

# THE POLITICS OF THE RADIOCARBON DATING OF THE TURIN SHROUD

## Part III: Post-April 21st, 1988

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This is the third and final part of this article. I have included some entries, most of them updated, from my co-authored article [Chronological History of the Evidence for the Anomalous Nature of the C-14 Sample Area of the Shroud of Turin](#) and [ADDENDUM TO Chronological History of the Evidence for the Anomalous Nature of the C-14 Sample Area of the Shroud of Turin](#) articles. Some of them present materials that are not “political” *per se*, but are included because they relate to the failings of the labs, which does relate to how the tests were carried out, which ultimately does fall under the umbrella of “politics.” I would like to thank Cindy Sheltmire and Annette Cloutier for their suggestions for this part. The author can be contacted at [JMarino240@aol.com](mailto:JMarino240@aol.com).

1988 *April*. Gove wrote, “On 25 April at 11 am, Harbottle called. He had learned from Otlet that the shroud samples had been removed on 21 April 1988. Hall had flown into London on 25 April with the samples in hand and he received a lot of publicity. The archbishop had been, according to Harbottle, furious about Hall’s trying to commercially capitalize on the venture. Harbottle also said that the BBC were going to film the measurements at Zurich. He said that, according to Otlet, there was no possibility this time of any outliers because the three labs would consult together so the answers would come out the same . . .”

Gove also talked to Donahue, who said that Oxford might have problems because they had made some recent adjustments but the system had not yet been fully tested.

Gove was sent on the 26<sup>th</sup> a clipping of an English newspaper, *The Independent*, that featured an interview of Hall. The article said that Hall had his three samples, the Shroud and the two control samples. The author wrote “He has no way of telling which is which, they are simply numbered 1, 2, and 3.” But Gove commented, “Since the samples were not unraveled it would be instantly apparent to Hall which one came from the shroud—as he well knew. Hall continued to play the ‘blind measurement’ game.” He also told the author that he hoped an English Sunday newspaper would pay him a large sum of money for the rights to the dating story.

Hall told the author that he would have been “hopping mad” if his lab had not been chosen, and he agreed with the decision to go with three labs instead of seven because “You only need one lab to get it badly wrong to confuse everybody and the chances of that are higher with 7 than with 3.” Gove commented, “Hall had conveniently forgotten that in the British Museum interlaboratory tests, it was only because six laboratories had been involved that it had been possible to identify the one outlier measurement. I found the article quite amusing. It was just the kind of publicity that Teddy revelled [sic] in.”

**Source:** Gove’s book: Relic, Icon or Hoax: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing, 1996, pp. 252-255).

**Comments:** There have been many questions and suspicions regarding the raw data released by the labs.

I called the late Paul Damon on October 23<sup>rd</sup>, 1988 and asked him if the labs consulted with each other about their results, which had been prohibited by the protocol. His answer was a cryptic, “No, not between the three labs at all.” One can get the impression from his wording that *some* entity did discuss the results early on.

Regarding the identity of the samples, Hall could have clarified to the author of the article that he, in fact, would know which one was the Shroud sample, but didn’t. And at the press conference held in London on October 13<sup>th</sup> (see entry below for that date), Hall had the audacity to talk about the “scientifically trustworthy.” Hall was quick to try and capitalize on Oxford’s involvement with the Shroud dating.

Gove noted that Hall liked publicity but Gove, by his own admission, as mentioned in several entries in part 1, did as well. Gove seemed to have no problem criticizing others for behaviors that he himself engaged in.

1988 *May*. Moynihan wrote to the U.S. ambassador to the Vatican asking him to try to get Rochester and Brookhaven involved in the dating of the Shroud. But it was too late. Arizona made their first measurement on May 6<sup>th</sup>. The Vatican and Turin seemed satisfied with letting the three chosen labs complete the process.

**Source:** Gove, Harry. Relic, Icon or Hoax?: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing), 1996, pg. 324.

1988 *May*. The protocol as announced in April by Tite produced a strong reaction by Gove. Gove, in a letter to *Nature*, pointed out seven points of difference from the 1986 original protocol: 1) The number of labs were reduced from seven to three. As mistakes are sometimes made in C-14 datings, the reduction would eliminate the possibility of detecting measurement errors made by one or more of the three labs. 2) Only the newer AMS C-14 dating method would be used instead of in combination with the older proportional counter method. The amount of cloth to be received by the labs was doubled. This meant that other labs could have been involved in the dating. 4) Representatives of the labs would not be allowed to observe the extraction. [*Note: Gove was in error on that point.*] 5) The samples would not be unraveled and thus the

Shroud sample would be easy to identify. 6) The Pontifical Academy of Sciences was now excluded from involvement. 7) Mechthild Flury-Lemberg, the textile expert that had been selected to extract the sample, was replaced by an unnamed person. Gove concluded "All these unnecessary and unexplained changes unilaterally dictated by the Archbishop of Turin will produce an age for the Turin Shroud which will be vastly less credible than that which could have been obtained if the original Turin Workshop protocol had been followed. Perhaps that is just what the Turin authorities intend."

**Source:** Marinelli, Emanuela. "The Setting for the Radiocarbon Dating of the Shroud." Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 8, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** The citation for Gove's *Nature* letter is 333, 6169 (1988), pg. 110. Although the Pontifical Academy of Sciences was supposedly excluded, I've heard from reliable sources that they were, in fact, still involved. That fits in with all the other political intrigue found throughout the process. Flury-Lemberg was replaced not by one person, but by three: Riggi, Testore and Vial. I've never heard an explanation for why that change was made.

1988 *May*. Although everything related to the results was to be confidential, no less than a BBC TV crew filmed the testing at the Zurich lab. The program was broadcast well before the announcement of the dates on October 13<sup>th</sup>. Sox, who was present for the filming, wrote in his book (pg.137) that Wolfli identified two of the samples as twill weave and one as tabby weave. The Shroud was known to be herringbone weave, which made it easily recognizable and which also negated the blind procedure. Tite claimed in an interview that the decision to abandon the blind testing was made as the samples were being extracted.

A second violation of the confidentiality agreement was made by Gove, who wagered a pair of cowboy boots in a bet with his assistant Shirley Brignall on the Shroud's dating. (See next entry.)

Gonella complained, "The experts of the British Museum did not trust the Cardinal and wanted to be present when the samples were taken from the Shroud, but then they did not allow a representative of the Church to watch the analysis as an observer." Piero Savarino, who would later be the scientific advisor to Turin Cardinal Polletto, remarked, "This behavior is truly incomprehensible. It is to be considered that in legal ambit any analysis performed in the absence of the other party is rejected by the courts."

**Source:** Marinelli, Emanuela. "The Setting for the Radiocarbon Dating of the Shroud." Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pp. 11-12, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** The refusal of the labs to invite a Church representative is all the more startling considering that a TV crew was invited to Zurich.

1988 *May*. Gove arrived in Tucson on the 5<sup>th</sup> in order to observe Arizona's first run on their samples. He was interviewed by newspaper reporter Bill McClellan, who was the son-in-law of Doug Donahue of the Arizona lab. McClellan was aware that Gove had told another reporter that "Gonella was a second rate scientist" and that he "was a Professor of Metrology—whatever that is—at the Turin Polytechnic" and asked Gove about it. Gove admitted that he had made the remarks but told McClellan he would appreciate it if he didn't repeat them because "they were somewhat injudicious and impolitic."

**Source:** Gove, Harry. Relic, Icon or Hoax?: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing), 1996, pg. 262.

**Comments:** Gove once again showed here his penchant for being overly critical of non-C-14 scientists. (And on pg. 265 he wrote, "In my opinion both Meacham and Dinegar had been out of their league concerning the Turin Shroud since 1978. Their attempts to stay in the running would be sad if they were not so annoying.) Since one seldom sees the word "impolitic," I'll define it per Webster New World Dictionary: "not politic; unwise; injudicious, inexpedient." Two definitions of "expedient" are: "based on or offering what is of use or advantage rather than what is right or just" and "guided by self-interest." The view of Gove here is unflattering.

1988 *May*. Gove had bet that the date would be about AD 1,000 and Brignall had bet it would be from the time of Jesus. The loser would buy the other a pair of cowboy boots. Although Gove was off from the official date, he was closer than Brignall, and she bought him the boots. Gove wrote "The reader, by now, will have guessed that despite the agreement I had signed, I told Shirley the result that had been obtained that day. She and I had been associated with this shroud adventure now for almost exactly eleven years—there was no way I could not tell her. . . . She has told me that even now, her heart still tells her it is Christ's shroud."

**Source:** Gove, Harry. Relic, Icon or Hoax?: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing), 1996, pg. 265.

**Comments:** Gove admits that he broke his confidentiality agreement as "there was no way I could not tell her." There was a way for him not to tell her—he could have honored his agreement and simply not told her. Brignall's heart was probably closer to the truth than either Gove's guess on the date or the official date.

1988 *May*. Newspaper reporter Bill McClellan, the son-in-law of Arizona C-14 scientist Doug Donahue, travelled to Arizona during the period that Arizona was performing its

testing on the Shroud. He interviewed several of the principle scientists involved, including Harry Gove, who had been invited to be present at the Arizona testing. Gove continued his mantra that STURP were comprised of religious zealots but then also made a startling admission: “Almost without exception, they were people who honestly believe it is Christ’s shroud,’ he said. ‘It’s a well-known fact that scientists can produce whatever result they want. If you believe that passionately in something, you can steer the results. My God, we’ve all been guilty of that’.”

**Source:** McClellan, Bill. “Secrets of the Shroud.” *St. Louis Post-Dispatch*, May 15, 1988, pp. 1, 13-14 on pg 13.

**Comments:** Gove never explains how he knew that almost everyone on STURP believed the Shroud to be authentic. Barrie Schwartz, STURP’s documenting photographer, told me that team members weren’t even asked to disclose their religious affiliations because it was a scientifically-based project. An independent journalist, Robert Wilcox, actually interviewed many of the STURP members about the authenticity question. In “The Shroud ... How scientists see it now” published in *Catholic Twin Circle*, April 4<sup>th</sup>, 1982, pg. 3, Wilcox revealed, “According to recent interviews with 26 of the team’s corp of approximately 32 scientists, half, or 13 believe, or ‘lean toward believing,’ that the Shroud was in fact the burial cloth of Jesus.” Thirteen of twenty-six does not qualify as “almost without exception,” especially since Wilcox didn’t even interview an additional six of the corp thirty-two. Wilcox also mentioned (pg. 3) that, to a person, all thirteen who either believed the Shroud to be authentic or leaned that way conceded “that the Shroud may eventually be found to be something other than Jesus’ real burial Shroud . . .” Gove was guilty of overgeneralization, and it’s a safe bet that he hadn’t seen Wilcox’s article or had any other hard data to back his contention.

His overgeneralization was not surprising, but his apparent inclusion of himself in the acknowledgement that scientists can steer results based on their passion is. Since Gove was passionate about his assertion that STURP was comprised of religious zealots, is it unreasonable to conclude that Gove, at least sub-consciously, steered his actions to insure that the results would not produce a first-century date? Given that an enormous amount of publicity, grants, other financial considerations (eg., Oxford eventually being given a one-million-pound donation to establish a chair) and a perceived battle between science and religion were involved, the Shroud was a prime candidate for passion ruling. Consider this incredible statement found in an article by Cullen Murphy titled “Shreds of Evidence” in *Harpers*, November 1981 (v.263), pg. 55: “On one occasion, an Italian shroud-researcher took some tape samples from a colleague at gunpoint.” [!!!!!!]

1988 *July*. Leaks begin in papers in England that the dating gave a medieval date, even though Oxford hadn’t even performed their testing yet.

**Comments:** This suggests that at least one Englishman was a source of the leak.

1988 *August*. The leaks culminate in a story in the London *Evening Standard* on August 26<sup>th</sup> with the front-page headline “The Shroud is a Fake,” which quoted historian Richard Lockett of Magdalene College in Cambridge, who said, “Laboratories are rather leaky institutions.” Riggi said, “The laboratories committed themselves on their honor to provide that nothing would have leaked. Instead, they have exploited the research, they use the rumors to promote themselves. For sure they don’t come out clean.” Hall candidly stated, “Frankly, I think it was a hopeless prospect to keep the result secret. You couldn’t. With the best will in the world.”

**Source:** Marinelli, Emanuela. “The Setting for the Radiocarbon Dating of the Shroud.” Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 12, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** Secrets can be kept and confidentiality agreements can be honored but neither one happened in this case.

1988 *August*. Edward Hall, head of the Oxford lab, noted odd fibers in the C-14 sample. Hall enlisted the opinion of Peter South of Derbyshire lab, who concluded, —the rogue fibers were fine dark yellow strand *cotton...and may have been used for repairs in the past...* [emphasis added].

**Source:** “Rogue Fibers found in the Shroud.” *Textile Horizons*, December 1988, pg. 13.

**Comments:** This is another indication that even experts were acknowledging that the area was apparently not homogeneous. The finding of the cotton was even mentioned in the famous *Nature* article.

1988 *August*. On the 5<sup>th</sup>, Gove viewed a BBC documentary on the dating, which included footage of the sample taking. Gove noted, “The casualness of this operation was emphasized by the fact that he was not wearing gloves! So much for the sterile environment and procedures in handling the shroud Riggi had emphasized at the Turin workshop.”

**Source:** Gove, Harry. Relic, Icon or Hoax?: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing), 1996, pg. 276.

**Comments:** I have also seen a clip of Cardinal Ballestrero leaning on the Shroud with his elbows firmly on it. The casualness of the situation is extremely shocking.

1988 *September*. Although the labs were supposed to have sent the data from their testings to the Colonnetti Institute in Turin for statistical analysis, they did not do so.

The representatives of the labs had also been expected to meet in Turin to prepare a scientific report that was to be given to Cardinal Ballestrero, but instead Tite delivered a letter on September 28<sup>th</sup>. There were rumors that the representatives from the labs had secretly met during the summer in Switzerland.

**Source:** Marinelli, Emanuela. "The Setting for the Radiocarbon Dating of the Shroud." Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 13, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

1988 *October*. A few days before the dating, Meacham composed a letter to the British Museum, which he copied to STURP, Gonella and several news agencies, in which he wrote, "In sum, the British Museum has much to answer for in its involvement:

- 1.) Why did it acquiesce in the reduction of samples to be taken from seven to three, against the recommendation of the Turin Commission?
- 2.) Why did it agree to the elimination of the small counter laboratories, which employ a more reliable counting system?
- 3.) Why did it agree to only one sampling site, thereby raising the possibility of an anomalous zone being dated?
- 4.) Why did it agree to the sampling of a scorched area of the cloth, again in conflict with the recommendation of the Turin Commission?
- 5.) Did it approve the choice of a textile 'expert'? And is it satisfied that his visual inspection of the sampled area is sufficient to rule out any possibility of a restoration/re-weaving of that area?
- 6.) Why did it not follow its own guidelines in the inter-comparison experiment and insist that samples be taken well away from selvages? Or is 2-3 cm. considered to be 'well away'?

Clearly the full weight of the Museum's expertise was not brought to bear on the project and its involvement does not add any credibility whatever to the results."

**Source:** Meacham's book: The Rape of the Turin Shroud: How Christianity's most precious relic was wrongly condemned and violated (Lulu.com, 2005, pp. 95-96).

**Comments:** Meacham had consulted both with Barrie Schwartz and Vern Miller, the two main photographers from STURP, regarding the sample area. Miller, noting the highly stained nature of the corner, told Meacham (pg. 96), "I don't see how they could have chosen a worse location." Meacham also remarked (pp. 96-97), "It should never have sampled for dating, and under no circumstances should it have been the only sample taken. It took me a few hours of investigation to reach that basic conclusion, yet people like Gonella and Gove, who had spent countless thousands of hours involved in this carbon dating fiasco never did this very basic piece of homework."

1988 *October*. Cardinal Ballestrero announced on October 13th the test results of AD 1260-1390 for the Shroud and that the Church had no reason to doubt the results. That afternoon in London, Tite, Hall and Hedges held a press conference at which was placed a blackboard with "1260-1390!" Tite gave an interview to Radio Courtoisie in 1989 saying he didn't remember who wrote that on the board. Hall triumphantly pronounced that nobody scientifically trustworthy could now deny that the Shroud was a fake. The Cardinal's statement appeared the next day in the official Vatican newspaper, *Osservatore Romano*, ostensibly accepting the results, but the Vatican would question the results in another pronouncement made in August 1990 (see entry for that period below). Riggi stated, "We believe that a single test, unconnected with the other 25 proposed, cannot give a reliable answer."

**Source:** Marinelli, Emanuela. "The Setting for the Radiocarbon Dating of the Shroud." Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pp. 13-14, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** According to Meacham's book (pg. 97), "It was presented to the public as a 95% probability that the flax used to make the linen was harvested within the quoted time frame. This was of course only a statistical probability of measurement scatter, and had no bearing at all whether there was contamination, isotope exchange, re-weaving, or any of the various other possibilities that might put the date in question."

Due to many problems--including that the three labs would not officially release their raw data, multiple contradictions related to the reported sizes and weights of the sample, and an eventual discovery of both cotton and dye in the sample area--doubts were raised by many regarding the validity of the test. Regarding Tite's not remembering who wrote the "1260-1390!," see the entry under "November 1989" with the Kersten/Gruber source.

Hall's statement about the "scientifically trustworthy" was scientific arrogance at its worst. Meacham (pg. 98) remarked, "Hall showed his ugly, ignorant side with this remark: 'There was a multi-million pound business in making forgeries during the fourteenth century. Someone just got a bit of linen, faked it up and flogged it.' Yes, this incomparable object, arguably the most intriguing object in existence, was merely 'faked up' by someone and then sold off. Brilliant Oxford scholarship!" And to think people like Hall were given so much input while STURP, whose many members had put in countless hours of research, blood, sweat, tears, and much of their own money when they had studied the Shroud, were not allowed to take part. "Fiasco" doesn't even begin to describe it.

1988 *October*. Meacham indicated that Fr. Rinaldi wrote him that "The Cardinal has been crucified in Italy for his stand, for swallowing hook, line, and sinker, and almost gleefully proclaiming: 'We now know the truth! The Shroud is not what we thought it was, but at the very least it remains a beautiful icon.' Of course Gonella shares the blame and I must tell you he is very unhappy ... he had since been in the USA where he met some of the STURP people who took him apart and blamed him for everything that



has happened.” Meacham commented, “And rightly so, as he failed in the most crucial aspect of any scientific project – to involve people who have experience and expertise.” Meacham then sent another press release to news agencies and newspapers titled “SHROUD C-14 DATE UNRELIABLE ARCHAEOLOGIST CLAIMS.”

Some of the highlights of the release were Meacham saying “that C-14 dates should not be regarded as infallible; [C-14 scientist] Prof. P. Betancourt and his colleagues remarked on the fact that ‘so many dates have proven to be useless because of contamination and other causes;’ and Wolfli, director of the Zurich lab, had stated in a recent paper, ‘no method is immune from giving grossly incorrect datings when there are non-apparent problems with the samples ... this situation occurs frequently [in carbon dating].”

**Source:** Meacham’s book: The Rape of the Turin Shroud: How Christianity’s most precious relic was wrongly condemned and violated (Lulu.com, 2005, pp. 99-101).

**Comments:** Even though C-14 scientists know there are many anomalous C-14 readings, the three labs who dated the Shroud were at the outset trying to convince the public the Shroud results were airtight.

1988 *October*. Meacham decided to send a follow up press release which, among other things, stated, “Meacham said the recent C-14 tests proved nothing at all about the Shroud as a whole, since all three samples dated by Arizona, Oxford and Zurich had been taken from the same spot on the cloth – a corner that had been scorched in the church fire of 1532.

It is also possible that this area was re-woven by a medieval restorer, since it is just next to a selvedge edge and side panel that were added to the Shroud at some time after its original manufacture.

The Shroud may not be one homogeneous cloth as far as its chemistry is concerned. We already know of significant variation from one point to another, and the radiocarbon content likewise may vary significantly.

The recent testing was very poorly planned. It is astonishing that samples from at least two or three different points on the cloth were not taken for dating. Archaeologists who make frequent use of C-14 results are accustomed to samples occasionally giving aberrant results, and would normally not attach much importance to a single date, or this case, three dates on a single spot.

Meacham said he had repeatedly urged Gonella not to rely on one single site for dating the Shroud . . . Criticism of Gonella surfaced earlier this year when 4 of the 7 labs originally planned to do the testing were dropped from the program. Meacham cited a letter he had just obtained that was written by one of the labs’ directors to the British Museum in January of this year, in which the current C-14 project was described as ‘a rather shoddy enterprise ... which the British Museum may live to regret’.”

