

# **THE POLITICS OF THE RADIOCARBON DATING OF THE TURIN SHROUD**

## **Part II: Day of the Sample Extraction,--April 21st, 1988**

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This part focuses on the day that the Shroud samples were actually taken. A few comments made on other days pertinent to the specifics of the sample-taking have been added. As I was working on this part, I learned about a doctoral dissertation by one H. Laverdiere, from 1989, just one year after the test. Many of the principals involved in the testing had been interviewed by the author, so there is now an additional valuable source being incorporated. There is one specific entry based on the Laverdiere dissertation here. The dissertation has much pertinent information regarding the politics, but without specific dates. Since this Part 2 is so much shorter than what Part 1 was and what Part 3 will be, I've decided to add an appendix at the end of this Part 2 to cite the relevant undated material (as well as a few dichotomies uttered before and after the sample-taking). Part 3 will deal with the aftermath of the testing. Relevant dated material from the dissertation will also be added to Parts 1 and 3. As with part 1, when I add any updates, I will list the date of the most recent update and annotate in the text what new material has been added. I would like to thank Cindy Sheltmire for various suggestions for this part. The author can be contacted at [JMarino240@aol.com](mailto:JMarino240@aol.com).

*1988 April.* According to the Petrosillo/Marinelli book, the sample taken on April 21st “. . . was taken from one single place, without considering the fact that one particular area is not necessarily representative of the entire object. It was cut from the edge, near to the so-called ‘Raes corner’, that is to the right, below the frontal image, adjacent to the site from where the Belgian textile expert had cut his piece of linen in 1973. The area selected, however, is the worst possible because it is one of the most exposed to contamination. It lies, in fact, on one of the two corners from which the Shroud used to be stretched during its

expositions to the faithful. The piece of cloth, moreover, cut from a place only a few centimetres away from one of the areas that was burnt away by drops of molten silver that fell on it during the 1532 fire. In addition, it came from an edge that had been stained by the water used to extinguish the fire, where the products of pyrolysis accumulated and where the dirt of ages has been deposited. The water carried with it 'dust, blood and other things, according to Riggi, 'causing, moreover, a sort of electrophoresis in the medullary cavity of the flaxen fibres of the sheet.'"

**Source:** Petrosillo, Orazio and Emanuela Marinelli. The Enigma of the Shroud: A Challenge to Science. San Gwann, Malta: Publishers Enterprises Group, 1996, pp. 61-62.

1988 *April*. On April 21<sup>st</sup>, the cutting was done by technician Giovanni Riggi di Numana in the presence of two textile experts, Franco Testore from Turin and Gabriel Vial from Lyon in France. Also in attendance were Cardinal Ballestrero, Gonella, Tite, the priests in charge of opening the case and the representatives of the Ministry for Cultural Heritage. Unbelievably, no report or document surfaces summarizing the actual sampling conditions. Riggi would later comment: "Who fantasized and was not soft in criticism and accusations, perhaps was not entirely wrong; because without documents to rely on, every fantasy was possible, every doubt was permissible and every conclusion, incorrect or unjust, when not authoritatively contradicted, could be reasonable."

When the four floodlights pointed toward the ceiling were activated, the Superintendent of Cultural Heritage of Turin asked that the lighting power be reduced for fear of harm to the Shroud. Riggi later wrote that they ended up extracting the sample "in a generalized semi-darkness."

The textile experts agreed that the samples should come from the left corner of the ventral image, from which the 1973 Raes sample had been taken. Extra material was cut in order to be able to have a reserve sample. Gonella would later remark that the 7 cm x 1 cm figure size "has often been erroneously reported as covering the entire cut," but that was what was reported in the official *Nature* report.

In a conference held in Paris in 1989, both Riggi and Testore reported that the sample measured 8.1 cm x 1.6 cm. Both would later give multiple versions of how much the samples weighed. The trimming from 8.1 cm x 1.6 cm to 7 cm x 1 cm was necessary, according to Riggi, "for the pollution of the cloth itself with threads of a different nature which even in small amount could have led to variations in dating, being a later addition." In the official *Nature* report, it says that three samples, each of about 50 mg, were prepared from the original fragment.

The size and weight discrepancies led to the suspicions on the part of some, [including the French cleric, Brother Bruno Bonnet-Eymard and the late Fr. Werner Bulst, S.J.] of a substitution of the samples. Turin chemist Piero Savarino, who would later become the scientific advisor to Cardinal Polletto, a

successor to Cardinal Ballestrero, commented, "Unfortunately, a set of facts, or rather of deficiencies and carelessness, leaves the suspicion survive."

Three fragments were also cut from the two control samples brought by Tite (1<sup>st</sup> century and 11<sup>th</sup> century), which had orthogonal weaving. Since the herringbone weave of the Shroud couldn't be matched in the control samples, the labs could easily tell which one was the Shroud. Tite had problems finding a medieval control sample, so Vial supplied several threads from the cope of St. Louis of Anjou (died 1297).

