, and the smoke from a fire in 1532, when an abundance of carbon of that date must have thoroughly saturated the Shroud. One need not accept the suggestion that the Shroud's carbon nuclei would be altered by such an explosion of steam [but see Raaen, below], but this event in the Shroud's "thermal history" renders it unique in all the history of C-14 dating. The Shroud is thus an extremely unusual instance in which much later substances have been in contact with the sample at elevated temperatures; in this and in being handled for 600 years it is immensely different from objects retrieved from the ground of an archaeological dig which have been untouched for centuries.

After explaining that virtually indelible dyeing of cloth is done at 212 degrees, John Tyrer, Textiles Professor at the University of Manchester, goes on: "Even more unique is [the Shroud's] thermal history ... The heat inside the silver reliquary must have been intense probably reaching a temperature of 900 degrees C., the temperature of molten silver. In these circumstances, moisture in the Shroud would turn to steam at superheat, trapped in the folds and layers of the Shroud. Any contaminants on the cloth would be dissolved by steam and forced, not only into the weave and yarn structures, but also into the lumen and molecular structure of the fibers of the flax . . . Contaminants would have become part of the chemistry of the flax fibers themselves and would be impossible to remove satisfactorily by surface actants and ultra-sonic cleansing." Shroud Spectrum 1989.

A common procedure in C-14 dating would involve taking several samples of organic material from the same stratum of a "dig." Each is carbon-dated and an average is taken. Any "outlier" not conforming to the general range of dates is simply excluded from the calculations. This was not possible with the Shroud, a single object.

Raaen (Carbon-14 1968, 70) states that exchange reactions involving carbon atoms of the carboxyl group [one of the compounds produced by oxidation reactions in cellulose and present in quantity on the Shroud] can occur with certain substances at temperatures of 300-400 degrees. [Recall the 900 degrees of the fire of 1532.]

OBJECTIONS TO THE SHROUD'S AUTHENTICITY: IT IS AN ARTWORK

C-14 is one of the most serious of the objections, which over the years have been leveled against the Shroud. The others are a memorandum datable to 1389 from Pierre D'Arcis, Bishop of Troyes, to Anti-Pope Clement VII, alleging the confession of an anonymous

artist; and Dr. Walter McCrone's 1980 announcement of his discovery of paint on the cloth.

When the D'Arcis document was discovered in the Vatican Archives in 1895, it caused a sensation. Science has ever since looked for paint on the Shroud; but for Dr. McCrone, science has found none in sufficient quantities to explain the image. This alone would seem to refute D'Arcis' claim. That claim is even less credible when one notes his actual words:

About thirty-four years ago [about 1355] an inquest was held into the Shroud. Expert theologians [NB: not artists] concluded the Shroud was false because no image is mentioned in the Gospels. Also, the artist came forward.

The Bishop's words, "about thirty-four years ago," suggest that he had no dated document before him and had no first-hand knowledge about the artist. Nor do any of the Pope's responses to D'Arcis refer to an artist. The bishop says later that he has been accused of desiring the Shroud for himself and has become a "laughing stock." In fact, the collapse of the nave of his cathedral of Troyes in that very year, 1389, had resulted in the loss of its most precious relics, magnets for pilgrims and their contributions. This creates a presumption of self-serving in his memorandum to the Pope.

One might add that if an artist had produced the Turin Shroud in the fourteenth century, he would have been an original, creative genius of the first magnitude for his realistic rendering of anatomy and bloodflows, beyond anything known in Gothic art. He would have created the first nude Christ. His idea of a double image on a cloth would be unique in the history of Christian art. The Shroud does not, in fact, fit in the context of any artistic style or genre. For its realism, if it were art, it would claim a place on page one of every book on the art of the Renaissance.

In fact, a "shroud" was painted about that time. The Besanton shroud was painted in the 14th c. and it is to this painting on cloth that the D'Arcis memo may refer. The artist may indeed have come forth. This painting (which exists) was likely made to substitute for the real Shroud which "disappeared" from Besanton after the fire of 1349 which destroyed its cathedral. The perpetrator of the disappearance, it may be argued, was Jeanne de Vergy, daughter of one of the most prominent families of that city, who, about 1353 married Geoffroy de Charny, first known owner of the Shroud. One may argue that she brought that object with her as a sort of dowry to her marriage. I must not hesitate to add that this "Besanton theory" has the expected opposing views. When it comes to the Shroud, nothing is sacred.

Three major hurdles for Shroud advocates to meet. If the questions of the radiocarbon date and of the Shroud as a work of art can be settled, the question of the D'Arcis memorandum must surely evaporate. Perhaps we can make some headway today.

Thank you all for attending and for your open-mindedness.