Meacham then commented about this second release, “After two weeks the subject of the Shroud had run its course in the press. I realized that it was going to be difficult

to move the mass media or the mass mentality until there were new developments. It seemed to me very likely that Ballestrero and Gonella would favor a new round of testing, including all the tests that STURP was planning, plus another C-14 run on samples from different sites on the cloth. And why not? There was everything to gain and nothing to lose. This was eminently logical, but as often happens in Church or any other politics, logic does not always prevail.”

Meacham wrote a third piece, for which he hoped Fr. Rinaldi could find a contact in Rome to get it published. Fr. Rinaldi wrote to him, “I called a friend on the editor’s staff and asked what the chances might be that it would publish. ‘Not one in a million,’ he told me. ‘You must have noticed that, except for the official communiqué on the results, the *Osservatore* has been silent on the whole issue, while other newspapers both Catholic and secular have registered all sorts of protests and criticism of the way Cardinal Ballestrero handled the October 13 press conference. For the time being the *Osservatore* (i.e., the Vatican) wants to stay out of it.”

**Source:** Meacham’s book: [The Rape of the Turin Shroud: How Christianity’s most precious relic was wrongly condemned and violated](#) (Lulu.com, 2005, pp. 102-103, 106-107).

**Comments:** Logic did not prevail. Meacham had commented about the Shroud having run its course in the press. Certain topics never seem to run their course in the press, like the celebrity worship, e.g., the Kardashians and the Jenners in the U.S.A. But something like the Shroud, which has the potential to change millions of lives, is deemed not important enough to keep reporting on.

A remark made to Meacham by an unnamed correspondent (pg. 117) is worth mentioning. That person stated “. . . that the three laboratories came up with what has been announced as practically identical results, and that these results coincide with the accusation of Pierre d’Arcis – whose ghost we thought we had laid to rest – smells strongly of some procedural deviance prior to the actual tests.” In other words, this person suspects that the labs manipulated the data so that they were close to each other as well as to the date when the Shroud is clearly documented in the historical record. In fact, questions about the statistical aspects will be touched on further below.

1988 October. Gonella made a visit to the U.S. and was interviewed by a paper in Albany, New York. Gonella made various critical remarks about the C-14 scientists. “The constant leaks of information from scientists who, with Church permission, examined the Shroud and their attitude of mistrust and suspicion, ‘gave us the sad impression that we were taken for a ride,’ Dr. Gonella told *The Evangelist*.

‘We got the feeling that they were only interested in good advertising’, Dr. Gonella said of the behavior of scientists at the three labs in Great Britain, the United States and Switzerland who examined the Shroud.

He said that, from the beginning of the project, the Church was made to appear as if it were an obstacle to scientific investigation. Scientists, questioning the objectivity of the Church, made sure to personally take samples from the Shroud for fear that Church officials might substitute samples from an older cloth.

For Dr. Gonella, that suspicion was an insult which resulted in the 'Bishop of Turin being treated in a way that they would not have treated a provincial museum director.'

He said the Church was forced to accept such conditions for fear that Cardinal Ballestrero would be charged with putting obstacles into the path of science.

'They put the Church of Turin into a very awkward position,' he said. 'We were charged with trying to hide the truth. I had too many times to apologize to the bishop for the behavior of my fellow scientists.'

While the results were supposed to be gathered and then formally presented by Cardinal Ballestrero, news leaks, especially in the British press routinely occurred throughout the investigation. 'We didn't know anything. (The scientists) kept the press informed without informing us," said Dr. Gonella, who said that the scientists were interested in advertising their labs' involvement in the project. Some, he said, also were intent on making theological statements debunking the value of the Shroud.

The scientists also insisted on having their own textile experts study the Shroud. According to Dr. Gonella, such measures were an insult to Italians, who have long been in the textile industry.

'Italy was being treated like an underdeveloped country. Turin is not a backwater town.' Dr. Gonella insisted.

The conflicts about the Shroud, concluded Dr. Gonella had little to do with scientific method or the search for objective truth. Rather, he said, the conflicts 'had no relevance to science and faith. It had a lot to do with the relationship between the scientific and the clerical world'."

**Source:** Feuerherd, Peter. "Shroud expert from Turin hits scientists' methods." *The [Albany] Evangelist*, October 20, 1988, pg. 8A.

1988 October. Art historian Anna Hulbert, who was trained in the 1960s at the world famous Courtauld Institute (a college of London University), said "If the image on the Shroud is purely the work of a medieval artist, it raises more problems for me as an art historian than if it is genuinely the Shroud of Jesus of Nazareth." She was asked her evaluation of C-14 dating. She commented, "'Carbon dating, like X-rays .or any other analytical technique, should be regarded as one tool among many. It is chiefly useful in the dating of undisturbed archaeological material. In the case of the Shroud, one should calculate carefully whether any of its known wanderings or adventures, such as the 1532 fire, could give a distorted reading to whatever date the radiocarbon laboratories come up with.

It is science, and not the Catholic Church, that's trying to prove the authenticity, or otherwise, of the Shroud of Turin, and it would be quite ridiculous to dismiss the Shroud as a medieval artifact on the basis of a non-too-reliable carbon test."

**Source:** Jennings, Peter. "Art historian not convinced the Shroud is a fake." *Our Sunday Visitor*, October 23, 1988, pg. 24.

**Comments:** The Shroud is anything but “undisturbed archaeological material.” Hulbert also confirms the perception, not held by the general public, that the C-14 test is always not reliable.

1988 *November*. Interviewed by the Italian newspaper *Il Sabato*, Gonella said, “It was blackmail. They put us against the wall just with a blackmail. Either we accepted the test of C-14 on the terms imposed by the laboratories, or it would break out a campaign of accusations saying the Church fears the truth and is an enemy of Science.”

**Source:** Marinelli, Emanuela. “The Setting for the Radiocarbon Dating of the Shroud.” Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 14, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

1988 November. Fr Rinaldi sent out a newsletter to the Holy Shroud Guild members stating that Cardinal Ballestrero had already regretted having said that there was no reason for the Church to doubt the results. Gove wrote, “Rinaldi claimed that people in both religious and scientific circles were up in arms because of mistakes in test procedures and ‘the unprofessional behavior of the scientists involved in the tests’.” Fr. Rinaldi noted that *L’Osservatore Romano* had not published anything besides the announcement of the results, which he interpreted to mean that the Pope wasn’t pleased with the way the whole C-14 process had been handled. Gove commented, “I wondered exactly what it was about the test procedures that might have made the pope unhappy. If they were the same one that had initially made me and others unhappy, the pope had only himself to blame. It was he who cut Professor Chagas and the Pontifical Academy of Sciences out of the action and handed control to Luigi Gonella. Only the fact that the scientists in the three laboratories had conducted their measurements in such a professional manner and had independently reached agreement on the dates of the four pieces of cloth they had been given, saved the situation from disaster. Rinaldi’s charge that the scientists’ behavior had been ‘unprofessional’ was quite preposterous. All along it was the behavior of Gonella and his STURP cronies that had been unprofessional. I again thanked providence for ensuring that the carbon-14 results had not been tainted by any involvement by STURP. If the pope, by continuing to exercise benign neglect, permitted the shroud to suffer further assaults by STURP, so be it. At least they would not be desecrating a relic.”

**Source:** Gove, Harry. Relic, Icon or Hoax?: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing), 1996, pp. 294-295.

**Comments:** In one short paragraph, Gove managed to criticize the Pope, Fr. Rinaldi, Gonella, and STURP, while using inflammatory language about STURP by referring to them as Gonella’s “cronies” and stating that any testing by them are “assaults” AND lauding the behavior of the three labs, despite the many issues documented in this

three- part article. The actions of the three labs did NOT save the situation from disaster.

There's an interesting comment by Sox, whose book ends, "A vicar who knew of my interest in the Shroud once approached me after reading all the material which proclaimed its authenticity, and said he still found it very difficult to believe the Shroud was real. 'God doesn't operate this way, does He?' he asked. He was right. He doesn't." Personally, I'm always leery of someone who claims to know exactly how God operates.

1988 *November*. German author Kersten paid a visit to Belgian textile expert Dr. Gilbert Raes, who had been given a sample of the Shroud to study in 1973 and had possession of it for several years after that. Kersten inquired regarding the whereabouts of the sample. Raes revealed some interesting information regarding it. Sometime in 1974, he had received a letter from Rev. David Sox, who was secretary of the British Society for the Turin Shroud and who was pro-Shroud at the time. He asked Raes to receive a Dr. Walter McCrone from Chicago, who Sox described as a "radiocarbon specialist." McCrone visited Raes in September 1974 telling Raes he could date minute samples and asked Raes to give him the sample. Raes was leery about the request and wanted to consult another specialist. Raes consulted with Belgian C-14 expert Prof. Daniel Apers, who agreed to meet with McCrone. Apers advised Raes not to give McCrone the sample, since McCrone's proposed testing would have a plus/minus factor of 700 years, which was too large for a possible 2,000-year-old date.

Kersten asked Raes if he knew McCrone strongly believed the Shroud was not authentic. Raes expressed the opinion that McCrone's anti-authenticity stance was because he wasn't able to get the sample from Raes and that Sox, who eventually changed from pro-Shroud to anti-Shroud, might have changed camps for the same reason.

Raes had these things to say about the C-14 testing, "I cannot understand why representatives of the dating laboratories were present during the sampling in April. As I heard, everything was to be kept in strict secrecy, to avoid influencing the researchers. But the weave of the Turin Shroud is so characteristic that it can be recognized immediately. I think they should have taken the specimens apart to leave only the individual threads; then they really would have been unrecognizable. But as they were anyone could recognize the Shroud specimen at once. That is not a blind test! And then they probably talked among themselves too. If there were differences of 600-700 years, they had to harmonize the results so that the public was not suspicious. I am fairly sure they compared notes. Finally, there is still the question why the four other laboratories from the seven originally selected were suddenly excluded! I find more and more reasons to make me doubt the correctness of this dating procedure. What makes me most suspicious is that the laboratories were in contact with each other."

**Source:** Kersten, Holger and Gruber, Elmar R. [The Jesus Conspiracy: The Turin Shroud & The Truth About The Resurrection](#) (Rockport, MA: Element, 1994, pp. 48-50).

**Comments:** McCrone was not a C-14 specialist—he was a microscopist. McCrone always claimed the Shroud was a forgery because of artists' pigments he found on sticky-tapes. It's important to state that it is known that many artists who painted the Shroud were allowed to touch their copies to the Shroud to "sanctify" them, so it's not surprising that artists' pigments were found, but STURP, which directly examined the cloth (McCrone only studied tape samples) said the trace pigments had nothing to do with the image. I've read over the years that Sox changed from pro to anti based on McCrone's findings. But Raes seems to have picked up some very strong impressions regarding McCrone and Sox, so there may have been some political issues going on behind the scenes. He was also clearly suspicious of the behavior of the labs.

1988 November. Archaeologist, the late Eugenia Nitowski, wrote, "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 . . ."

**Source:** [Nitowski, Eugenia.] "The Shroud of Turin and Carbon Dating." *The Wanderer*, November 24, 1988, in "the Forum" section.

**Comments:** There are many more than ten lines of evidence when it comes to the Shroud, which is probably the most intensely studied artifact in human history in terms of the number of person-hours devoted to its study. One would think that if the Shroud were a medieval forgery, that there would be other solid scientific evidence pointing to that and while many debunkers believe that there is, many scientists and researchers continue to believe that the weight of the evidence indicates that the Shroud is authentic. I believe the emphasis on the reliability of the C-14 in the case of the Shroud is part of the fabric (no pun intended) of the politics that plagued the whole enterprise.

1988 December. *Nature* received on the 5<sup>th</sup> the paper from the twenty-one scientists "even though the scientific text still had to be reviewed by peers and published in a specialized periodical before it was communicated to the public."

Even though the Colonnetti Institute in Turin had originally been chosen to be one of three institutions to analyze the results, the laboratories had asked that the work be entrusted to Tite because of his supposed independence. Gonella noted, "Any Italian would have been looked upon with suspicion and anyone from Turin would be doubly suspect. We accepted because we were in the situation that, if anyone had objected, his objection would have been interpreted as an obvious proof of the desire to cheat."

**Source:** Petrosillo, Orazio and Emanuela Marinelli. *The Enigma of the Shroud: A Challenge to Science*. San Gwann, Malta: Publishers Enterprises Group, 1996, pp. 110-111.

**Comments:** Why was the paper sent to *Nature* even before it was in its final stages? It gives the impression that a conclusion was made without regard to the details. Petrosillo and Marinelli noted that none of the signatories had done any previous research on the Shroud; the group that was knowledgeable about the Shroud, STURP, had not been allowed to participate.

1988 *December*. A letter from Dr. Raes was sent to *Shroud News* editor Rex Morgan. Raes told Morgan, “. . . many questions arise concerning these tests. Why was the number of designated laboratories reduced to three? What is the exact place from which the samples were taken? From the photograph on page 9 of *Shroud News* (No 49) it seems it was about at the same place that my sample was taken. Also, at this place a piece of about 7 cm width of cloth was added, probably to centralize the image. There is no evidence that this piece of cloth is of the same age as the remaining part of the Shroud, and may have been added centuries afterwards . . . .

To me it seems evident that before communicating their results to Turin the laboratories contacted each other in order to avoid too much difference between their results. Indeed, big differences would contribute to doubts about the credibility of the laboratories and it is logical that the three laboratories tried to avoid such a possibility . . .

Many other questions may be put, on which we will probably never receive a satisfactory answer.

**Source:** “From Emeritus Professor Gilbert Raes.” *Shroud News*, No. 50 (December 1988), pg. 20.

1988 *December*. Kersten also made a trip to Zurich, to interview Prof. Wolfli. Kersten mentioned that Tite couldn't find any control sample that would match the Shroud and thus the blind procedure was not needed. Wolfli replied, “Yes, but, the coding was needed at least because . . . shall we say for the journalists for one thing.” Kersten commented, “I reflected, that experienced scientists apparently allowed journalists to dictate their methods, and so jeopardized the credibility of their work. This was something new to me, quite irrational; it did not sound like the customary self-confidence of science at all.”

Kersten asked Wolfli could give him an advanced copy of the upcoming report due to be published by *Nature*. Wolfli replied, “The paper is still just a draft, not the final version, and so I do not wish to give it out. Not because it contains something secret, but because it is possibly not the final version. To be more specific: it may be that a serious error still remains in it, which we have overlooked and which would still have to be eradicated . . . there is the problem that if something still has to be changed in the text, and you published the earlier false version then one would have to withdraw it, because there would be some mistake in it which only the reader had noticed and none of us, then . . . According to Kersten, “Again the sentence was left hanging in the air.”

Kersten commented, "This set me thinking. So it was errors which had to be eradicated. I had a very simple idea of scientific work. One does a test, and at the end one obtains a result, which can be expressed as a numerical value. If everything was done correctly, there can be no mistake. Surely he could not have meant typing errors? For a practised team which had already composed many papers, writing down numbers correctly should not present any problem. What could he have meant by 'false version'?"

Kersten went on at length about the "blind" testing: "The whole procedure of secretly distributing the specimens in the small, screw-capped containers was a farce. This play-acting was no use even for the benefit of the press and public. The BBC film team was present in Wolfli's laboratory when he broke the seals of his three containers and laid out the cloth pieces before him, and anyone could see which one belonged to the Turin Shroud. It was rather poor play-acting, and unnecessary. It is astonishing that these crucial events were not better planned, if only to fool the public. Or had some crude blunder occurred during the planning? This secret distribution of specimens would only have made any sense if, as Prof Raes remarked, the fabric pieces had been unthreaded before being placed in the containers. Then the scientists in their laboratories could not have distinguished the experimental specimen from the control specimens.

I asked Wolfli why they did not do just this. His matter-of-fact reply was: 'We discussed this very question during our preparatory meetings in London in January this year. But finally we decided to leave the specimens intact. Even two years ago at the September meeting in Turin, attended by all seven of the selected laboratories, we discussed the sampling procedure. It was found that while cleaning the unravelled material too much waste was incurred. You can see this loss of material on our lab picture with the test sample separated into small pieces: if you add up the weight of the small pieces, a considerable quantity is missing. Besides, it was nice to be able to keep track of the specimen right up to the time of vaporization in CO<sub>2</sub>, so that no swapping could take place. Yes, that was itself a good way to check that it was really the right specimen.' I find this quite baffling. It seems that the decision to keep the Shroud specimen intact until its experimental destruction had been made long before, years before in fact. Nonetheless, control specimens were procured at great expense, and the shoddy farce of a secret distribution was acted out. All the participants knew it was totally unnecessary. If they wanted to date other textile pieces from different periods, they could just have been handed out to the researchers in transparent containers. Containers of different colours could have been sealed before the running cameras, and in the presence of a notary, and we would have been spared a lot of mystery. Instead Shroud and control pieces disappeared behind locked doors, until a nervously smiling Dr Tite reappeared with some tin boxes on a tray. Who was trying to fool whom? The researchers behaved as if they had only realized that the test was not quite 'double blind' afterwards, and then said their action was justified to avoid the danger of a switch. These same scientists spend their whole time analysing blind specimens, never asking whether they could have got their specimens mixed up. When it came to the Turin Shroud, they had agreed for obscure reasons not to perform a blind test, and still wanted to let the public believe it was one. Why had such a major undertaking, after years of planning, ended up with this contradictory test programme? Was it just



sloppiness? That was unthinkable, when one considers the precision with which scientific tests are normally carried out, without the benefit of lengthy preparations. Such thoughts left me with a very uneasy feeling about the affair.”

Regarding the third control sample (threads from the cope of St. Louis Anjou, dated at c. 1290-1310) that had been added at the last minute during the sample taking, Wolfli said, “About this the British Museum told us: ‘Here’s something extra, if you like you can practise on it, the age is precisely known.’” Kersten commented, “It was just one more strange fact to add to the string of other confusing things: these highly specialized laboratories were offered a chance ‘to practise’, although they were in the habit of dating hundreds of specimens month by month and were hardly in need of any practice.”

Kersten asked Wolfli how long Cardinal Ballestrero and Tite were in the sacristy putting the specimens in the nine containers. Wolfli told him about 30 minutes. Kersten commented, “Half an hour, to put nine pieces of cloth the size of postage stamps into small tubes. Incredible!”

Wolfli admitted that his lab dated only half of the sample they had received. When Kersten asked him where the other half was, “The reply came with a secretive smile: only he and his wife knew that!”

**Source:** Kersten, Holger and Gruber, Elmar R. The Jesus Conspiracy: The Turin Shroud & The Truth About The Resurrection (Rockport, MA: Element, 1994, pp. 54-59).

**Comments:** Kersten came away from his interview of Wolfli “with a very uneasy feeling about the affair.”

Wolfli said that only Cardinal Ballestrero and Tite put the specimens into the containers but Gonella maintained that he was there also. Kersten speculated that the reason Ballestrero and Tite were in the sacristy so long was that an exchange of the samples was being orchestrated.

Although Wolfli told his wife where the extra sample was being kept, it doesn’t appear he told others from the lab!

Note: sometimes Prof. Wolfli’s name is spelled by other writers as “Woelfli.” Also, these German authors sometimes use the British spellings of words and sometimes the American spelling, sometimes even on the same word, e.g., “practise” and “practice.”

Australian blogger Stephen Jones has made some interesting observations regarding the spread of the measurements. See <http://theshroudofturin.blogspot.com.au/2015/11/the-1260-1390-radiocarbon-date-of-turin.html>.

1989 *January*. German author Kersten sent photographs of the Zurich specimen “Z1,” one of the samples dated in 1988, to Belgian textile expert Prof. Gilbert Raes to compare with photographs of the sample that Raes had received in 1973. Kersten quotes Raes, “I have compared the specimen which I received in 1973 with Prof Wolfli’s photos. I must state that the general appearance is quite different. What could be the reason for this difference? In each case the main difference lies in the differing number of threads per centimeter in the directions of warp and weft. It is not easy to count the

number on a photograph, but I did not find the same number as on the piece I received in 1973. I may conclude from it that the two specimens cannot come from the same item. That is my impression when looking at the specimens.”

**Source:** Kersten, Holger and Gruber, Elmar R. The Jesus Conspiracy: The Turin Shroud & The Truth About The Resurrection (Rockport, MA: Element, 1994, pg. 61).

1989 *January*. On the 18<sup>th</sup>, Kersten flew to London and talked with Susan Black, Secretary of the British Society for the Turin Shroud. [Kersten mistakenly gave her last name as “Brown.”] He asked her about her opinions of the various British investigators involved. “She described Hall as an arrogant careerist, not at all interested in the cloth itself. He was only interested in gaining publicity for himself and his institution, and he thought the members of the BSTS and all those interested in the cloth were mad. His powers of imagination seemed to stop at his laboratory doors. Now that the Turin Shroud has been dated to the Middle Ages, Hall claimed that he had known it all along. But really he knew absolutely nothing about the cloth, he did not have a clue, Susan told me and added: ‘This is a volte-face for him. I suppose if the Shroud had been dated to 100 he would have gone the other way – he would have said how wonderful it was and how he always believed it’.”

Kersten asked Black how it was possible for Sox to have his book ready weeks before the official announcement was even made. “He was very unpleasant when we last spoke to him because we had just told Reuters or someone that we thought he was implicated in the rumours. So he is not very pleased with us . . . He is a very emotional guy . . . He tends to get very excited about things and then there is a big depression. . . . He knew the results then pretty well, he obviously knew what they were, but the book indicates that the only way he knew was from Harry Gove, who was with Paul Damon in Arizona. Harry Gove’s laboratory did not get the sample that they wanted. They were the people who first asked Turin to do the sample, it was all their idea, and their original paper and everything else, and they were very annoyed when they didn’t get a sample. It was because all the three laboratories chosen were using the same method, which again is very strange, it doesn’t seem sensible at all. Paul Damon from Arizona is a terribly nice, gentle, very scientific man, who doesn’t really understand all this kind of religious fervor, and Gove managed to persuade him to allow him to be in attendance when the result came through, that’s how he knew. Harry Gove is very sociable, and Sox found out about the bet with Harry Gove’s assistant, and that’s what he based his whole premise on.”

Regarding Tite: “He is almost a businessman; he is a scientist but he is obviously capable of avoiding the truth, because he certainly avoided telling the fact that the dates of the other samples were known.” Kersten asked Black if Tite was “briable.” She replied, “Oh, I don’t know about that. You just don’t know, every man has his price, there may be something that I don’t know.” Black also commented, “Everything that could have been done wrong has been done wrong, and none of the things that were suggested by the Harwell laboratory, which was an objective outside laboratory, were done at all. Something strange there!”

**Source:** Kersten, Holger and Gruber, Elmar R. The Jesus Conspiracy: The Turin Shroud And The Truth About The Resurrection (Rockport, MA: Element, 1994, pp. 61-66).

**Comments:** None of the British investigators Black described received glowing recommendations.

1989 January. Kersten listened to a tape of a talk that Dr. Michael Tite of the British Museum gave to the British Society for the Turin Shroud in November.

Kersten summarized the main part of the talk: "If one looks more closely at his statements, first he stated that the piece cut off was divided into three parts. As we were later to learn, it was in fact cut into four parts, that is it was first halved, and then one half was divided into three parts. Then he said that only he and the Cardinal took part in the secret packing of the specimens. He failed to mention that Prof. Gonella was also present. He can surely not have forgotten whether there were two or three of them in the room? And if he had forgotten, so much the worse for his credibility! Thirdly he said that the strip removed was 1 x 7 cm in size. In fact it must have been almost twice as wide and over 8 cm long! This discrepancy must have been known to the 'co-ordinator' of the dating test, or at least he must have noticed it at some stage."

Kersten continued, "Finally the audience was allowed to ask questions. Besides various questions about a possible contamination of the cloth specimens, one of those present said that he was surprised to read in David Sox's book that Tite and the Cardinal had signed a document which expressly declared that the specimen of cloth really did come from the Turin Shroud. He asked: 'Does such a document really exist?' Tite's reply, in his exact words was: 'I don't know, I'd have to go back to the video.' The questioner said again: 'But according to him it was signed by yourself!' Tite replied: 'Well I was going to say I'd have to go back to the video, this is why we had a video taken, I mean I have a feeling that I did sign something, yes, which is why I had a video taken!' Laughter in the hall. One might consider it strange that the person guaranteeing the experiment could no longer remember anything about this extremely important detail. Moreover it would be quite pointless to refer to the video on this point, since there were (according to Tite's statements) no witnesses present at the distribution of the specimens in the containers, and so that procedure was not filmed. Surely Dr Tite must at least have remembered that. Tite was obviously disturbed and somewhat ruffled. Chairing the discussion that evening was Ian Wilson, and he was polite enough to pass quickly over the embarrassment and ask if anyone had any further questions.

A member of the audience then raised the question whether the laboratories had been in contact with each other during the test phase. After categorically denying it at first, Tite admitted that there had probably been leaks contrary to the agreement, and in the ensuing unrest in the hall he conceded that the so-called blind test too was really no blind test! Surely he must have known this already before the sampling, when he was supposedly unable to organize the procurement of identical fabrics. Why then stage the whole show with the secret packing of the samples in the containers away from the public eye? What purpose could such play-acting have served? There is no reasonable answer to this question. The responsibility for the exchange of information

among the laboratories, which Tite admits to, also rests on his shoulders. He was the guarantor, the referee so to speak, who was supposed to see that the agreed experimental procedure was exactly adhered to.”

**Source:** Kersten, Holger and Gruber, Elmar R. The Jesus Conspiracy: The Turin Shroud & The Truth About The Resurrection (Rockport, MA: Element, 1994, pp. 68-70).

**Comments:** Kersten adds, “In the event it was as if no agreement were followed at all.” I also have a copy of Tite’s talk, which was given on November 7<sup>th</sup>, 1989. Tite also had seemed certain they hadn’t been told the specific dates of the control samples, even though it’s well established that they had been (see part 2). That’s not the only time Tite had problems with his memory. In 1989, he was asked in an interview who had written the “1260-1390!” on the blackboard at the press conference when the dates were officially announced. In the interview, according to Marinelli in her Valencia paper (pg. 13), he said he couldn’t remember who did. Yet, in a BBC 2016 interview (<http://www.bbc.co.uk/programmes/p03lqvkb>), he stated that he had written it. How does he forget one year after the event who wrote it and twenty-seven years later remember that he himself wrote it??

I also have a tape of that talk. A questioner says that photos of the C-14 sample area suggest there could be a dye in that corner. Tite asked a rhetorical question: “What is the source of the dye?” A second questioner then noted that chemist Ray Rogers in 1978 had said that the Shroud has a mussy appearance; the questioner wondered about the carbon content of the apparent dye. Curiously, Ian Wilson, who was moderating, intervened, wanting to go on to another question and Tite was not given an opportunity to answer the questions.

1989 *January*. On the 14<sup>th</sup>, the English periodical *The Tablet* published an interview of Edward Hall by journalist John Cornwell. Hall was asked why there hadn’t been blind measurements as had been recommended in the 1986 Turin workshop. Hall said that the workshop had also recommended that the samples not be unraveled and since the Shroud weave was so distinctive, it could not be concealed, so there was a problem. But he went on to tell Cornwell that their tests had been blind. Gove commented on this aspect, “After the samples were burned to carbon dioxide gas they were recoded separate from the carbon dating team, somebody who was sworn to secrecy. Thus neither Hall, nor Hedges, who actually made the measurement, knew which of the four gas samples was the shroud. Hall said the other two labs did not take this precaution (he was wrong about that because in the paper that was published in *Nature* on 16 February 1989 it was stated that Zurich followed the same procedure as did Oxford). He made it clear that he thought this was a very wise and clever thing they had done at Oxford.

My personal view was that it had been a very silly and unwise thing to do. It meant that the two senior scientists at the Oxford AMS facility did not know whether they were actually measuring the samples Hall had so dramatically announced he had brought back to England from Turin. The same situation apparently also applied at Zurich. Whatever it was they measured at Oxford and Zurich fortunately bore a one to one

relationship to the samples measured at Arizona, where the fate of the samples was followed by Donahue from the cradle to the grave so to speak. It is not too outrageous to argue that the shroud sample was only measured at one laboratory—Arizona. The other two, as far as the senior scientists knew, measured a sample of carbon dioxide gas that just happened to give a carbon date close to the shroud's known historic date. I obviously do not believe this, but it was risky to have carried out the measurements in such a way. I am sure that Hall, Hedges, and Woelfli would have argued that you had to trust someone. That was certainly true, but the people I would be most inclined to trust were the senior scientists at the three labs because they had the most to lose by improper behaviour. In the case of two of the labs, it could be argued that the senior scientists did not exercise a close enough control to merit such trust.”

**Source:** Gove, Harry. Relic, Icon or Hoax?: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing), 1996, pp. 296-297.

**Comments:** The narrative of the “blind sampling” is a good example that the labs did not, as Gove proclaimed a few pages earlier, conduct their measurements in a professional manner.

1989 January. In an interview, Hall was pressed on the point that no one still knew how the image was formed. He replied “. . . this assumes that I'm interested in solving these remaining mysteries in the first place and I'm *not*, to be quite honest. I haven't given it much thought, and I certainly don't intend to now that I know it's a fake. I actually find it totally uninteresting now.”

**Source:** “John Cornwell Interviews Edward Hall” in *The Tablet*, 14 January 1989, pg. 38.

**Comments:** What sort of scientist is content with only part of a solution to a mystery??? Hall also questioned whether the blood might be human or just “pig's blood.” If Hall had read some Shroud literature, he would have known that Adler and Heller had proven, in a peer-reviewed journal, that the blood was definitely primate (Heller, J.H. and A.D. Adler. “Blood on the Shroud of Turin.” *Applied Optics*, Vol.19, no.16, August 14, 1980, pp, 2742-2744.

1989 *January*. At the start of his trip to London, Kersten had written to Hall at Oxford, hoping to set up an interview. Kersten called his office and was informed that Hall was abroad and wouldn't be back for ten days. Kersten called again after those ten days and got the exact same story. Kersten commented, “Keen to find out whether Hall had really left or had got people to lie about his whereabouts, I looked his number up in the local phone book. I called the number and asked to speak to the professor. A young, friendly man at the other end of the line told me that Hall must be at work, but would certainly be back home that evening. Now it was quite clear I had been systematically

lied to. Why was the Oxford professor so evasive? Or did he even have something to hide?"

**Source:** Kersten, Holger and Gruber, Elmar R. The Jesus Conspiracy: The Turin Shroud & The Truth About The Resurrection (Rockport, MA: Element, 1994, pp. 71-73).

**Comments:** Hall simply could have refused to meet with Kersten. The fact that the latter was lied to is a bit suspicious. But (pg. 82) Hall did later send Kersten a letter with some information about the weight of the samples (although not specific) as well as several pictures.

1989 *February*. In mid-February, Gove called Donahue to say he heard the official report would be in the February 16<sup>th</sup> issue of *Nature*. Donahue confirmed this and also said that issue would have a letter from Thomas J. Phillips of Harvard and Fermilab hypothesizing that the resurrection of Jesus could have produced neutrons and an excess of C-14. The Tucson press contacted Donahue about the letter and he told Gove "it was the first time he had used expletives." Gove added, "He was indignant that *Nature* would publish such a letter."

**Source:** Gove, Harry. Relic, Icon or Hoax?: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing), 1996, pp. 299-300.

**Comments:** Donahue is a Catholic, so one wonders why he would have a problem with the hypothesis of Phillips, who was affiliated with two of the most prestigious institutions in the U.S.A., which means the hypothesis cannot easily be dismissed. And why indignation at a piece that is simply a scientific hypothesis? If Donahue's findings were solid, he should have had nothing to fear.

1989 *February*. The *Nature* issue dated February 16<sup>th</sup> had the official report and was titled "Radiocarbon Dating of the Shroud of Turin," which had twenty-one signatories, with Paul Damon of Arizona being listed first. According to the report, "These results therefore provide conclusive evidence that the linen of the Shroud of Turin is mediaeval."

The report gives the impression that each lab used up all of its samples but it was later revealed that Arizona and Zurich each had preserved a portion.

**Source:** Marinelli, Emanuela. "The Setting for the Radiocarbon Dating of the Shroud." Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pp. 12-14, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** Even before all the facts that have been brought up in this three-part article, the labs never should have been so confident to say that the results were "conclusive evidence" that the Shroud was a fake.

In a posting on [www.shroudstory.com](http://www.shroudstory.com) from May 7<sup>th</sup>, 2013, Ramsey from Oxford said, "As far as I am aware the whole material was used for the dating here – that is what the weighed components suggest – and we don't have any remaining sample in our archives with these sample numbers. I think the position taken here was that we only had permission for dating and not other research – and at that time, the measurements needed as much material as possible. It is true that it is normal practice to retain some material for further checks in routine dating and we normally do this – so I can see that other labs may have made different decisions." Since Ramsey was involved in the 1988 dating, one would think he could have come up with something stronger than "As far as I am aware . . ." It's another example of the horrible record-keeping by the labs.

The late Al Adler told author Mark Antonacci in the 1990s in one of their many phone calls that all three labs retained pieces after the dating.

Gove commented in his book (pg. 301), "The article was rather opaquely written—difficult to comprehend in complete detail even by experts in the field. . ." Was the complexity the result of input by twenty-one authors—or was something else going on?

1989 *February*. On the 15<sup>th</sup> during a conference at the British Museum, Hall opened the proceedings by displaying a cartoon from *The Observer* in which a scientist with a white lab coat is seen in a Catholic confessional and admitting "having twice committed Carbon 14," which angered Gonella greatly. According to Petrosillo and Marinelli, Hall made some significant errors in recounting the Shroud's history and accused STURP of having given the Shroud "a false scientific credibility."

Gonella countered that "the scientific procedure adopted by the three laboratories is not beyond reproach." Riggi questioned the credibility of the pretreatments of the three Shroud samples. Gonella also said, "Improprieties galore have been committed. The Carbon 14 colleagues have behaved in a disgraceful manner. They have hatched a real plot to discredit the Shroud."

Gonella asserted that, "At the beginning, when they themselves had asked us to be allowed to examine a sample of the Shroud, they had guaranteed us the utmost seriousness and completeness in the analysis, as well as promising to collaborate with the custodian of the Shroud, the archbishop of Turin, and with his scientific consultant, the undersigned. Seized however by a feverish desire for celebrity, they began to renege on their promises: no further interdisciplinary investigations; just the Carbon 14 test. They even badgered Rome, bringing pressure to bear so that Turin would have to accept their conditions. Through the intervention of Professor Chagas, then president of the Pontifical Academy of Sciences, they set aside the undersigned so that they could do whatever they wanted. The obvious question is why did Ballestrero and Gonella then give their consent? Gonella replied, "Because Chagas acted alone, going over the heads of the other academics. And the Holy See was continuously [sic] being threatened by the laboratories themselves which stated repeatedly: 'If you do not leave us alone, completely alone, the results will not be acceptable.' So, in the end, Ballestrero had to give in, even though it pained him a great deal. And I too had to bow my head, also because those gentlemen did all they could to bolster the idea that the Church was putting spokes in the wheels of science."

Gonella was asked if the international scientific community doubted the C-14 results. His answer, "Not for the present; at the moment the grounds for reaching such a

conclusion are missing. But, certainly, the vast majority of my colleagues are not persuaded, neither by the methods adopted, nor by the conclusions. These gentlemen, however, continue to proclaim to the four winds that now the last word on the matter has been spoken. Theirs, obviously!"

Gonella noted that the new archbishop of Turin, Monsignor Giovanni Saldarini, while celebrating a Mass on May 4<sup>th</sup>, indicated that new "investigations would continue and that this time they would be entrusted to people who are more open intellectually."

**Source:** Petrosillo, Orazio and Emanuela Marinelli. The Enigma of the Shroud: A Challenge to Science. San Gwann, Malta: Publishers Enterprises Group, 1996, pp. 117-121.

**Comments:** While the new investigations (not including the controversial restoration in 2002) have still not materialized, it does indicate that the Church authorities acknowledged that the C-14 scientists were limited in their scope.

1989 *March*. Hall received one hundred thousand pounds from ITV, the BBC's rival, and also one million pounds from forty-five businessmen and "rich friends." Who took over Hall's position?—it was Dr. Michael Tite from the British Museum, who had been the supposedly-independent overseer of the Shroud dating. Gonella commented, "Since the beginning, this story of dating the Shroud has been vitiated by publicistic aspects, to which the C-14 laboratories showed to be even too much sensitive." Gonella further criticized the C-14 scientists, "who took the liberty of violating the secret and of announcing to scandal-seeking tabloids that the Shroud is a medieval fake. In my opinion, there is an anti-Catholic conspiracy of specific milieus." Gonella didn't specify which milieus, but in a later interview, Cardinal Ballestrero was asked "In this whole affair could the Freemasonry have had a hand? And external pressures?" The Cardinal replied, "I think it's indisputable!"

**Source:** Marinelli, Emanuela. "The Setting for the Radiocarbon Dating of the Shroud." Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonología (CES), April 28-30, 2012, pg. 13, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** The religious persuasions of the businessmen and rich friends that donated the million pounds are not known but one can wonder if the donation would have been made had Oxford come up with a first century date, especially given the fact that Cardinal Ballestrero believed that the Freemasonry, which is generally opposed to Christianity, was involved. The facts that Hall was on the Board of Trustees of the British Museum and that Tite replaced Hall certainly qualify as conflicts of interest.

Regarding the Freemasonry aspect, two Protestant authors wrote in a 2016 book (The Final Roman Emperor, the Islamic Antichrist, and the Vatican's Last Crusade, Kindle Edition, by Thomas Horn and Cris Putnam, Loc 2737-2741), "There is at present in Catholic circles a constant, subtle and determined campaign in favor of Freemasonry. It is directed by the progressive element which is currently enjoying a



great influence in French and American Church circles and beginning to show its hand in England too.... This element consists of a number of priests, including a Jesuit, Editors of Catholic newspapers and several writers of note.” This gives added weight to Cardinal Ballestrero’s speculation about the Freemasons.

According to the “Night of the Shroud” documentary, Cardinal Ballestrero wrote a letter to Vatican Secretary of State, Cardinal Casaroli, outlining his beliefs about the Freemasons and accused some in the Turin Centro, which handled day to day Shroud matters, of “mismanagement.” The documentary also states that Cardinal Ballestrero wrote a letter to his secretary in 1997 saying he believed there had been an “anti-Catholic” plot. *The Night of the Shroud (La Notte de la Sindone)*, a 2011 documentary, was directed by Francesca Saracino. In 2016, it was revised and retitled “Cold Case: The Shroud of Turin,” which is available at amazon.com. I have a review copy of the original version, which has an English voiceover. The revised version has English subtitles.

1989 *Spring*. Gonella continued to complain that the C-14 labs had insisted they had to work alone. “In addition to keeping the scientists of other disciplines away, the three laboratories also required not to be controlled in any way by the delegates of the ecclesiastical authorities. Counting on the fact that Ballestrero had guaranteed them the greatest freedom of investigation, and ably exploiting the suspicion that the word of the Vatican could not be trusted. Tite and the laboratories obtained permission to conduct their investigations in complete liberty and without any controls.

They justified themselves by maintain that the dating was an operation that was completely separate from other investigations and that the presence of other scientists would have risked the confidentiality of the examination. Even if they themselves did not respect it! Gonella went on, “Through respect for their freedom of investigation we were forced to separate the dating from the other investigations and to postpone this implementation. We accepted controls on our own actions, but they did not offer the same behaviour.”

Riggi asserted, “We are of the opinion that the test by itself, isolated from the other 25 proposed tests, cannot provide a reliable answer.”

Gonella continued, “After what has happened, I think that nobody has the courage any more to speak of the good faith of the laboratories.

In the history of C-14 dating, never had laboratories themselves requested to date a specimen and never had seven labs at once wanted to date the same object. Normally a scholar submits a proposal to the laboratories and asks for their responses.

According to Gonella, “But this time,” the laboratories that specialized in Carbon 14 dating wanted to act as their own submitters. The fact is that, right from the beginning the Shroud dating affair was vitiated by its publicity aspects to which the Carbon 14 laboratories showed themselves to be excessively sensitive . . . .

We are not at all satisfied with the way the laboratories conducted their study of the Shroud.” It is true to say that the attitude of the analysts influenced this judgement for instance they insisted on being present, at all costs, during the cutting operation because they did not trust the officials of the Church; but, on the other hand, they did not invite the experts who enjoyed the trust of the Church to be present during their

examinations. Since when has a dating laboratory wanted to be present during an excavation because it did not trust the archaeologist who was excavating the specimens? Since when have laboratories refused to collaborate? The management of the investigation was left completely in the hands of non-Catholic experts, without any effective guarantee of secrecy or that they would respect the agreement not to determine, during the tests, which was the Shroud specimen out of those submitted to them. Such criticism was directed towards Ballestrero

The president of the "Centro Internazionale di Sindonologia in Turin, Dr. Bruno Barberis said, "There is no doubt that the whole affair was managed in a way all too superficial and not suited to the importance and the uniqueness of the object being examined. Explicit criticism on this point were [sic] received even from Vatican sources. The fact that it was not deemed opportune to involve an official organization, such as the Pontifical Academy of Sciences for example, in the management and the checking of the entire operation is surely one of the principal causes of the great dust storm that has been raised these last few months. The indiscretions, the rumours, the interventions by persons having nothing to do with the test could have been foreseen and avoided with a more careful management."

If the bad faith of the C-14 scientists was evident from the beginning, why did the Church allow them proceed? Gonella answered, "The Church found itself faced with a challenge issued by a number of persons who, by their demands, were doing all they could to be told 'no' so that they could say that the Church was afraid of science. Therefore, faced with this danger, it was decided to proceed with the scientific examination at all cost, even at the risk of protests."

Gonella continued, "It was blackmail. They put us with our backs to the wall with their blackmail. Either we accepted the Carbon 14 test with the conditions imposed by the laboratories or they would unleash campaign of accusations against the Church saying It was afraid of truth and that It was the enemy of science." In the communication of October 13th, however, Cardinal Ballestrero had spoken of a "reasonable operational programme . . . ."

Gonella was asked if the "ideological passion" of the C-14 scientists could have negatively affected the results. Gonella replied, "I do not know, it is very difficult to say; what is certain is that, when people behave in such an unusual manner, it is possible to think anything. But, it would not scientifically or morally be proper to deliver such a rash judgment.

They behaved like dogs. I protest against their complete lack of professionalism in the field of deontology. I protest against the infamous method they followed. I told them to their faces that they were mafiosi."

**Source:** Petrosillo, Orazio and Emanuela Marinelli. The Enigma of the Shroud: A Challenge to Science. San Gwann, Malta: Publishers Enterprises Group, 1996, pp. 113-117.

**Comments:** The Church's communication of October 13<sup>th</sup>, 1988 should not have painted a rosy picture of the proceedings. Whereas Gonella was reluctant to say less

than a year after the dating that the scientists' passions affected the results, it's easier to make a judgment about it several decades later.

*1989 Spring.* A prominent Shroud researcher, who does not want to be identified, has told only a few other Shroud researchers, including myself, about a curious phone call he had received one day at about 1:30 in the morning. His recollection was that it was not long after the C-14 dating results were announced in October 1988 and sometime in the spring. I will call the researcher "Harry." Harry indicated the (male) person, who did not apologize for calling so late, sounded distraught. The person told Harry he had been involved in falsifying the results of the 1988 dating. Harry thought the accent might have been German and thought the person was in his 40s but wasn't sure because of the accent and emotional nature of the call. The person would not reveal his name (the person claimed it wasn't important) or from where he was calling. He kept asking Harry if he would forgive him for having done a disservice to humanity. The person even mentioned the word "espionage" in relation to the event. The only detail he gave about the procedure was saying that the real Shroud sample was thrown in the trash. Harry tried repeatedly to get the man to identify himself and when he (Harry) tried to get more details, the man said he couldn't say more as he could get in some real trouble. Harry said the person said he also planned to call other Shroud researchers, but as far as we know, no one ever did. Harry has wondered over the years whether the call itself could have been a fraud, but he is firm that the person sounded distraught to the point that Harry said he wouldn't have been surprised if the guy would have said "I've got a gun and I'm going to shoot myself." Even now, Harry just isn't sure what to think.

**Source:** Several personal communications, including May 13<sup>th</sup>, 2016.

**Comments:** "Harry" told me he didn't want to be identified because he can't prove anything. Harry is a person of high integrity and I have absolutely no doubt the call happened. I mention it because of the explosive nature of the content and also because of its possible relevance to a theory of Australian blogger Stephen Jones (see entry below for 2014).

*1989 May.* Gonella said in an interview, "The gentlemen in Oxford and London misbehaved; in their attitude there is an attack to other scientists without even reading their articles. I had great respect for the University of Oxford that I no longer have. The scientists came out of this test very discredited." He went on, "The vast majority of my colleagues are not satisfied, either by the adopted procedures, or by the conclusions. These gentlemen, moreover, shout from the rooftops that now the last word was pronounced [sic] on the question. Theirs, of course." He also emphasized the procedures lacked a preliminary chemical/physical examination and the pretreatments used to remove impurities were questionable.

Gonella was not done with the criticisms. He accused the labs of "intoxication by success" and added "Misconducts there were tons. The colleagues of the C-14

behaved in a disgusting manner. Those scientists have hatched a true plot to discredit the Shroud. At first, when they did ask us to examine a sample of the Shroud, assured us of the utmost seriousness and completeness of the analyses, along with the collaboration with the Custodian of the Shroud, that is the Bishop of Turin, and his scientific advisor, i.e., the undersigned. Driven by celebrity fever, those scientists began to turn their backs on their own commitments: no more interdisciplinary examinations, only C-14. They flooded even Rome with pressures so that Turin had to accept their conditions. They used the then president of the Pontifical Academy of Sciences, professor Chagas, to get the undersigned out of the way and go their own way.”

Gonella was asked why the Vatican and Cardinal Ballestrero accept the labs' demands. “Because Chagas acted alone, bypassing other academics. The Vatican was continually threatened by the laboratories themselves, who went on repeating: if you don't leave it to us, only to us, the results will not be acceptable. So, in the end, Ballestrero had to surrender, though suffering badly. And I to submit. Also because these gentlemen did everything to support the argument that the Church was throwing a spanner in the works of science”

**Source:** Marinelli, Emanuela. “The Setting for the Radiocarbon Dating of the Shroud.” Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pp. 14-15, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** Ironically, although the labs apparently maintained that the results would not be acceptable unless they were allowed to act independently, there is extreme skepticism about the results they provided.

1989 *May*. At a conference held on the 10<sup>th</sup> at the Rosetum in Milan (there would be another there on May 15<sup>th</sup> of the next year), Gonella critiqued in some detail the official report. "In the report in *Nature*, I have noted two things that do not please me at all. The first is that unusual statement: 'We have proved conclusively that the Shroud is of medieval origin.' Since when does a physics laboratory deliver judgements of an archaeological nature? I have never seen a scientific report in which anybody said 'What I have said is the last word.' Usually, when a researcher has something really conclusive to say he leaves it to be understood from the context, because it should be left to others who should say it. My second point concerns their analysis of the error. I am not much convinced. Perhaps it is not worth talking about it, particularly in this climate of polemics, because it is absolutely ridiculous to make so much fuss if the date is 1260 plus or minus 150 years or plus or minus 250 years. The result would not change in the public's mind; it would only give an impression. But they were very preoccupied by the coherence of the statistics, that which, in classical terms, is known as 'the analysis of the accidental error', and they did not bother at all about the analysis of the systematic error. It was the laboratories that said: we would like the dates to be statistically analysed by an independent body, namely the British Museum. How much, then, is the British Museum independent.

We said no: two institutes should analyse the results. And as for the second one I proposed the name of the Colonnetti Institute of Metrology. Prof. Chagas immediately objected: 'Well, an institute in Turin would be suspect'. I replied: 'I am not suggesting a secondary-school laboratory. I am talking about one of the five principal metrological institutes in the world.' The analysts enthusiastically accepted. However, while it was written in the terms of agreement that the results should be sent in parallel to the British Museum and to the Colonnetti, what actually happened was that they were sent to the British Museum, while the Colonnetti only received results that had already been worked out.

The laboratories asked me whether I intended to sign the final report. I said no. I have never signed any work in the analysis of which I have not participated directly, and I will certainly not sign this. The Colonnetti has answered in the same manner and has not signed. I must add that they considered it opportune to leave out a part of the Metrological Institute's report. Colonnetti pointed out that it could not pass judgement on the method of measurement employed, that is of both the operations and the apparatus used. Significantly, the Colonnetti has declared: 'On the basis of the data presented to us, we have nothing to object regarding the statistics of the results.' When an actual metrological analysis is made, the analysing institute is involved right from the start and has to analyse thoroughly the entire method used. Therefore we can only judge that everything is all right as far as the statistical analysis is concerned starting from the results of the readings, but we can say absolutely nothing about the other aspect, that is about the uncertainty which accounts for the systematic error. And they added a note: The spread of data between one laboratory and another is very much wider for the Shroud specimen than for any of the others. This discordance could probably have been reduced if a more precise procedure had been followed in the treatment of the specimens. This means, in simple terms, that the Shroud specimen was notably more contaminated than the others.

As a metrologist, I do not accept the affirmation in the article that, since the same date was obtained both with the uncleaned and the cleaned samples, the absence of contamination had therefore been proved. Instead it proves only that there is no contamination of the type that can be removed by the system of cleaning employed. Their quite accurate systems of cleaning have been calibrated on archaeological specimens which are usually contaminated with soil. In principle, using a certain system of cleaning, certain measurements should be carried out on the cleaned specimen and others on the uncleaned one. If the same date is obtained, it does not mean that the contamination was not relevant, but that the type of contamination that could be eliminated by that system of cleaning was not relevant. But if there is a type of contamination that the system of cleaning does not naturally remove, it will not be noticed. Actually, these are but details; they could only offset the uncertainty. For example, instead of 1300 plus or minus 150 years, it could [sic] be 1300 plus or minus 400 years. Not that it will change matter. But as a metrologist, neither I nor the Colonnetti Institute are very impressed by either the validity or by the precision of the measurements."

**Source:** Petrosillo, Orazio and Emanuela Marinelli. The Enigma of the Shroud: A Challenge to Science. San Gwann, Malta: Publishers Enterprises Group, 1996, pp. 121-123.

1989 *May*. A Shroud conference was held in Bologna, Italy. For some reason, both Gonella and Riggi were not invited. Kersten had hoped to meet with Riggi there but instead made arrangements to meet with him in his office in Turin. Riggi first told Kersten that he would be willing to show him (and his co-author Gruber) the ten to twelve hours of video footage from the sampling. (Bro. Bruno of the Catholic Counter Reformation in the XXth century normally cited in his publications a figure of sixteen hours, a figure apparently he got from Riggi. See appendix.) But according to Riggi, Gonella objected, so Kersten and Gruber were only able to see an edited version. Kersten commented, "One has to ask, why an apparently uninterrupted video recording (excluding the episode in the sacristy was made if people were not going to be allowed to view it as it stood. Would it not have been better to drop the documentation entirely, just as the verbal protocol had been simply dropped? What use was the assurance that everything proceeded correctly and was 'perfectly' documented, if no one was allowed to check? They had evidently also decided against having a notary confirm the events."

**Source:** Kersten, Holger and Gruber, Elmar R. The Jesus Conspiracy: The Turin Shroud & The Truth About The Resurrection (Rockport, MA: Element, 1994, pp. 84-86).

**Comments:** The fact that the actual putting of the samples into the containers was not filmed is also strange. In one of his interviews, Tite basically maintained that this aspect was so secret, that it couldn't even be documented on video. The question is why? The labs wouldn't be seeing the video before they worked on the samples. Because it wasn't recorded, there is no way to document if some mix-up occurred. (See separate entry for a letter from Tite to *Nature* in July 1990.)

The meeting between Kersten/Gruber and Riggi produced some significant information regarding sample measurements. Kersten asked Riggi if the strip was actually wider than the reported 1 cm. Riggi replied "About 1.2 cm, but not straight, uneven." The total weight of the initial sample removed was 478.1 mg. After the sample was cut in half, one of the halves was cut into three pieces and the scales showed the weights as 0.0520, 0.0528 and 0.0537 g. Riggi kept the other half "for the future."

1989 *September*. At the International Scientific Symposium held in Paris, the Scientific Committee made a declaration that there were reservations on the statistical analysis of the results, especially on the 6.4 value of the "chi-square" test, which indicate that the samples were not homogeneous. The Committee requested the release of all the raw data from the three labs as well as a commentary written by Prof. Bray of the "Colonnetti."

**Source:** Marinelli, Emanuela. "The Setting for the Radiocarbon Dating of the Shroud." Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 16, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** The facts that the raw data were not released nor Prof. Bray's commentary are suspicious in the extreme. It is still difficult to get some data from the labs. Pam Moon from England recently tried to get Oxford's pictures of their Shroud C-14 samples. After being stonewalled for some time, she finally got them by filing a "Freedom of Information" request.

1989 *September*. The late Jacques Evin, a French C-14 expert, who was involved in the Shroud sample-taking, when asked about the possibility of a reweave at the C.I.E.L.T Paris Symposium on September 7<sup>th</sup>-8<sup>th</sup> 1989, remarked, "I quite agree that the labs did not take the weaving techniques into account and they did not date the threads per se . . . Thus, if the weave was rewoven with threads from modern restoration, this would be reflected in more modern results."

**Source:** Videotape belonging to the author of a question and answer session at the C.I.E.L.T Paris Symposium.

**Comments:** This question would not have arisen if the labs had done a proper chemical characterization of the samples.

1989 *September*. Kersten attended the Paris conference and asked Prof Vial, involved with the mysterious fourth sample (and third control sample) taken from the cope of St. Louis in Saint-Maximin how many threads he had removed. Vial could not remember specifically but said it must have been about 200 mgs and were divided into four parts of 50 mg each. He kept one part and the other three were given to the laboratories. But Wolfli had written to Kersten on August 17<sup>th</sup>, 1989 that the weight of his specimen was 68.8 mg.

**Source:** Kersten, Holger and Gruber, Elmar R. The Jesus Conspiracy: The Turin Shroud & The Truth About The Resurrection (Rockport, MA: Element, 1994, pg. 89).

**Comments:** Here is another example of the lack of rigor in measurements. Tite had requested a sample that was similar in weave and color to the Shroud.

1989 *September*. Prof. Raes confirmed in a presentation at the Paris conference that Sox and McCrone had worked together, starting in 1976, to get the samples held by Raes, for a C-14 test: "Professor Raes said that since the November 1973 sample had been taken strange rumours had been circulating about it. Raes then proceeded to tell, for the first time publicly, I believe, the astonishing story of the Sox/McCrone conspiracy

of that period, information which Raes had given to me many years ago but which I have never published. In 1976 Raes received a letter from Sox asking him to talk to McCrone. According to Sox he was in a position to date the cloth accurately. Obviously, said Raes, this letter was to prepare him to allow McCrone to use the Raes sample. He was skeptical and contacted Prof Apers the Belgian C14 expert. On September 18 1976 he received Sox and McCrone in his home and suggested they meet Apers. This took place at the end of September 1976 and Apers subsequently stated that McCrone had not convinced him of the accuracy of his protocol. Raes then contacted Turin to make his fears known because he expected Sox to insist on making the sample available. Raes was immediately requested to return the sample to Turin which he did in October. On 12th October he received another letter from Sox saying that McCrone had answered all the objections to his method and would Raes now please release the sample. Raes told him he did not have it and to contact Turin direct. Raes has never heard from Sox since nor does he know what happened to the sample after it was returned to Turin. "

**Source:** [Morgan, Rex.] *Shroud News*, No. 55, October 1989, pg. 23.

**Comments:** See the entries for 1977 and 1978 pertaining to this in Part 1.

1989 *September*. To gauge the general reliability of C-14 dating, an intercomparison trial among thirty-eight labs took place in Scotland. The organizers concluded that the margin of error was two to three times greater than previously claimed. Of the thirty-eight labs, only seven produced satisfactory results.

**Source:** Coglan, Andy. "Unexpected errors affect dating techniques." *New Scientist*, 30 September 1989, pg. 26

**Comments:** This was another blow to the labs' façade of the infallibility of the 1988 C-14 testing. Oxford declined to take part in this intercomparison. An error margin of two to three times the dates the labs produced can take the possible dates at least close to the first century.

1989 *November*. On the 3<sup>rd</sup>, Kersten wrote to Wolfli asking for a photograph of the unused portion of his Shroud sample. Kersten heard nothing so wrote Wolfli again about four weeks later. Wolfli wrote back saying, . . . after some searching among 5000 specimens we have found the remains of our Z1 sample. There are just two small pieces of about 2 mg. each, and they have already been treated chemically." Kersten commented, "The photographs taken by Wolfli clearly showed that he only used a 25.9 mg. portion from the whole specimen which he had been given in Turin (52.8 mg). He had according to his own statement kept the remnant, a single 26.5 mg piece of cloth, 'in a safe place outside the lab', known only to himself and his wife. How is it then that he had to spend weeks searching for the fragment among 5,000 other samples, when he had supposedly kept the Turin cloth remnant in this safe place? And why was he left



with just two meager 2 mg thread, from which nothing much could be seen, certainly nothing about the closeness of the weave? One might suppose that he could have used the four weeks to ask the 'powers that be' how he should proceed."

In the meantime, Kersten had also received from the CCR, Catholic Counter Reformation group in France, a photo from Zurich that showed the upper surface of the sample. Wolfli had not told Kersten about this particular photograph. Kersten wondered why Wolfli had not alerted him about this, given his seeming willingness to assist.

**Source:** Kersten, Holger and Gruber, Elmar R. *The Jesus Conspiracy: The Turin Shroud & The Truth About The Resurrection* (Rockport, MA: Element, 1994, pp. 95-97).

**Comments:** The CCR is another entity that believed that the Shroud samples had been switched with a medieval cloth. The CCR came out with many documents in both French and English between 1998 and 2000 and revealed many inconsistencies from the statements of the major C-14 dating participants that they interviewed. In order that the flow and progression of that information isn't broken up, I've decided to put all that material in an appendix at the end.

The late Jesuit theologian, Fr. Werner Bulst was quoted in the "Night of the Shroud" documentary saying that a photo he received from Zurich lab didn't correspond with the Shroud and even wrote a book in German in the early '90s claiming the samples were switched. *The Night of the Shroud (La Notte de la Sindone)*, a 2011 documentary, was directed by Francesca Saracino. In 2016, it was revised and retitled "Cold Case: The Shroud of Turin," which is available at amazon.com. I have a review copy of the original version, which has an English voiceover. The revised version has English subtitles.

One does not have to accept the hypothesis of a sample switch or another hypothesis mentioned in a 2014 entry that the C-14 dates were a result of a computer hacking to acknowledge the import of the questionable statements and/or behaviors of various individuals involved in the testing.

1989. The late Prof. Jerome Lejeune, a member of the Pontifical Academy of Sciences, which was originally involved in the procedures but later eliminated, stated that the C-14 results were "invalidated by procedural defects."

**Source:** *The Night of the Shroud (La Notte de la Sindone)*, documentary directed by Francesca Saracino, 2011. In 2016, it was revised and retitled "Cold Case: The Shroud of Turin," which is available at amazon.com. I have a review copy of the original version, which has an English voiceover. The revised version has English subtitles. Material pertaining to the post sample-taking period starts at about the 36-minute mark.

1990 May. At a conference on the 15<sup>th</sup> at the Rosetum in Milan, Gonella said, "I wish the sindonologists and the antisindonologists would be shut up in a stadium, the key thrown away, and that they would butcher one another, so that scientists could work in piece."

The author of the Shroud periodical in which this quote appeared wrote that the “Milan conference was a strong attack against those who dared doubt the validity of the C-14 examination, and a defense of the three labs.”

Gonella also commented on Italian journalist Vittorio Messori’s published disappointment that Cardinal Ballestrero stopped referring to the Shroud as a relic after the C-14 dating results and only calling it an “icon.” Gonella said, “The problem whether the Shroud is authentic is extremely secondary from the scientific point of view.” But he also went on to say that “the Shroud remains venerable because it bears the entire image of Christ” and “We do not know if it was fabricated or not – we don’t know anything. The image should not exist.”

**Source:** Farkas, Ilona. “Notizie Varie” in *Collegamento Pro Sindone*, Jul-Aug 1990, pp. 53-59. Translated by Dr. Daniel Scavone.

**Comments:** Gonella comes across as very frustrated, but he could have saved himself a lot of the frustration if he had listened to the advice of many counselors, which he rejected. His other quoted statements from the conference do not neatly fit together.

1990 *July*. In a letter to *Nature*, a reader noted that in an April 7<sup>th</sup> letter to *Nature*, Tite had said that “all stages” of the sampling procedures would “be fully documented” and asked why the putting of the samples into the containers was not recorded on video. Tite replied, “I confirm that, as stated in the *Nature* article the wrapping of the samples in foil and their placing in containers was not documented by video. This was because we were continuing to follow the blind testing procedures according to which only the Cardinal, Professor Gonella and myself were to know which containers held the Shroud samples.

This aspect of the procedure was, I admit, somewhat illogical, as by this time we were aware that, because of the unusual weave of the Shroud, blind testing was not feasible without unraveling the samples. However, I should emphasize that it was the Cardinal and myself who were guarantors of the samples and that the video film was intended as an *aide-memoire* rather than being meant to provide definitive proof of the identity of the samples.”

**Source:** “More on the Shroud.” *Nature* 346, 12 July 1990, pg. 100.

**Comments:** In his April 7<sup>th</sup> letter, Tite made no mention of an exception for the video recording of “all stages.” His statement in the July 12<sup>th</sup> letter flatly contradicts his previous statement. That aspect wasn’t “somewhat illogical”—it was totally illogical to keep up appearances of a blind test. To have 10-12 hours of video of all the procedures but to make the single most important aspect not recorded and made dependent just on the integrity of two individuals is simply outrageous.

1990 *August*. On August 18<sup>th</sup>, the Vatican Press Office stated in its bulletin, “The result of the medieval dating became an odd point, even in contrast, compared with previous

results, which were not inconsistent with a 2,000-year old dating. These are experimental data, among others, with the validity and also the limits of sectoral tests which are to be integrated in a multidisciplinary framework.”

**Source:** Marinelli, Emanuela. “The Setting for the Radiocarbon Dating of the Shroud.” Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 14, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** It’s nice to have seen the Vatican acknowledge this, but considering that before the C-14 test, it was argued that the C-14 test should have been one test among many, it’s the Vatican’s fault that it wasn’t done in a multidisciplinary context. And since it was their fault, they should rectify it by allowing more testing.

1990. The Vatican makes an announcement that it would consider proposals from researchers and scientists for new scientific tests on the Shroud. Meacham wrote, “The statement called the C-14 results ‘strange’ and pointed out that they conflicted with previous scientific findings.”

**Source:** Meacham’s book: The Rape of the Turin Shroud: How Christianity’s most precious relic was wrongly condemned and violated (Lulu.com, 2005, pg. 111).

**Comments:** The Vatican’s statement confirms Fr. Rinaldi’s statement from November 1988 that the Church had regretted saying they had no reason to doubt the results. Meacham adds, “I sent a copy of my proposal already submitted in 1989, but alas this apparent openness to new research was closed as suddenly as it had appeared, for reasons known only to the inner sanctum of the Curia. The new archbishop of Turin, Cardinal Saldarini, made it known that only proposals regarding the conservation and preservation of the Shroud would be considered. In 2000, a similar call for proposals was again put out. Nothing was heard about it again until the 2005 Dallas Shroud conference, when Monsignor Ghiberti made an announcement at a special dinner that the proposals were now being considered by The Vatican. It’s hard to understand why the Church moves so slowly when they themselves have initiated requests for proposals and when positive news about the Shroud undoubtedly would provide encouragement to members of the Church and possibly even bring new converts.” It’s very frustrating to know that the Church doesn’t trust the 1988 C-14 results, has twice asked for new test proposals, but has not moved forward to actually allow new testing.

1991 *December*. Belgian chemist Remi Van Haelst, analyzing the C-14 data released after the testing, pointed out that statisticians indicate that to pass the Chi Square test, which determines comparability of two or more disparate samples, the calculated value should be lower than 6. The Chi Square value for the Shroud is 6.4.

**Source:** Van Haest, Remi: —Radiocarbon Data Indeed Manipulated. *Shroud News*, December 1991, no. 68, page 5.

**Comments:** The 6.4 value for the Shroud means that the subsamples cannot be considered identical, or rather, from the same representative sample. Once again, this points to the labs not having performed chemical characterization of the samples.

1993 *June*. At an international Shroud symposium held in Rome, statistician Philippe Bourcier de Carbon listed fifteen failures in the Shroud C-14 procedures: 1) absence of a formal report of the sampling; 2) absence of a video archive on the final steps of the samples packaging; 3) in the official reports, contradictions about the cutting and the weight of the samples by people in charge of sampling; 4) breaches of the protocols initially planned for the operation of dating; 5) rejection of the usual procedure of double-blind test; 6) refusal of the interdisciplinary documentation, which is usual in the procedures for radiocarbon dating; 7) exclusion of acknowledged specialists in the Shroud, particularly American scientists who participated in previous works of STURP; 8) communication to the laboratories, most unusual, of the dates of the control samples prior to testing; 9) intercommunication of results among the three laboratories during the job; 10) disclosure to the media of the first results before the delivering of the findings; 11) refusal to publish raw results of the measurements (requested also with insistence in its official statement by the Scientific Committee which prepared the Symposium in Paris in 1989); 12) non-explanation of the unique isolation of the confidence interval of the measures performed by the Oxford laboratory compared to those made by other laboratories; 13) unacceptable value of 6.4 published in the journal *Nature* for the chi-squared statistical test on the results of the radiocarbon dosage on the Shroud; 14) rejection of any cross-debate on the statistical measures performed; 15) rejection, absolutely uncommon, of the publication of the statistical expertise of this operation, officially entrusted to professor Bray of “G. Colonnetti” Institute of Turin (requested also with insistence in its official statement by the Scientific Committee which prepared the Symposium in Paris in 1989). Bourcier de Carbon concluded: “Such a remark of deficiencies remains completely unusual in the context of a truly scientific debate, and one can only deplore this exception to the usual ethics.”

**Source:** Marinelli, Emanuela. “The Setting for the Radiocarbon Dating of the Shroud.” Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 16, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

1993. The late Prof. Jerome Lejeune of the Pontifical Academy of Sciences was interviewed by journalist Stefano Paci.

**Paci:** So the British Museum and the other scientists were wrong ...

**Lejeune:** There is no doubt about it. The Carbon 14 dating by the three Laboratories does not give the age of the Shroud of Turin. Their dating (1260-1390) is in disaccord with the historic certainty that between 1100

and 1200 a painter saw all the details of the Shroud today kept in Turin, including the burn holes which are not at all interesting from the artistic point of view.

**Paci:** The C14 dating was authenticated by the British Museum authorities. Your criticism of it is likely to cause controversy.

**Lejeune:** That wouldn't be surprising.- it happens often in the scientific world. Something gets published and then they realize it is not true. The errors of science can also be made in good faith. But sometimes certain tricks are used. The British Museum itself fell foul of them. For 20 years it exhibited the so-called "Pildaur Man" [*this was actually "Piltdown Man"*] whose image appeared on every book on evolution. But in the 1950s they realized it was a fake. It had been covered up by British Museum authorities who had attested to its authenticity and that error spread throughout the world.

**Paci:** Many Carbon 14 tests, including some by the same laboratories commissioned to date the Shroud, have given absurd results. There has been some criticism of the excessive weight ecclesiastical authorities gave to that one experiment, instead of integrating it within a series of inter-disciplinary examinations. Do you share that view?

**Lejeune:** That poor custodian of the Shroud at the time, Cardinal Anastasio Ballestrero! He knew nothing at all about Carbon 14. He was obviously not an expert on it. What he said of the Shroud before or after that experiment is not important. It is with respect that I say that because a cardinal is not an expert in Carbon 14.

**Source:** Paci, Stefano M. "All Those Carbon Errors." *30 Days in the Church and in the World*, No. 9, 1993, pp. 60-63, on pg. 63.

**Comments:** If the labs had done the appropriate chemical analysis and found that the sample was spurious, what were the odds that they would have made it known instead of just proceeding?

1996. "The widely reported '95% chance that the Shroud was made between 1260 and 1390 A.D.' sounds impressive, but it is the result of statistical sleight of hand . . . . It all amounts to internal massaging of numbers which hides certain warning signals. In fact the wide range of dates among the three labs obtained in the Shroud sample as compared to the much narrower range in the three control samples indicates that the Shroud test gave an anomalous result. The report in *Nature* hints at the problem when it notes (in table 2) that there is only a 5% probability of attaining by chance - a scatter among the three dates as high as that observed, under the assumption that the quoted errors reflect all sources of random variation. In plain English this means that all the statistical manipulation in the world can't get rid of the fact that the range of dates is much too large to be accounted for by the expected errors built into radiocarbon 8 dating . . . . And since the samples were taken from the same tiny area, the range of dates most probably means that all you have to do is go one or two millimeters up the

sample, closer to a scorch mark, or perhaps within an area containing a restoration thread or two, to throw off your results a couple of hundred years or more—perhaps much more.”

**Source:** Case, T.W. The Shroud of Turin And The C-14 Dating Fiasco: A Scientific Detective Story. Cincinnati: White Horse Press, 1996, pp.32-33.

**Comments:** Although it's clear that a restoration thread or two would not have accounted for the approximate 1,200-year difference needed to bring the dating to a 1st century range, a larger repair certainly would have.

1996. Even though Riggi had given assurances that the excised C-14 samples given to the labs were free of foreign threads, The University of Arizona documented both red silk and blue satin in its sample.

**Source:** Petrosillo, Orazio and Marinelli, Emanuela. The Enigma of the Shroud: A Challenge to Science. San Gwann, Malta: Publishers Enterprises Group, 1996, pg. 86.

**Comments:** The University of Arizona lab had conducted 8 separate C-14 tests on the Shroud samples they had been given. But there was such a wide variance in the computed dates, the team in Arizona combined the data to produce 4 results, thus eliminating the more outlying dates (possibly they did so at the request of the British Museum, which was overseeing the tests). As noted above, Van Haelst documented that the results failed to meet the minimum statistical standards of the Chi-Square test. Questions to ask about the Arizona results are: Why the wide variance in the dates? Was it because of testing errors? Or was it because the sample was not sufficiently homogeneous?

1996. STURP chemist Adler, in discussing a graph that illustrates the absorbance patterns of image, nonimage, radiocarbon warp, waterstain, scorch, and serum single fiber samples, wrote, “The patterns...are all distinguishably different from one another, clearly indicating differences in their chemical composition. In particular the radiocarbon samples are not representative of the non-image samples that comprise the bulk of the cloth. In fact, the radiocarbon fibers appear to be an exaggerated composite of the waterstain and scorch fibers, thus confirming the physical location of the suspect radiosample site and demonstrating that it is not typical of the non-image sections of the main cloth . . .

**Source:** Adler, Alan D. —Updating Recent Studies on the Shroud of Turin. In M.V. Orna (Ed.), *Archaeological Chemistry: Organic, inorganic and biochemical analysis* (pg. 225) *ACS Symposium Series*, vol. 625, 1996. Washington, DC: American Chemical Society.

**Comments:** Adler was very clear that the C-14 area of the Shroud was different than the main part of the Shroud. This is another example of why the lack of chemical characterization by the labs is so important.

1996. Adler also stated, “So you can talk all you want about how reproducible the date is, but you can’t talk about how accurate it is. You have no way of knowing if the area you took the C14 sample from represents the whole cloth. That’s an area which has obviously been repaired. There’s cloth missing there. It’s been rewoven on the edge. They even cut part of it off, because it was obviously rewoven on the edge. The simplest explanation why the date may be off is that it’s rewoven cloth there. And that’s not been tested.”

**Source:** Case, T.W. The Shroud of Turin And The C-14 Dating Fiasco: A Scientific Detective Story. Cincinnati: White Horse Press, 1996, pg. 73.

**Comments:** If all possibilities for a data point are not explored, it is unscientific to make conclusions. Evin and Adler both voiced the opinion that the labs didn’t consider the possibility that their sample had been a repair.

1998. Piero Savarino, the scientific advisor to a successor of Cardinal Ballestrero, stated, the results “cannot be considered axiomatically conclusive.”

**Source:** Marinelli, Emanuela. “The Setting for the Radiocarbon Dating of the Shroud.” Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 14, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** So why does the Vatican allow the old results to stand and not allow new testing???

1997. Italian author Ernesto Brunati put forth some questions regarding the labs’ statistical analysis to both the labs and the British Museum but did not receive satisfactory answers despite various letters sent to them as well as numerous publications on the subject by Brunati, who maintained that the Shroud samples were not homogeneous and who suspected a deliberate manipulation of the data. Brunati’s calculations regarding the non-homogeneity of the samples were confirmed by two professors of statistics at La Sapienza University of Rome, Livia De Giovanni and Pieluigi Conti.

**Source:** Marinelli, Emanuela. “The Setting for the Radiocarbon Dating of the Shroud.” Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonologia (CES), April 28-30, 2012, pg. 27, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** Belgian chemist Remi Van Haelst was another who questioned the statistical analysis, and both wrote the labs and published many papers between 1990 and 2002. Like Brunati, he also did not receive satisfactory answers. But in an Italian book published in 2011, Timothy Jull of Arizona admitted, “This is a bad level. Normally, with such a result, I make the measures again.”

1998. Savarino also made a startling statement in a booklet that he co-authored, in which he stated that the C-14 results may have been erroneous due to “extraneous thread left over from ‘invisible mending’ routinely carried out in the past on parts of the cloth in poor repair.” He went on to emphasize, “[I]f the sample taken had been the subject of ‘invisible mending’ the carbon-dating results would not be reliable. What is more, the site from which samples actually were taken does not preclude this hypothesis.”

**Source:** Savarino, Piero and Bruno Barberis. Shroud, Carbon Dating and Calculus of Probabilities. London: St. Paul’s, 1998, pp. 21-22.

**Comments:** Savarino’s use of the phrase “invisible mending” might be a general term and not refer to the specific technique of “French Weaving” that has been proposed, but it does show that the Turin authorities have acknowledged that the Shroud has undergone many repairs. Again, the Vatican could open the door to a solution by allowing new testing.

1998. Adler wrote, “A recent investigation comparing STURP sticky tape sample fibers with those of the radiocarbon sample by Fourier Transform Infrared Microspectrophotometry and also Scanning Electron Microprobe Spectroscopy demonstrated a clear difference in the chemical composition of the radiocarbon fibers from those of the various types of Shroud fibers.” Adler also found “large amounts of aluminum in yarn segments from the radiocarbon sample, up to 2%, by energy-dispersive x-ray analysis.”

**Source:** Adler, Alan D. and Alan and Mary Whanger, “Concerning the Side Strip on the Shroud of Turin,” <http://www.shroud.com/adler2.htm>

**Comments:** The aluminum finding is significant because it has not been found anywhere else on the Shroud and was later confirmed by chemist Ray Rogers in 2002. This is additional evidence that the labs did not chemically characterize the samples.

2002. Ray Rogers and Anna Arnoldi, revealed that ultraviolet photography and spectral analysis showed that the area from which the samples were taken was chemically unlike the rest of the cloth. In that area, madder root dye and an aluminum oxide mordant (a reagent that fixes dyes to textiles) were found, but these do not appear to be present elsewhere on the Shroud. Rogers also revealed the existence of a splice in one



of the Raes threads, which comes from an area right next to the C-14 sample area. He wrote “Raes thread #1 shows distinct encrustation and color on one end, but the other end is nearly white. The photograph was taken on a 50% gray card for color comparison. Fibers have popped out of the central part of the thread, and the fibers from the two ends point in opposite directions. This section of yarn is obviously an end-to-end splice of two different batches of yarn. No splices of this type were observed in the main part of the Shroud.”

**Source:** “Scientific Method Applied To The Shroud of Turin: A Review” by Raymond N. Rogers and Anna Arnoldi, [www.shroud.com/pdfs/rogers2.pdf](http://www.shroud.com/pdfs/rogers2.pdf)

**Comments:** The finding of the madder root dye and the aluminum oxide mordant that fixes dyes to textiles is consistent with Adler’s finding of aluminum. These findings were the preliminary work by Rogers, which culminated in a 2005 peer-reviewed article published in *Thermochimica Acta*.

2002. I posted the following to the Shroud blog [www.shroudstory.com](http://www.shroudstory.com) . “In late 2001, Sue and I submitted to *Radiocarbon* our Orvieto paper (<http://www.shroud.com/pdfs/marben.pdf> ). In a letter dated January 1, 2002, Dr. Timothy Jull, editor of the journal *Radiocarbon*, and one of the scientists from the University of Arizona laboratory that dated the Shroud in 1988, sent Sue and me a reply regarding the submission of our C-14 paper. For those not familiar with the process by which papers are published in scientific journals, the editor chooses various reviewers, usually anonymous to the author and supposedly objective, who then make suggestions to the author(s) on how to make the paper better. After changes are made, the reviewers read the paper again, and make their recommendations to the editor as to whether the paper should be published or not. However, the final decision is in the hands of the editor. The review of our paper was out of the ordinary insofar as the reviewers were revealed to us, something that normally doesn’t occur. They were all originally directly involved in the specific topic of our paper, the 1988 Shroud C-14 dating. It was our contention that the C-14 dating was skewed due to the presence of a sixteenth century repair. Here is a list of the reviewers of our paper:

- \*The late Paul Damon, head of the Arizona laboratory that participated in the 1988 Shroud dating

- \*The late Jacques Evin, French C-14 expert present at the 1988 sample-taking

- \*The late Gabriel Vial, French textile expert present at the 1988 sample taking\*

- \*Franco Testore, Italian French textile expert present at the 1988 sample taking

- \*The late Harry Gove, inventor of the AMS radiocarbon dating method, who had literally bet a companion that the Shroud was medieval and was heavily involved in various aspects of the dating.

What were the chances that any of these men, each of whom would publicly look bad if our theory were correct, would want to see our paper published? The answer was obvious. Needless to say, our paper was not accepted. Most interesting was a comment by Evin, who wrote in the review sent by the editor to Sue and me:

'The authors, who, for several reasons, are convinced that the shroud is authentic, want to publish an article in *Radiocarbon* only to introduce a doubt about the dating. All people involved in the sampling and in laboratory analyses, will be very angry with these suspicions turning on so an important mistake or a misconduct . . .”

**Source:** Correspondence sent by editor of *Radiocarbon* to Joe Marino and Sue Benford.

**Comments:** Orvieto is in Italy. My late wife and I presented our hypothesis at a conference there in August, 2000 that the area where the sample had been taken had been rewoven. I also said on the blog posting: “Enigmatic comment by Evin, is it not? How fair or ethical was of it of Radiocarbon to use reviewers who were directly or closely involved with the Shroud C-14 dating?”

2003 *July*. On the 20<sup>th</sup>, I sent a long letter by snail mail to Cardinal Poletto, who was custodian of the Shroud at that time, putting forth various pieces of evidence showing the anomalous nature of the C-14 sample. I received a letter back from him on September 2<sup>nd</sup>. It was in Italian, so I asked Bill Meacham, who is fluent in Italian, to translate. The Cardinal stated he was not in a position to make judgments on the scientific matters raised in my letter. He did say that proposals for new testing were being evaluated by a group of scientists chosen by the Turin Centro. When they had made a judgment, he would then refer it to Pope John Paul II. Meacham commented to me in an email, “He mentions the jury of scientists. [Monsignor] Ghiberti wrote me a few days ago saying the proposals have \*already\* been sent to the jury for review. I am very suspicious of this, since I heard just a few weeks ago that none of the suggested international peer reviewers had been contacted yet. They could of course have gathered a bunch of local cronies, plus one or two non-Italian scientists who know little or nothing about the Shroud. This would be wide open to manipulation and façade, which I suspect is what this exercise is all about.”

**Source:** My book Wrapped Up in the Shroud: Chronicle of a Passion (St. Louis: Press), 2011, pp. 134-139.

**Comments:** Monsignor Ghiberti was president of the Shroud Commission of the Archdiocese of Turin and part of the Turin “Centro.” Meacham and Rogers sent a follow up letter to Cardinal Poletto on August 5th. Rogers also sent a letter to Piero Savarino, Cardinal Poletto’s scientific advisor. I then sent another letter to Cardinal Poletto on September 29<sup>th</sup>. We received no replies. Meacham and I then sent a letter on May 17<sup>th</sup> to the American prelate, Cardinal McCarrick, of Washington, D.C. No reply. A group that Meacham and I belong to, the Shroud Science Group, sent another letter to Cardinal Poletto in July. Once again, there was no reply (my book, pp. 141-161).

2005. Ray Rogers’ peer-reviewed paper in the world-renowned journal *Thermochimica Acta* was published. Rogers wrote, “The presence of alizarin dye and red lakes in the Raes and radiocarbon samples indicates that the color has been manipulated. Specifically, the color and distribution of the coating implies that repairs were made at

an unknown time with foreign linen dyed to match the older original material. Such repairs were suggested by Benford and Marino.” Rogers concluded, “Pyrolysis-mass-spectrometry results from the sample area coupled with microscopic and microchemical observations prove that the radiocarbon sample was not part of the original cloth of the Shroud of Turin. The radiocarbon date was thus not valid for determining the true age of the shroud.” Rogers also noted regarding one of his chemical analyses, “The Raes threads, the Holland cloth, and all other medieval linens gave the test for vanillin wherever lignin could be observed on growth nodes. The disappearance of all traces of vanillin from the lignin in the shroud indicates a much older age than the radiocarbon laboratories reported.”

**Source:** Rogers, R.N. Studies on the Radiocarbon Sample of the Shroud of Turin. *Thermochemica Acta*, Vol. 425, No. 1/ 2, 20 January 2005, pp. 192-193. Accessible at <http://www.shroud.it/ROGERS-3.PDF>

**Comments:** Regarding the findings by myself and Sue, Rogers said “I believed that it would be easy to completely refute them. It is highly embarrassing that I could not. This is the first time I have had to present information that seemed to support what I consider to be the ‘lunatic fringe.’ However, an ethical scientist absolutely must publish accurate information no matter what the emotional implications” (as cited in “Ghiberti’s pronouncement on my analyses” by Raymond N. Rogers, <http://www.shroud.it/ROGERS-5.PDF> ).

Physicist and artist Isabel Piczek wrote, “It is not good enough just to look (with the naked eye) for a re-woven patch. It is an invisible reweave, which requires microscopic and microchemical analysis (to discover). Rogers’ paper has to be accepted. New discoveries always cause lots of controversy, but (Roger’s report) should be trusted because it was published in a peer-reviewed journal (as cited by Muldoon, Shena. “Was the Dating a Hoax?” *Inside the Vatican*, 13:2 [March 2005], pg. 25). Even after this data was released, Turin’s Monsignor Giuseppe Ghiberti told an Italian newspaper, “I am astonished that an expert like Rogers could fall into so many inaccuracies in his article.” However, a short time after that, The Diocesan Commission for the Holy Shroud released another statement, saying that the study of Rogers was “very interesting and would be the basis for a future study on the chemical characteristics of the cloth and its possible inhomogeneity” (as cited in Muldoon, Shena. “Was the Dating a Hoax?” *Inside the Vatican*, 13:2 [March 2005], pg. 25.) It cannot be emphasized enough that insofar as he was the only person to have access to main Shroud samples and samples from the C-14 sample area, Rogers’ judgment should carry enormous weight. To see Rogers’ impressive resume, go to: <http://www.shroud.com/pdfs/rogersresume.pdf>.

In the Muldoon article cited above, Rogers stated (pg. 24), “The sampling operation should have involved many persons from different fields before cutting anything. And if you really want to get a radiocarbon data, take a lot of samples.” Asked if he thought the authorities had been aware that some of the 1978 STURP photos indicated that the corner from which they took the sample was unlike the rest of the cloth, Rogers replied, “It doesn’t matter if they ignored it or were unaware of it. Part of science is to assemble all the pertinent data. They didn’t even try.”

Monsignor Ghiberti was quoted in the Italian newspaper *Avvenir* that he was surprised that a specialist like Rogers could be so imprecise. However, the January 2005 newsletter of the Centro, *Sindone*, made some positive remarks and ended, "In conclusion, Dr. Rogers' observations are very interesting and certainly provide a basis for further investigation and studies on the chemical characteristics of the cloth and its possible inhomogeneity" (my book, pp. 152-155). Unfortunately, there has been no further investigation.

2005. Meacham wrote, "...I doubt that anyone with significant experience in the dating of excavated samples would dismiss for one moment the potential danger of contamination and other sources of error. No responsible field archaeologist would trust a single date, or a series of dates on a single feature, to settle a major historical issue, establish a site or cultural chronology, etc. No responsible radiocarbon scientist would claim that it was certain that all contaminants had been removed and that the dating range produced for a sample was without doubt its actual calendar age. The public and many non-specialist academics do seem to share the misconception that C-14 dates are absolute."

**Source:** Meacham's book: [The Rape of the Turin Shroud: How Christianity's most precious relic was wrongly condemned and violated](#) (Lulu.com, 2005, pg. 55).

**Comments:** Unfortunately, Meacham is right that many in the public and academia share the misconception the 1988 C-14 dating for the Shroud was somehow absolute and the cloth is a medieval fake. Without a doubt, much of this misconception began as a result of the "case closed" attitude of Professor Edward Hall of Oxford and his colleagues when the C-14 results were announced---and Hall's encouragement to any who doubted Oxford's results that they should also join the Flat Earth Society. Almost thirty years have gone by since this announcement, with the media spotlight primarily on the "we told you so" professional Shroud debunkers. The labs themselves gave the impression that there was virtually no chance they could have been in error about the results. However, in recent years, those with experience in Shroud research, textile experts, chemists, physicists, and even some of the participants in the original C-14 dating have been publicly airing growing doubts about the 1988 results.

2008. Christopher Ramsey, who was involved in the 1988 dating and is currently the head of the lab, wrote a general article on C-14 dating and stated, "When radiocarbon date outliers (i.e., dates that do not make sense archaeologically) are encountered, these are sometimes due to some measurement problem, but much more often they are due to misinterpretation of the sample context."

**Source:** Ramsey, C. Bronk. "Radiocarbon Dating: Revolutions in Understanding." *Archaeometry* 50:2 (2008): 249–275, on pg. 263.

**Comments:** There have been several indications that there were outliers in the dates that the three labs had. Ramsey also stated, “There is a lot of other evidence that suggests to many that the Shroud is older than the radiocarbon dates allow and so further research is certainly needed. It is important that we continue to test the accuracy of the original radiocarbon tests as we are already doing. It is equally important that experts assess and reinterpret some of the other evidence. Only by doing this will people be able to arrive at a coherent history of the Shroud which takes into account and explains all of the available scientific and historical information”

(<http://greatshroudofturinafaq.com/Science/Dating/ramsey-on-shroud.html>). It's unfortunate that the Vatican has been, apart from one major statement in 1990, unwilling to play its part in testing the 1988 dating accuracy as Ramsey has suggested.

Interestingly, a similar statement to the one above had been posted on the Oxford web site per a posting on [www.shroudstory.com](http://www.shroudstory.com) of December 31<sup>st</sup>, 2008 but when one now clicks on that link, it is dead. However, it is still available via a site that stores pages no longer in its original place. The link for this statement is:

<https://web.archive.org/web/20090322182548/http://c14.arch.ox.ac.uk/embed.php?File=news.html>.

Dr. Jull from Arizona, who had been involved in the 1988 Shroud dating (and is now the head of the lab) confirmed in an email to Dr. Ramsey of Oxford that there's likely a “sample context” problem with the Shroud. My late wife Sue and I exchanged various emails with scientists from the three labs in 2008 and 2009. In an email of August 21<sup>st</sup>, 2008 to Ramsey and copied to Georges Bonani of Zurich and to Sue, Jull said, “I think Sue Benford's paper in *Chemistry Today*

(<http://www.shroud.com/pdfs/benfordmarino2008.pdf>) has summarized of [sic] a lot of interesting information (although I don't agree with many of the conclusions), however their Fig. 7 shows a picture of the original ‘Raes threads’ which are clearly flax (and not cotton). Hence, if someone finds cotton in it, there's a problem there.” (Rogers found cotton per his 2005 article in *Thermochimica Acta*.)

Just a few days before the aforementioned Jull email of August 21<sup>st</sup>, he said, referring to the presence of cotton in the sampling area, “OK, lets [sic] suppose we accept it might have some cotton. Why does that invalidate the date?” That's a mystery to him? As Rogers pointed out in his *Thermochimica Acta* paper, the C-14 sample was not representative of the main cloth and was thus invalid for determining an accurate date for the Shroud. Look at what transpired, though, in several days: on the 18<sup>th</sup> Jull is questioning why cotton in the sample would affect the date and on the 21<sup>st</sup> he emails Ramsey that “. . . if someone finds cotton in it, there's a problem there.” Jull also added in his email of the 18<sup>th</sup>, “It seems to me that redating a new piece of the Shroud is the most effective solution to this question [my emphasis].”

2008. STURP chemist Ray Rogers wrote in a posthumously published book, “In many cases where questions arise, an appeal is made to ‘authority.’ There can be no question about the authority of the radiocarbon investigators; however, true scientists like to see all loose ends questioned and tested. With the Shroud, neither the radiocarbon investigators nor the authorities in Turin have cooperated in attempts to resolve the ‘dating problem.’ The church officials appear to be content to have society

view the Shroud as a medieval hoax, and the radiocarbon laboratories have refused to consider the possibility that they were given a spurious sample. In a manner uncharacteristic of rigorous scientists, they refuse to allow observations on retained samples. They also refuse to do their own simple chemical observations. They refuse to discuss or show any photomicrographs of samples they might have. This kind of action is all too characteristic of Shroud studies. Emotions tend to overwhelm science. .

. . . the sample was approved at the time of sampling by two textile experts, Franco Testore, professor of Textile Technology at the Turin Polytechnic, and Gabriel Vail, curator of the Ancient Textile Museum, Lyon, France. No chemical or microscopic investigations were made to characterize the sample. I believe that was a major disaster in the history of Shroud studies. Control samples should always be retained to enable confirmation of results at a later date. Retained samples, if any, have not been made available for study. This leads one to question the ethics or rigor of any 'scientists' involved in the process. Is something being hidden?"

**Source:** Rogers, Raymond N. A Chemist's Perspective on the Shroud of Turin. Edited by Barrie M. Schwartz. Lulu.com, 2008, pg. 63.

**Comments:** Rogers is temperate in his criticism of the Turin authorities, despite the fact that he had tried to contact them several times in regards to his findings and he never even received the courtesy of a reply. One would have thought that after the time, effort (and no doubt some of his own money) that Rogers put in on the Shroud, the authorities would have given him the consideration of a reply, but they did not, which is a sad commentary. Rogers concluded in his book (pg. 76), "A rigorous application of scientific method would demand a confirmation of the date with a better selection of samples."

Regarding the labs' samples, Barrie Schwartz was allowed in 2012 to photograph one of Arizona's leftover samples, although he had been promised he would be able to photograph two (<http://www.shroud.com/pdfs/arizona.pdf> ). Photos of Oxford's samples were released in 2014 after Pam Moon of England put in a "Freedom of Information" request (<https://archdams.arch.ox.ac.uk/?c=1203&k=1bcd90a8b> ).

2008. Robert Villareal, an analytical chemist from Los Alamos Laboratories, who had been given Raes samples from Ray Rogers, presented new evidence at an international Shroud conference based on his work with 8 other researchers. Villareal had studied a spliced fiber from the Raes sample (Thread #1) at Ray Rogers' request. The two ends of the fiber appeared to be different in color and amounts of coating. Rogers had asked if Villareal could use his highly sensitive lab instrumentation to analyze the thread. In addition, Villareal was also asked (by Rogers' colleague, Barrie Schwartz of STURP, and Benford) to analyze two other threads (Threads #7 & 14) from John Brown's lab in Marietta, Georgia. Sadly, Rogers died before the work was completed. Villareal primarily used a Time-of-Flight Secondary Ion Mass Spectrometry (ToF-SIMS) and a Fourier Transform Infrared Spectroscopy (FTIR) with Reflectance Mode Capability. The ToF-SIMS results showed that the spectra from the two ends were similar to cotton

rather than linen (flax). After several scans of individual fibers from Thread #1, the FTIR data demonstrated that the 2 ends were definitely cotton and not linen (flax). The crust appeared to be an organic-based resin, perhaps a terpene species, with cotton as a main sub-component. The final results of the FTIR analysis on all three fibers taken from the Raes sampling area (adjacent to the C-14 sampling corner) led to identification of the fibers as cotton and definitely not linen (flax).

**Source:** Villarreal, Robert with Barrie Schwartz and M. Sue Benford. "Analytical Results On Thread Samples Taken From The Raes Sampling Area (Corner) Of The Shroud Cloth". Presented at "The Shroud of Turin: Perspectives on a Multi-Faceted Enigma" conference in Columbus, Ohio on August 14-17<sup>th</sup>, 2008. Video at: <https://www.youtube.com/watch?v=86wWOMGqsWQ&feature=youtu.be> .

**Comments:** Villarreal pointed out that one of the first rules of radiocarbon dating is that any sample analyzed to characterize an area or population must necessarily be representative of the whole. Villarreal's analyses of the 3 thread samples taken from the Raes and C-14 sampling corner led him to conclude that this was not the case.

2008. In a story released by the University of Arizona, magnified fibers from a Shroud sample was shown. The caption read, "Polarized Light Microscopy was used to confirm that the *major* fiber content of the sample is linen [*my emphasis*]."

**Source:** Art and Science Converge in State Museum Exhibit, by University Communications, November 3, 2008. Accessible at <http://uanews.org/node/22384> .

**Comments:** The fact that the word "major" is used in conjunction with the fiber content strongly suggests that something besides linen was found there, perhaps some cotton? Arizona was contacted for additional pictures but no response was received.

2008. In the introduction to an article about dating textile relics of the medieval period, using the same C-14 technique used on the Shroud, the authors wrote, "Dating of materials connected to faith is always a delicate matter; however the goal of this paper is not the one of emphasizing the results themselves (i.e., whether the dates of the relics are compatible or not with their believed attribution), but the methodology used, and especially the importance of a correct strategy of sampling."

In their "Results and Conclusions" section, they stated, ". . . the most important aspect of this work, from the point of view of physicists working in the field of AMS dating, is the one concerning sampling strategy. First, sampling should always be done in agreement with and under the guidance of scholars and people involved in the historical or archaeological problem. In addition, whenever possible, collecting several samples from the object to be dated (as we did in the case of the two frocks) is definitely the right approach in order to reduce the possibility of ambiguities."

**Source:** Fedi, M.E., et al. "AMS radiocarbon dating of medieval textile relics: The frocks and the pillow of St. Francis of Assisi. *Nuclear Instruments and Methods in Physics Research B* 266 (2008) 2251-2254, on pages 2251 and 2254.

**Comments:** Sadly, the Shroud C-14 scientists did not work collaboratively with scholars who were familiar with the unique problems associated with the Shroud, as they pressed to work independently, nor did the Turin authorities choose to take more than one sample to test.

2009 *December*. Christopher Ramsey authored a paper titled "Dealing with Outliers and Offsets in Radiocarbon Dating," in which he stated four reasons why C-14 dates could be incorrect:

\*The radiocarbon measurement of a particular sample might not be correct.

\*The radiocarbon ratio of a sample might be different from that of the associated reservoir.

\*A whole set of radiocarbon measurements might be biased in some way relative to the calibration curve - either because the measurements themselves are biased or because the reservoir from which the sample draws its carbon might not have the expected radiocarbon isotope ratio.

\*The sample measured might not relate to the timing of the event being dated.

**Source:** *Radiocarbon* 51 (3) (December 2009): 1023-1045.

**Comments:** One got the impression right after the C-14 dating that none of these possibilities could apply to the Shroud, much less even existed.

2010 *December*. Timothy Jull, who was involved in the 1988 Shroud C-14 dating and is currently the head of the Arizona lab, was co-author of an article for which the abstract began, "We present a photomicrographic investigation of a sample of the Shroud of Turin, split from one used in the radiocarbon dating study of 1988 at Arizona." See the comment below.

**Source:** Freer-Waters, Rachel A. and A.J. Timothy Jull "Investigating a Dated Piece of the Shroud of Turin." *Radiocarbon*, 52:4 (2010): 1521-1527.

**Comments:** The 1989 *Nature* report gave the impression that Arizona had used up all of the samples they had been given. It took over twenty-five years to discover that the lab had kept a piece. *Radiocarbon* is a peer-reviewed journal. Jull is the editor and co-author on this paper. The question can be asked if it was given the same treatment as any other paper.

For an excellent response to the Freer/Jull paper by New Zealand's Mark Oxley, see: <http://www.shroud.com/pdfs/oxley.pdf> . Oxley's article also has some detailed information regarding the discrepancy regarding sizes and weights of the samples.



Even Italian Shroud skeptic Gian Marco Rinaldi questioned the data put forth in the Freer/Jull article. He wrote at <http://sindone.weebly.com/articoli.html> , (google translation): “The authors do not publish the article by *Radiocarbon* a photograph of the entire fragment (just a small detail), but you can see the entire picture of the obverse and reverse in a video that is on site of the Arizona Museum. [3] At the minute 02.31 there is a picture of the right, where they are in greater evidence wires warp (horizontal). [At] 01.23 there is the reverse with the weft threads (vertical). Gather photos from 11,30 minute for a couple of minutes.

Although with a video screen that is very small, the number of wires, for the warp as in the weft, it can [be] count[ed] with ease. You see very well that the wire density is greater for the warp and the weft, contrary to what reported by Freer and Jull. To calculate the number of threads per centimeter, it is necessary to know the size of the fragment, which is in the shape of rectangle. In the article dimensions are such as about 5 to 10 mm, but it is approximated numbers and taken to round figures, because [in] the photo it is seen that the ratio between the size is not of 1: 2. Leveraging a scale shown in the photographs of video, where a segment indicated as equivalent to a millimeter, can be traced back to an approximate estimate of the fragment size is inserted, which are approximately 6 to 8/9 mm. Using these measures, after counting the threads of the fragment we arrive at a valuation well compatible with the values of about 38 / cm and 25 / cm found by various experts but totally incompatible with those of Freer and Jull.

So we must fear that the radiodato sample was different from the rest of the shroud. We can fairly ask how it is that Freer and Jull have fallen into such serious mistake. It should be noted that it is not difficult to count the threads. You need not be textile experts. You do not need provide a sample of the cloth just a close-up photography, it is very small as well, such as the one shown in the video. Anyone can do it, just who can count, in this case, by one until recently more than twenty. Perhaps in Tucson [they] do not know how to count to twenty?”

Perhaps it's not so much the inability to count as perhaps another example of how Gove had said (see last May 1988 reference above) that results can be steered.

2011. Cardinal Tarcisio Bertone stated, “The analysis of carbon-14 seems to have been a mistake, particularly because of prejudices, of which it is useless to speak, because the verdict was decided even before performing the analyses.”

**Source:** Marinelli, Emanuela. “The Setting for the Radiocarbon Dating of the Shroud.” Presented at 1st International Congress on the Holy Shroud in Spain - Valencia Centro Español de Sindonología (CES), April 28-30, 2012, pg. 16, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

2011. Emanuela Marinelli said that when Tite was asked if there was an official report on the sample taking, he said to “Ask Gonella—that wasn't my job.”

**Source:** *The Night of the Shroud (La Notte de la Sindone)*, documentary directed by Francesca Saracino, 2011. In 2016, it was revised and retitled “Cold Case: The Shroud of Turin,” which is available at amazon.com. I have a review copy of the original version, which has an English voiceover. The revised version has English subtitles. Material pertaining to the post sample-taking period starts at about the 36 minute mark.

**Comments:** Tite was the overseer of the project. He should have been ultimately responsible for an official report.

2012. Cambridge art historian Thomas De Wesselow, who specializes in art of the 14<sup>th</sup> century, the period when Shroud debunkers say the cloth was made, believes the Shroud does not fit into the context of 14<sup>th</sup> century art. It is also worth noting that De Wesselow is not a Christian. He had some blunt words about the Shroud C-14 dating process in his chapter “The Carbon-Dating Fiasco”: “Doubting *Nature*, the voice of Science, is quite a proposition. It is tempting, therefore, to bow to the authority of this scientific pronouncement and to give up the complex and difficult struggle to understand the Shroud. But on reflection, we know that all scientists can err, and even the most polished scientific article can mask errors and false assumptions. So anyone who is serious about comprehending the Shroud will want to subject the carbon-dating result to rigorous scrutiny – the sort of scrutiny used to evaluate all scientific evidence . . . .

Other factors can introduce a significant degree of uncertainty into the interpretations of the data . . . Contamination is a major problem. Although various potential sources of contamination are known, including volcanic activity and carbon exchange with the surrounding environment (air, smoke, groundwater, etc.), it is not always possible to explain the cause of an erroneous reading. Due to the ever-present possibility of contamination, no radiocarbon date is absolutely certain. A recent review of the history of carbon dating concludes, with direct reference to the Shroud, that ‘the issue of organic reactions and non-contemporaneous contamination of ancient materials can be a very serious and complex matter, deserving quantitative investigation of the possible impacts on measurement accuracy.’<sup>1</sup> In other words, the problem of contamination is severe and difficult to quantify . . . .”

“Unfortunately, the interpretation of the 1988 carbon-dating results was left to the physicists who performed the tests, men who knew little about the Shroud and had no experience in interpreting such a complex artifact.”

The problems with carbon dating are most starkly revealed when the results produced by different labs differ among themselves. In 1989, for instance, a year after the Shroud test, the Greek archaeologist Spyros Iakovidis was confronted by a totally incoherent result: ‘I sent to two different laboratories in two different parts of the world a certain amount of the same burnt grain. I got two readings differing by 2,000 years, the archaeological dates being right in the middle. I feel that this method is not exactly to be trusted.’<sup>2</sup>

That there are general problems with the technique is acknowledged by carbon-dating scientists themselves. Consider, for instance, the following caution in a 1985 conference paper, one of whose joint authors was Willy Woflli, one of the professors responsible, three years later, for the carbon dating of the Shroud: ‘The existence of

significant indeterminate errors can never be excluded from any age determination. No method is immune from giving grossly incorrect datings when there are non-apparent problems with the samples originating in the field. The results illustrated [in this paper] show that this situation occurs frequently.<sup>3</sup>

This is a startling admission. According to Wolfli and his colleagues, in the field of carbon dating gross errors occurs frequently. But, while the scientists discuss these problems among themselves, they are less ready to dent the prestige of their discipline in public.”

Part 1 of this article recounted details of the 1983 “laboratory intercomparison test.” De Wesselow commented, “The inter-laboratory comparison exercise shows how unreliable the carbon dating of cloth was prior to the 1988 Shroud test. It was still unreliable immediately afterwards. In 1989 Britain's Science and Engineering Research Council (SERC) decided to conduct a trial in which the carbon dating technique itself would be tested. Thirty-eight laboratories were involved in the trial, each being asked to date artefacts whose age was already known. (For some reason the Oxford lab, one of those that had dated the Shroud the previous year, declined to participate.) The findings, reported in *New Scientist* under the headline 'Unexpected errors affect dating techniques', were salutary. It was found that 'The margin of error with radiocarbon dating ... may be two to three times as great as practitioners of the technique have claimed ... Of the thirty-eight [laboratories], only seven produced results that the organizers of the trial considered to be satisfactory.<sup>4</sup> In other words, about 80 per cent of the labs failed the test. The three laboratories that dated the Shroud the previous year employed a technique known as Accelerator Mass Spectrometry (AMS), which 'came out of the survey badly'. According to one of the organizers of the trial, 'some of the accelerator laboratories were way out when dating samples as little as 200 years old'.<sup>5</sup> So, just a year after the Shroud was damned by AMS, the authority of this carbon-dating technique itself took a severe blow.

There is a vast discrepancy, then, between the popular perception of carbon dating as infallible and its true scientific status. The fact is that carbon-dating results are often wrong, that the claims made on behalf of carbon dating are often inflated, and that the AMS technique used in 1988 to date the Shroud is (or was) particularly error prone. The purveyors of any technology, carbon dating included, are inclined to exaggerate its power and usefulness. Also, being physicists, so not embroiled in the business of making historical sense of their findings, they probably have a tendency to underestimate the method's rate of failure. Those responsible for the historical interpretation of ancient artefacts, usually archaeologists, are the ones who decide whether or not to reject carbon-dating results. But, because archaeologists were excluded from the 1988 testing of the Shroud, scientific caution was thrown to the winds when the results of this high-profile test were announced.<sup>6</sup>

How was this situation allowed to occur? The answer lies in the sorry history of the project. People tend to envisage the carbon-dating result as a nice, neat number churned out by a machine, an impersonal, objective answer to a human query. If only the contents of science journals were so straightforward. All scientific work is conditioned by human concerns, and the Shroud carbon dating, in particular, was the product of a lengthy, messy process of politicking that resulted in a deeply flawed procedure, dictated by the Vatican. The public is for the most part ignorant of the

quagmire of self-interest and scientific compromise on which the 'fact' of the Shroud's carbon dating rests . . . .”

Keen to be involved in the carbon dating of the Shroud, should it be permitted, was Harry Gove, one of the inventors of AMS. A rather egotistical character, Gove was interested in the project not because he wanted to find out about the Shroud, but because he reckoned it would provide 'a highly public demonstration of the power of carbon dating by AMS'.<sup>7</sup> In the 1980s he assumed leadership of a group of carbon-dating scientists which began lobbying the Catholic Church for the opportunity to date the Shroud. All were conscious of the potential publicity value of such a test. Prominent among them was Teddy Hall, a professor at Oxford, who was trying to raise funds to endow a chair at the university, a cause he knew would be well served by the high-profile Shroud project. Gove, meanwhile, saw STURP as a biased, Christian organization and a rival to his own group, and agitated to have them excluded from the carbon-dating exercise, despite their detailed knowledge of the cloth . . . .

Regarding the 1986 Turin Protocol, De Wesselow comments: “Remarkably, however, the Turin Protocol contained another clause that compromised the stated need for the lab representatives to have 'complete knowledge' of the sampling process. To enhance the credibility of the test with the general public, the lab representatives undertook to receive the Shroud samples and control samples blind: 'These shroud samples will be distributed to the seven laboratories in such a way as to ensure that the seven laboratories are not aware of the identification of their individual sample.'<sup>8</sup> Obviously, this meant that they could not witness the entire process of which they were supposed to have 'complete knowledge'.

There was no scientific justification for this decision. In fact, it was a sham. Everyone at the Turin workshop understood that it was impossible for the tests to be conducted blind, for the simple reason that no control cloth could be found matching the distinctive weave of the Shroud. They knew that the Shroud samples would be recognized the moment they were unpacked." However, the majority of the delegates at the workshop - all except Gove and Meacham - were concerned that the carbon-dating test should be *seen* to be done blind. And so they settle on a faux-blind sampling procedure, designed to reassure people that the test was 'objective', even though it meant that they themselves would not be able to keep track of the samples, jettisoning a crucial bulwark against any imputation of fraud. Frankly, it beggars belief that a group of eminent scientists should agree to compromise and misrepresent a scientific test for the purposes of propaganda . . . .

How much faith should we have in the 1988 carbon-dating result? Not as much as is generally assumed. Given the patchy record of the scientific technique and the shenanigans of the Shroud carbon-dating project itself, it would hardly be surprising if an error was made. On what grounds can this badly organized test be considered immune to the many problems that afflicted the science of carbon dating in the 1980s? Recognizing the potential for error is one thing, though; deciding that something actually did go wrong is another. What reasons are there in this particular case for disbelieving the carbon-dating result?

First of all, dating the Shroud to the Middle Ages makes it literally incomprehensible. For over a century mainstream scholars have viewed the Shroud, a priori, as a medieval artefact, and for over a century they have completely failed to make sense of it. This is

unsurprising, for, as we have seen, the Shroud is inconceivable as a medieval work of art and can be understood neither as a deliberate 'recreation' of Christ's burial cloth nor as a bizarre accident. The onus is on those who uphold the carbon dating result to integrate it into a full and adequate description of the Shroud's origin - just as archaeologists would do with any other carbon dating result. This they have been conspicuously unable to do. The poverty of the carbon-daters' own understanding of the problem is illustrated by Teddy Hall's comment at the London press conference that someone in the fourteenth century 'just got a bit of linen, faked it up and flogged it'<sup>9</sup> . . . .

The carbon dating of the Shroud will probably go down in history as one of the greatest fiascos in the history of science. It would make an excellent case study for any sociologist interested in exploring the ways in which science is affected by professional biases, prejudices and ambitions, not to mention religious (and irreligious) beliefs. And it should certainly serve as a warning to practitioners of any discipline tempted to see their work as more important and 'fundamental' than any other. Research on the Shroud is like a microcosm of all human knowledge, a great multidisciplinary effort to describe a perplexing phenomenon as elegantly and comprehensively as possible. It so happens that in the case of the Shroud, carbon dating has so far turned out to be less useful than a study of needlework. (Stitches are easier to observe and interpret than atom ratios, which makes them a relatively reliable source of information about old textiles.) Carbon dating may still make a valuable contribution to sindonology, if the Catholic Church ever allows further tests, and if those tests are integrated into a full, interdisciplinary research programme, as Professor Ramsey recommends.<sup>10</sup> In the meantime, we can safely ignore it and concentrate on more productive avenues of research."

**Source:** De Wesselow, Thomas. The Sign: The Shroud of Turin and the Secret of the Resurrection. London: Penguin Books, 2012, pp. 160-172.

#### **Comments:**

<sup>1</sup>Currie, L. A., "The remarkable metrological history of radiocarbon dating (II)," *Journal of Research of the National Institute of Standards and Technology*, 109/2, pp. 185-217. Accessible at <http://hbar.phys.msu.edu/gorm/dating/histc14.pdf> .

<sup>2</sup>Quoted in Wilson, Ian. The Blood and the Shroud. (London: Free Press), 1998, pg. 193.

<sup>3</sup>Meacham, William, editor. "Radiocarbon Measurement and the Age of the Turin Shroud: Possibilities and Uncertainties" in *Turin Shroud: Image of Christ? Symposium and Exhibition of Photographs*, March 3-9, 1986, Proceedings. Hong Kong: Turin Shroud Photographic Exhibition Organizing Committee pp. 41, 42, 43 and 53. An abbreviated version of this paper was published in *Shroud Spectrum International*, No. 19, 1986, which is accessible at <http://www.shroud.com/pdfs/ssi19part4.pdf>.

<sup>4</sup>Coghlan, A., "Unexpected errors affect dating techniques." *New Scientist*, September 30, 1989, pg. 26.

<sup>5</sup>Ibid.

<sup>6</sup>Meacham and two Italian archaeologists offered to supervise the Shroud C-14 dating but their offer was rejected. See Meacham's book, pg. 83.

<sup>7</sup>See Gove's book, pg. 14.

<sup>8</sup>Quoted in Antonacci, Mark. The Resurrection of the Shroud: new scientific, medical and archaeological evidence. New York: M. Evans, 2000, pg. 177.

<sup>9</sup>Quoted in Wilson, Ian. The Blood and the Shroud. (London: Free Press), 1998, pg. 7.

<sup>10</sup>See the Ramsey statement above under "2008."

2014. Australian Shroud blogger Stephen Jones started a series in which he put forth the hypothesis that the labs results were the result of a computer hacking. He summarized his findings to me in an email of September 4<sup>th</sup>, 2016 as shown below. I have reproduced the original spacing and punctuation.

"My hacker theory began in 2007 when I read in David Sox's book, "The Shroud Unmasked" (1988), the account provided by an eyewitness Prof. Harry Gove, of very first radiocarbon dating of the Shroud at Arizona laboratory. That the "calculations were *produced on the [AMS] computer, and displayed on the screen.*" Sox was not at that time told by Gove the date on the screen (except that the Shroud was closer to 1000 than 2000 years old) but Gove in his 1996 book "Relic, Icon or Hoax?: Carbon Dating the Turin Shroud," revealed that it was "1350 AD."

In the late 1980s/early 1990s I was the Systems Administrator of a wide area network of 7 Western Australian hospitals' UNIX computer systems. As part of my job interest in computer security, I read [Clifford Stoll](#)'s book, "[The Cuckoo's Egg](#)" in which he recounted his part in discovering in 1986 the hacking of university and military computers by German hacker [Markus Hess](#). Coincidentally Stoll had worked at Arizona University and Hess was in the same small German hacker ring as [Karl Koch](#), whom I allege had installed [Timothy W. Linick](#)'s program on Zurich and Oxford's AMS computers.

So I realised in 2007 that it was not the actual radiocarbon dating of the Shroud that those in Arizona's laboratory were seeing, but what the AMS *computer* was displaying. That between the actual carbon dating by the AMS system and those watching the computer screen, was a *computer program*! So one explanation of why the authentic first-century Shroud had a 1260-1390 radiocarbon date, is that a hacker had installed a program in the three laboratories' AMS computers which substituted the Shroud's actual radiocarbon date with bogus dates, which when combined and averaged made it appear the Shroud dated shortly before its first undisputed appearance at Lirey, France in ~1355.

However, it was not until 2014, when I read again page 264 of Gove's book, which stated of that first Arizona dating of the Shroud that: "*All this was under computer control and the calculations produced by the computer were displayed on a cathode ray screen,*" that I posted my first blog post which asked, "[Were the radiocarbon dating laboratories duped by a computer hacker?](#)"

"I then in [2014](#) did a Google search on "1989" and "hacker" and discovered that a German hacker Karl Koch had been inexplicably murdered in May/June 1989, and his murder made to look like suicide. ...

According to my first post of 22 February 2014, "[Were the radiocarbon dating laboratories duped by a computer hacker? \(3\)](#)," it was in 2007, after reading Sox's account of Arizona's first C14 dating run:

"At 9.50am what matters to the layman was available - the results of the measurements, the first carbon dating test on the Turin Shroud. ... The night before the test Damon told Gove he would not be surprised to see the analysis yield a date around the fifth-century, because after that time the crucifixion was banned and a forger would not have known of the details depicted so accurately on the Shroud. Timothy Linick, a University of Arizona research scientist, said: 'If we show the material to be medieval that would definitely mean that it is not authentic. If we date it back 2000 years, of course, that still leaves room for argument. It would be the right age - but is it the real thing?' ... Shirley Brignall ... and Gove had a bet. Gove said 1000 years although he hoped for twice that age. Whoever lost was to buy the other a pair of cowboy boots. The calculations were produced on the computer, and displayed on the screen. Even the dendrochronological correction was immediately available. All eyes were on the screen. The date would be when the flax used for the linen relic was harvested. Gove would be taking cowboy boots back to Rochester." (Sox, H.D., 1988, "The Shroud Unmasked: Uncovering the Greatest Forgery of All Time," Lamp Press: Basingstoke UK, pp.146-147)

that I first realised that it was not the actual carbon dating results that those in Arizona's laboratory were seeing, but *what the computer* was displaying" and "I put two and two together back then in 2007 and realised that ... one explanation of its 1260-1390 radiocarbon date is that a hacker had ... substituted the Shroud's actual dates coming from the AMS machine for bogus dates ....."

**Source:** [http://theshroudofturin.blogspot.com.au/2015/07/the-1260-1390-radiocarbon-date-of-turin\\_23.html](http://theshroudofturin.blogspot.com.au/2015/07/the-1260-1390-radiocarbon-date-of-turin_23.html)

**Comments:** If you'll recall the curious phone call that "Harry" had received from a seemingly troubled caller back in the spring of 1989, the person said he had thrown the sample in the trash, but Jones indicated to me in an email of September 1<sup>st</sup>, 2016 that the "German sounding distraught phone caller who said he had 'trashed' the Shroud is consistent with him being Koch."

2016. English film-maker David Rolfe produced a made-for-the-Internet documentary titled "A Grave Injustice: an Investigation into the 'First Selfie'." It is an excellent twenty-seven minute production, and covers many aspects of the dubious aspects of the Shroud C-14 dating.

**Source:** [www.shroudenigma.com](http://www.shroudenigma.com)

# APPENDIX

Information from issues of *The Catholic Counter-Reformation in the XXth Century*. (See <http://crc-internet.org/> for the group's website). For some pertinent pages relevant to the material in this article, see: <http://crc-internet.org/our-doctrine/catholic-counter-reformation/holy-shroud-turin/ii-conclusion-new-trial/>, <http://crc-internet.org/our-doctrine/catholic-counter-reformation/holy-shroud-turin/appendices/> and <http://web.archive.org/web/20001002025902/http://www.crc-internet.org/may00.htm>.

1988 *July*. French C-14 expert Jacques Evin told Michel Leclercq of *Paris Match* that the “blind test” aspect was important because of “public opinion.”

**Source:** Bonnet-Eymard, Bruno. “The Victory of the Holy Shroud Won By Science.” *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pp. 28-29.

**Comments:** Since when is a scientific experiment designed with “public opinion” in mind? According to Bro. Bruno, Evin “recognized that they had to ‘cheat’ (*truander* to use his own French expression) to achieve the 1260-1390 dates” (Feb-Mar 1996, no. 238, pg. 9).

Leclerc also asked, “Were you present at the scene?” (i.e., for the removal of the samples). Evin replied, “No, I arrived a little too late.” But in February 1989 he told Colombani in a broadcast, “I was present at the removal.” (Bonnet-Eymard, Bruno. “The Shroud Daters.” *Catholic Counter-Reformation in the XXth Century*, June 1989, No. 220, pg. 27, fn. 5.) So was he late or was he there?? He also told Colombani, “I myself brought a piece of 14<sup>th</sup> century cloth coming from the cope of St. Louis d’Anjou.”

1988 *October and November*. Bro. Bruno called Gonella several times in preparation for a planned meeting on November 27<sup>th</sup>. Bruno said that Gonella would always reply to questions, “You must keep quiet now. Say nothing and write nothing and let the scientists get on with their work, otherwise you will make it look as though the Church is against science. Already articles are appearing in Italy headed, ‘Down with Science!’ It’s catastrophic. It is the very worst reaction. So, you just keep quiet and leave us to get on.”

**Source:** Bonnet-Eymard, Bruno. “The Victory of the Holy Shroud Won By Science.” *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pg. 27.



**Comments:** Bro. Bruno sent a telegram to Cardinal Ballestrero after the November 27<sup>th</sup> meeting asking him to address various problems with the dating. Bro. Bruno received no reply.

1989 *April*. In the *Nature* report the twenty one authors admitted that the “blind test procedures were abandoned in the interests of effective sample pretreatment.” Evin, who had said the previous July that the blind test was important, wrote to various colleagues that there were drawbacks: “I would rather it did not take place, otherwise it could always be said that the threads were easily exchangeable.”

**Source:** Bonnet-Eymard, Bruno. “The Victory of the Holy Shroud Won By Science.” *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pg. 29.

1989 *April*. Responding to the suggestion that the cope sample could have been confused with the Shroud sample, Tite tells *Il Messagero* Vatican correspondent, the late Orazio Petrosillo, that it was absurd to think that the samples could have been exchanged by error or by malice. Petrosillo responded, “To eliminate suspicion, it is not enough to say that the two samples could not have been confused. Instead, it is necessary to explain why this sample was procured outside the protocol rules, why the piece had to be perfectly like the Shroud, why the dates obtained for the cloth of the Shroud and for this sample should perfectly co-incide [sic] and, what is more, correspond with an absolute precision with the period determined in advance by the opponents of the Shroud of Turin’s authenticity. There are too many mathematical coincidences for our suspicions not to be aroused.”

**Source:** Bonnet-Eymard, Bruno. “The Shroud Daters.” *Catholic Counter-Reformation in the XXth Century*, June 1989, No. 220, pg. 28.

**Comments:** Petrosillo actually co-authored a book on the Shroud, and as Vatican correspondent, interviewed Pope John Paul II many times.

1989 *May*. At the Bologna conference, Fr. Bulst stated, “What is still lacking is adequate documentation about the operation of removing the samples. A correct documentation on this has never been done. No notarized acts as in 1989, and then there were only nine photographs! The gravest suspicions still weigh on the conduct of Doctor Tite.”

**Source:** Bonnet-Eymard, Bruno. “The Shroud Daters.” *Catholic Counter-Reformation in the XXth Century*, June 1989, No. 220, pg. 34.

1989 *June*. Evin sent a letter to various researchers regarding the fourth sample (the cope). He claimed that in February 1988, Gonella had asked him to procure a control sample from France. After obtaining some threads from the cope, he said that he and Vial arrived in Turin in the morning. He said that Gonella had not informed Riggi of the fourth sample, so the latter only prepared nine steel containers. So Tite and Gonella instructed that the cope threads be put in a separate envelope.

**Source:** Bonnet-Eymard, Bruno. "The Shroud Daters." *Catholic Counter-Reformation in the XXth Century*, June 1989, No. 220, pg. 28.

**Comments:** Evin claimed here he had arrived with Vial but he told *Paris Match* in July 1988 that he was late. Vial claimed that Evin was unable to come (No. 223, pg. 28), as opposed to Evin saying Gonella had requested a sample. Tite would later say at the Paris congress that he had asked Evin to get a sample (No. 223, pg. 28). In fact, we do have a copy of the letter from February 1988 that Tite wrote to Evin. Although Evin said Tite, along with Gonella, had instructed the cope samples be put in an envelope, Tite had told the ANSA agency on March 30<sup>th</sup>, 1989 that he had put all four samples into metal containers! (No. 220, pg. 29). Were those gentlemen's memories really that bad? And if you're confused by all this, you should be.

1989 September. Evin stated at the Paris symposium, "In my opinion, the double blind test procedure was totally pointless. It seemed absolutely unnecessary to me to have a double blind test. Anyway, in the end it did not take place." An astute attendee, noticing his change of stance from previously, submitted a written question to Evin, who said "It is being said that my speech does not agree with what I related in *Paris Match*. Well, I don't know so well...I don't see why... I'll ask you again in private... I don't remember what it's about... There is so much... I don't understand."

**Source:** Bonnet-Eymard, Bruno. "The Victory of the Holy Shroud Won By Science." *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pg. 29.

**Comments:** The blind test refers to the fact that the labs weren't supposed to know which sample was the Shroud. The double blind test refers to the labs not knowing the identification of the other samples as well. That, of course, did not take place because the labs were inexplicably given the dates of the control samples! Evin made another startling admission at Paris. When asked about the possibility that the sample might have had threads not original to the Shroud, Evin said, "I quite agree that the labs did not take the weaving techniques into account and they did not date the threads per se . . . thus, if the weave was rewoven with threads from modern restoration, this would be reflected in more modern results" (per video owned by author of question and answer session).

1989 *September*. Bro. Bruno interviewed Gonella at the Paris symposium. Gonella wouldn't answer specific questions but cryptically said, "Between 1984 and 1988, a whole lot of things happened which I cannot enlarge on. Some of them, however, were inexplicable and unexplained."

**Source:** Bonnet-Eymard, Bruno. "The Victory of the Holy Shroud Won By Science." *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pg. 26.

1989 *September*. Bro. Bruno also interview Italian textile expert Franco Testore regarding the weights of the samples. Although Riggi, in his book Rapporto Sindone (1988) and Tite in the official report in *Nature*, 337, pg. 612, both said the sample taken from the Shroud weighed 150 mg. Testore claimed it was actually 300 mg.

**Source:** Bonnet-Eymard, Bruno. "The Victory of the Holy Shroud Won By Science." *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pg. 27.

1989 *September*. Bro. Bruno asked Tite who put the samples in the containers. Tite said that both he and the Cardinal did and that Gonella was also there, which Gonella confirmed. Tite had told the Ansa agency on March 30<sup>th</sup>, 1989 that he had put four fragments in containers in the presence of Cardinal Ballestrero (no mention of Gonella). In fact, only three samples were put into containers and the fourth sample was put in an envelope. At one point during the Paris congress, Tite corrected himself and acknowledged the fourth sample had been treated differently. Riggi (pg. 40 of article cited below) said that Cardinal Ballestrero and Tite (again no mention of Gonella) had put the samples into the containers. Kersten (pg. 58 of his book) had quoted Wolfli as saying that only the Cardinal and Tite were in the room but then later told Bro. Bruno that Riggi was also in the room—see entry under December 1989 that starts with what Evin had revealed to Bro. Bruno.

At another one point, Tite mentioned that "The control samples were tested simultaneously by the laboratories in order to consolidate the comparative tests made in 1983." Although Hall had maintained that there had been no collaboration (*The Tablet*, 14 January 1989, pg. 30), Dinegar, speaking at the Paris congress on September 7<sup>th</sup>, plain spoke of "intercommunication between the laboratories." Gonella confirmed this in an interview with *Il Giornale*. See also entry under December 1989 regarding what Evin told Bro. Bruno.

**Source:** Bonnet-Eymard, Bruno. "The Victory of the Holy Shroud Won By Science." *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pp. 27 and 30.

**Comments:** Who had been in the sacristy is another piece of the data that should be clear but has had discrepancies. This was one of the most important scientific tests of

all times, and people had trouble remembering the sizes and weights of the samples, who put which samples into how many containers, and who was in the room when that happened! Tite's admission that the labs tested the control samples at the same time contradicted another statement by Tite made at the Paris congress that "the three laboratories had undertaken not to compare results until after they had been transmitted to the British Museum."

The episode about how many samples went into how many containers is especially perplexing and will be addressed further.

1989 *September*. Despite Hall's proclaimed disinterest in his interview in January 1989 with John Cornwell, he actually promised to attend the International Shroud symposium held in Paris in September 1989 to answer doubts about the validity of the experiments—but cancelled at the last minute claiming he had to attend an important meeting, and sent no communication to the Congress.

**Source:** Bonnet-Eymard, Bruno. "The Holy Shroud—Silent Witness." *Catholic Counter-Reformation in the XXth Century*, April 1997, no.295, pg. 25.

**Comments:** This source (pg. 20) also revealed that it was only learned at the Paris Congress that one of the labs had received their Shroud sample in two pieces and was not reported in Riggi's report of April 26<sup>th</sup>, 1988 or by Tite in the *Nature* report.

1989 *September*. Bro Bruno had been passing out one of his articles in which he recounted all the various discrepancies and inconsistencies given out by those who had been involved in the excision of the sample. Riggi was supposed to have presented a paper titled "Sample taking from the Shroud, 21 April 1988," in which he was supposed to provide commentary on a twenty-minute video. Right before he was to speak, Riggi, who held a written report in his hand, told the person next to him, "I shall not be speaking." The video was shown without the expected commentary by Riggi.

**Source:** Bonnet-Eymard, Bruno. "The Victory of the Holy Shroud Won By Science." *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pg. 29.

**Comments:** Bro. Bruno wrote, ". . . for the moment it is plain that Riggi is afraid to explain himself in front of an audience alerted by our 'summary' of the several anomalies in the proceedings of 21 April 1988."

1989 *September*. The late Prof LeJeune, a distinguished French scientist of the Pontifical Academy of Sciences, during the Paris congress, said "This phenomenon of changing mind over the protocol in the middle of the sample removal – well, what can that have been for? I don't see... But it pushed them into a major methodological error which, in my opinion, makes the experiment as it was done quite pointless. The fact is

that having inopportunately renounced the double-blind procedure, they calmly told the laboratories the ages of the witness samples!"

**Source:** *Catholic Counter-Reformation in the XXth Century*, December 1990, No. 234, pg. 15.

1989 *September*. Prof LeJeune, speaking on Radio Courtoisie on September 11<sup>th</sup>, said, "I put this objection to Dr. Tite, I said to him, 'but why did you reveal the age of your control samples, which meant that you no longer had any controls?' He gave me this staggering answer: 'You are the first person to have made this criticism, and I confess I have no answer. Your criticism is well founded'."

**Source:** Bonnet-Eymard, Bruno. "The Victory of the Holy Shroud Won By Science." *Catholic Counter-Reformation in the XXth Century*, September-October 1989, No. 223, pg. 43.

**Comments:** Prof. LeJeune was not, in fact, the first person to level that criticism. Ian Wilson, editor of the *British Society of the Turin Shroud Newsletter*, did so in the October 1988 issue.

1989 *November*. Bro. Bruno sent a letter on the 14<sup>th</sup> to Wolfli, Hall and Donahue about discrepancies in the sizes and weights of the samples. Hall's secretary sent a reply on the 24<sup>th</sup> saying that he had retired a month ago and wasn't willing to engage in any correspondence regarding the Shroud.

Bro. Bruno wrote to French textile expert, Gabriel Vial, who had been present at the sample-taking, about the measurements discrepancies. Vial replied on December 3<sup>rd</sup>, "I too am quite disturbed by the Riggi/Testore contradictions to which, truth to tell, I had paid no attention . . . . I must say that am surprised by the certain 'lack of rigour' noticed in the result of the measurements and weighings. I wrote to Testore to express my surprise . . ."

Here are some excerpts from the letter of Vial to Testore, "Controversy has developed following the 14 C test. I venture to send you a copy of the CRC [sic] review which you already certainly know. There you will see how the two reports Riggi/Testore are brought into question. It has to be admitted that a comparison of the two brings out certain contradictions. In particular, a comparison of the weights and measurements given in the two reports makes the author (of this [CCR] article) conclude that the two samples of 8.1 X 1.6 and of 7 X 1 would be of different origin and that there was perhaps 'substitution' at the time of delivering (the samples) . . . Furthermore, the division (of the sample), which ended in two unequal pieces, one of which (the smaller or the bigger?) was then divided into three, again unequally, obliging you to make up the difference by removing a fragment from the reserve piece... all casts doubt on the seriousness of the operation."

**Source:** Bonnet-Eymard, Bruno and Georges de Nantes. "Holy Shroud – The Turin Tricksters in Disarray." *Catholic Counter-Reformation in the XXth Century*, November-December 1989, No. 224, pp. 8-9.

**Comments:** Given that Hall had already backed out of the Paris congress and would bow out of the Cagliari conference in April 1990 (see below), it's not surprising that Hall refused to answer.

Vial's comments about and to Testore are an indictment of the reliability of the test.

1989 *December*. French C-14 expert Jacques Evin told Bro. Bruno "that Riggi had also gone with them into the separate room so that he himself might put the samples into their containers. This fact was confirmed for us a few days later by Woelfli, himself an eye witness of the sample removal. He saw Riggi enter the room apart, after Ballestrero and Tite.

**Source:** Bonnet-Eymard, Bruno and Georges de Nantes. "Appeal to the Twenty-One Co-authors of the Report on the Carbon 14 Dating of the Holy Shroud." *Catholic Counter-Reformation in the XXth Century*, November-December 1989, No. 224, pp. 12-13.

**Comments:** So who was in the room when the samples were put into the containers: Cardinal Ballestrero and Tite?; Cardinal Ballestrero, Tite and Gonella?; or Cardinal Ballestrero, Tite, Gonella and Riggi? The *Nature* report had stated that only Cardinal Ballestrero and Tite were there. And who actually put the samples into the containers? Video documentation could have answered all this; but, of course, that aspect wasn't recorded!!

Bro. Bruno and George de Nantes (pg. 13) believed that Riggi "was the sole guarantor of the whole operation from beginning to end."

1990 *March*. On the 10<sup>th</sup>, Tite gave a lecture on "Fakes," in which he presented some information on the Shroud. David Boyce of the CCR challenged Tite that "Brother Bruno has proved that the weight and size of the samples taken at Turin do not correspond to the weight and size of the samples given to the three laboratories." Tite responded to Boyce, "You'll have to ask the Italians about that. Ask Riggi. It is for Turin to answer that question."

**Source:** Boyce, David. "The Intrigues of the British Museum." *Catholic Counter-Reformation in the XXth Century*, April 1991, No. 238, part 2, pg.10.

**Comments:** Tite was the coordinator. He shouldn't have been trying to pass the buck to the Italians.

1990 *April*. Representatives from the three labs met in Paris on the 23<sup>rd</sup> to discuss the problem of the discrepancies in the various reports of the sizes and weights of the samples.

Wolfli distinctly remembered that one of the samples was in two pieces on April 21<sup>st</sup>, 1988. His lab had received one piece, as had Oxford's. Wolfli said to Jull at the Paris meeting, ". . . since neither Oxford nor I received a sample in two parts, it must be you?" "Well... yes!" was the reply of Jull.

**Source:** Bonnet-Eymard, Bruno. "The Crime Committed Against the Holy Shroud." *Catholic Counter-Reformation in the XXth Century*, Feb-March 1996, No. 283, pp. 5-6.

**Comments:** The fact that the representatives of the three labs met is an acknowledgment that the varying reports regarding the measurements was a serious issue.

1990 *April*. As with the Paris conference, Hall was scheduled to attend the Shroud conference held in Cagliari, Italy on April 29<sup>th</sup> and 30<sup>th</sup>, 1990 and present the paper "An attempt to answer criticism concerning the dating of the Shroud"—but didn't show and didn't send anyone to read the paper in his place.

**Source:** Bonnet-Eymard, Bruno. "The Holy Shroud—Silent Witness." *Catholic Counter-Reformation in the XXth Century*, April 1997, no.295, pg. 25.

**Comments:** Hall bowing out of two conferences in the space of seven months comes across as suspicious.

1990 *October and November*. After repeated questioning of Testore and Riggi, Bro. Bruno had discovered that one of the labs had received their sample in two pieces.

Bro. Bruno and a colleague requested to be received at all three labs and the labs did grant permission for on-site interviews. They mainly wanted to resolve the issue of which lab had received their Shroud sample in two parts. They first traveled to Arizona.

On October 26<sup>th</sup>, Bro. Bruno, following up on Jull's reply to Wolfli in April that Arizona had received their sample in two pieces, asked Donahue about it, he said, "All right, I don't know. I think we received...I think – but I'm not sure – that we received two pieces, two fragments. But I have no record of that; it's only my memory." But Arizona had reported that it was Donahue who had cut the sample into four pieces before giving them to Toolin, the team chemist, for cleaning. Toolin was listening to the conversation between Donahue and Bro. Bruno. Toolin whispered to Bro. Bruno, "As far as I'm concerned, it was in one single piece." But as he said it while going out of the room and only in a whisper, it was not picked up by Bro. Bruno's tape recorder. Bro. Bruno wanted to hear him say it again so asked Jull to get Toolin to come back in. Bro. Bruno asked Toolin if he had been present when the piece was cut.

Toolin: "I was there, yes, when we opened it."

Bro. Bruno: “Dr. Jull is not sure whether the sample was one or two pieces when you opened the metal tube. Did you notice whether one of the samples was in two pieces?”

Toolin: “I don’t remember that. No, no.”

Donahue, Jull and Toolin answered all questions, but there were discrepancies in their answers pertaining to several aspects, especially regarding the appearance of the sample when the steel tube was opened.

Damon wasn’t at the lab when Bro. Bruno had visited so he phoned Damon on November 1<sup>st</sup>. Damon told Bro. Bruno that only he and Donahue had been present—Jull and Toolin were not. Damon claimed they examined the sample microscopically and took photos. When asked if Toolin was there, Damon said, “No, Toolin was not there. Toolin came the next day. The opening took place on a Sunday, and Toolin did not come till Monday, when the others came into work.” But both Jull and Toolin certified in the laboratory notebook “that the container seals were unbroken when they were opened.”

They sum up the conversations at University of Arizona: “If we weigh up the conversations at Tucson, we are bound to conclude that the testimonies of Doug Donahue and of his assistant Jull, on the one hand, and of Paul Damon, on the other, are absolutely contradictory. On the one side: *no records and no photographs*, and on the other, *photographs and TV record*.”

When they traveled to Zurich, Wolfli admitted there was an error in the *Nature* report regarding the 1 X 7 cm strip. When Bro. Bruno asked how they could have made an error like that, Wolfli replied, “Well, we were...for publication, we were put under heavy pressure in February 1989 at the time of publishing the report in *Nature*. And we didn’t have time to check. Tite wrote the dimension in his report, and this was the dimension we agreed in London at the meeting in January 1988 . . . . Nobody saw this mistake, not even those who are not signatories (to the report).” Bro. Bruno commented, “An allusion to the Italians responsible for taking the samples. Today, they give measurements different from the official ones, which they themselves accepted for seventeen months.” Wolfli continued, “As a matter of, it was the job, I mean... But I don’t want to blame anybody because I should have rechecked with Turin, asking them: are you sure this number is correct? I didn’t do this. The only excuse is: we are under pressure, but that is no excuse.” Bro. Bruno remarked on Wolfli’s incomplete sentence, “Wolfli had Tite’s name on the tip of his tongue but he was careful not to pronounce it . . . .”

On November 16<sup>th</sup>, Bro. Bruno and his colleague arrived at Oxford. Hall, who retired in October 1989, apparently took his records related to the Shroud with him. They first met with Robert Hedges, who had been present in Turin, and actually performed the test at Oxford. There was this exchange with Tite, who had replaced Hall: “First question: ‘Did you yourself precisely measure the samples removed from the Shroud, the dimensions of which are reported in your *Nature* article?’ Answer: ‘No, I didn’t measure it at all. I was watching the sample being taken. I saw the sample being taken and cut. But I didn’t actually take any measurement of it. And therefore that 1 by 7 cm is just a sort of approximate estimate.’ Objection: ‘But, if you will excuse me, you wrote 70 by 10 mm. An approximation is all right for give or take a millimetre, but not whole centimetres!’ Answer: ‘It’s a mistake? Right, yet. It was a very rough figure based on



my memory, but I mean... yes I couldn't say...If Riggi's figures come out with something which is shorter or bigger, then I would tell you: you can go by those!"

Bro. Bruno was still trying to figure out which lab got their sample in two pieces. When they asked Hedges if he remembers, he replied, "Professor Tite will certainly provide you with facts about that. As guarantor and overseer of the whole experiment, as we have said, it was he who put the samples into an envelope, in a separate room in Turin with the Cardinal, so as then to place them in their little steel containers. He will surely remember..." Or maybe not.

Bro. Bruno commented, "Incredible to relate: Tite has no memory of this detail. 'I can't remember' . . . . 'I simply can't remember that at all... I cannot remember whether there were one pieces or two, I just can't' . . . . We put this question to Tite: 'When everything was put on the table, it was yourself who placed everything in these metal foil containers...?' He cut in, 'That's right. Inside!' 'You didn't notice that one of the Shroud samples was in two pieces?' Answer: 'I can't remember.' Astonished and doubtful, we reminded him that he alone had packed the samples that were on a plate, in a room apart with the Cardinal.' He interrupted: 'The Cardinal and Professor Gonella... he was there the whole time, as interpreter.' 'Ah, all right! and Riggi too perhaps?' Tite answered: 'He wasn't there. I have a feeling that he may have come in to ask: 'Is everything all right?', when the samples were brought'."

Because the spread on the Shroud samples was wider than the control samples, Bro. Bruno asked about the possibility of doing additional tests. Tite said, "In my opinion, there were no other measurements we could take under the circumstances we were in.

Bro. Bruno: "But Arizona and Zurich still have a reserve piece available."

Tite: "I think... I don't know."

Bro. Bruno: "But... they told us so."

Tite: "All right! Fine! OK!"

Bro. Bruno: "Arizona sent you a letter stating that they still had material left for further measurements."

Tite: "I don't remember that."

Bro. Bruno: "You were informed of that in time."

Tite: "OK. All right. I don't remember."

On November 22<sup>nd</sup>, Bro. Bruno called Paul Damon to see if he could get any clarifications about the contradictory evidence that the Arizona lab had given them. "We have the photographs now; we've found them! It's Doug Donahue's wife who took them on the Sunday when we took the samples out of their steel tubes. It's the answer to your question. She had given to him in an envelope and she had forgotten to tell him where they were, and that's where we discovered them." Bro. Bruno asked, "But does this photograph show a sample in two pieces?" Damon, seemingly embarrassed, replied, "No, it's we who divided it...er.. in ...er...er.. into several pieces, yes. We have the photographs of these operations." He added, with further embarrassment according to Bro. Bruno, "There was no video because it was a Sunday. We came back on the Saturday and we did that with Jull, Donahue and I, but we took bad photographs." And the video? "We made a video recording after having begun to prepare the samples, on Monday..."

**Source:** Bonnet-Eymard, Bruno and Georges de Nantes. "The Carbon 14 Dating: In Pursuit of the Forgers." *Catholic Counter-Reformation in the XXth Century*, April 1991, No. 238, pp. 3-7 and also Bonnet-Eymard, Bruno. "The Crime Committed Against the Holy Shroud." *Catholic Counter-Reformation in the XXth Century*, Feb-March 1996, No. 283, pp. 6-9.

**Comments:** It is suspicious that Hall took the Shroud-related records with him into retirement. One certainly was not able to rely on the memory of Tite! It's difficult to try and reconstruct what exactly happened at Arizona. The people in Tucson had bad memories, bad photographs, bad record-keeping—but we're still supposed to take at face value their results?? Georges Bonani, one of the Zurich C-14 lab emailed my wife Sue on September 9<sup>th</sup>, 2008 saying, "We have absolutely no spare material. We have used the whole sample for the tests in 1988," which contradicts the fact that someone at Zurich had told Bro. Bruno that they had preserved a sample.

1990 December. In an article published in *The New American*, 6 (26), December 17, 1990, STURP member Kenneth Stevenson said, "According to their own published reports, they [Dr. Tite's C-14 researchers] discarded readings that didn't fit what they wanted. From their own figures, they were as much as 400 years off on the low end, and on the high end 1500 years off, which is pretty significant . . . . Several of the C-14 team members made public statements before the testing to the effect that 'it's a fake and we're going to prove it,' which tends to taint their credibility from the start."

**Source:** Reproduced in *Catholic Counter-Reformation in the XXth Century*, December 1990, No. 234, pg. 15.

1991 *March*. At a conference held at Columbia University, Donahue tells the attendees that the sample received by his lab was in two pieces, one weighing 14 mg. and the other 40 mg.

**Source:** Bonnet-Eymard, Bruno. "The Holy Shroud, Silent Witness." *Catholic Counter-Reformation in the XXth Century*, April 1997, no. 295, pg. 26.

**Comments:** But the weights given there don't match what Bro. Bruno had noted in Arizona's own notebook that he observed in his visit of October 26<sup>th</sup>, 1990!

## Conclusion

This 3-part article consists of approximately 175 pages. I spent approximately 185 hours over eight months researching and compiling the data. Consider the quantity and quality of the evidence. I believe I have presented irrefutable proof that politics, and not the pursuit of truth was the main focus of the C-14 dating of the Shroud. I further

believe the results must thus be seriously questioned, if not outright discarded. Frankly, the totality of the information here should turn heads. Consider this thought: all the material has been compiled from public sources. There is no doubt that there is additional secret data that have never seen the light of day. In one sense, it almost doesn't matter, since there is already enough data to cast doubt upon the 1988 results. But wouldn't it be interesting to know the rest of the details??

Dr. Jull emailed me on January 26<sup>th</sup>, 2009 saying, “. . . we need to move beyond the process and **politics** *[my emphasis]* of the original event. They are not relevant now.” I couldn't disagree more. If the politics affected the rigor of the experiment, and there is absolutely no doubt that they did, it is most relevant even though we are almost three decades after the original testing.

We can continue to hope that the Catholic Church will soon allow some new testing. (See for example, [www.testtheshroud.org](http://www.testtheshroud.org).) The living Pope may be the legal owner of the Shroud, but the cloth belongs to the whole world.

I will update all three parts as I continue to find any additional information. Dated additions will be noted when added.

Part 1: <http://newvistas.homestead.com/C-14PoliticsPt1.html>

Part 2: <http://newvistas.homestead.com/C-14PoliticsPt2.html>