The Shroud samples and the two control samples brought by Tite were put into small metal cylinders in the adjacent capitular room (of the Cathedral) in the presence of Tite, Gonella and Cardinal Ballestrero. Inexplicably, this significant action was not filmed, even though it had been mandated at the London meeting in January. In a later letter to the editor in *Nature*, a reader asked about the procedures. Tite would answer that it happened to follow the blind procedure, even if this aspect was "quite illogical, because in that moment we knew that because of the unusual weaving of the Shroud, the blind test was not feasible without unraveling the samples." Tite also asserted that the filming of the sample packaging would have only been a "memorandum, not intended to be an identification proof for the samples, of which he and the Cardinal were guarantors." He also admitted that moving to a separate room for the packaging, was "quite unnecessary."

The threads from the cope were put in small envelopes. The cases containing the samples were sealed and given to the representatives of the labs, who signed a receipt that revealed the dates of the two control samples. The next day the Vatican Press Office issued a bulletin, published in the Vatican paper *Osservatore Romano*, listing the 1 cm x 7 cm figure, the dates of the control samples and a comment on the sample site that it was from the main body of the Shroud and was done to "cause the least possible damage to the fabric."

**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. 8-11, [www.shroud.com/pdfs/marinelliv.pdf](http://www.shroud.com/pdfs/marinelliv.pdf).

**Comments:** Despite the 1986 protocol meeting, there ended up being a long discussion regarding from which area the sample should be removed. Regarding the control samples, the labs were inexplicably told beforehand the dates of the samples, negating any significant value to that aspect.

The episode of having to reduce the lighting is another example of poor planning. I asked Bill Meacham, who attended the 1986 meeting, if the lighting issue had been discussed. He told me in an email of April 30<sup>th</sup>, 2016 it had not. He also said that during the 2002 restoration of the Shroud, lamps were left for hours on the Shroud, even when no one was actually working on it!! Meacham also said that in an interview for Italian TV "Ghiberti is talking about the

'conservation of the Shroud' while in the background a lamp shines right on the cloth, just around 12 inches away from it!"

According to Sox's book (pg. 133), Testore, the Italian textile expert and Vial, the French textile expert and Riggi discussed for over an hour from where the samples should be taken. The Petrosillo/Marinelli book (pg. 60) says that Gonella was also in on the discussion. Sox remarked about Testore, "Apparently the latter pointed to the marking of the wound in the side and asked: 'What's that large brown patch?' Obviously his knowledge of the Shroud was rather limited." Once again, this is something that should have been resolved at the 1986 Turin Workshop, but many major points decided there ended up being ignored.

Riggi's quote regarding "threads of a different nature" gives some support to the theory that the samples contained repair material. In the Petrosillo/Marinelli book (pg. 61), the authors wrote, "According to rumours that were current in France, Vial tried in vain to warn those present that the selected area could well have been a patch and not a part of the original Shroud."

The discrepancies regarding the sizes and weights of the samples will be elaborated on in part 3 of this article. (If they couldn't keep straight something as basic as that, it certainly should call into question the rigor of the experiment.)

In Savarino's remark we have someone who would eventually rank high in the Turin hierarchy, admitting the lack of rigor in the enterprise. Savarino would also later in a booklet he co-authored make a startling admission about the nature of the sample, which will be detailed in part 3.

The non-filming of the samples being put in the containers, despite the fact that the London meeting had dictated that it should, and the fact that there was about sixteen hours of film of the rest of the events, feeds into the suspicion about a sample switch. Tite's comments about the "illogical" and "unnecessary" procedures are a cause for head-scratching. It's also mind-boggling that the dates of the control samples were actually given directly to the labs.

1988 *April*. The events surrounding the extra control sample are curious. Petrosillo/Marinelli wrote, "Now appears the fourth sample. This had not been foreseen by the protocol and it was delivered to the laboratories in an anomalous manner and without those secret shuffling operations which had been observed for the other samples. The contradictory news reported by those who wrote about the Shroud dating is the fruit of the non-protocol circumstances of the acquisition of this adjunctive sample being perfectly co-medieval in age as the Shroud according to the laboratories' test results.

Tite had himself photographed with nine steel containers (the Shroud's sample plus two control samples for each of the three laboratories), but he would later assure everybody that the fragments inserted in the respective metal containers were four. Evin speaks of four anonymous metal tubes and changes the official account by affirming that the three control samples were wrapped in aluminum foil like the pieces from the Shroud.

The fourth sample was handed over after Tite had carried out the shuffling of the others and it could not be used for substitution, also because it consisted only

of threads. The British Museum representative stresses this last detail in order to allay suspicions, but this does not clarify matters. Why was the fourth unplanned specimen produced when Tite had already obtained the two necessary control specimens? Why did Vial, on the day of the cutting operations, keep the specimen in his pocket the whole morning instead of handing it over immediately? Or was it perhaps brought by Evin, who arrived late? Why was it accepted, if it was only threads? And what about the Carbon 14 date that was surprisingly the same as that of the Shroud?"

" . . . Bonnet-Eymard came to know that Vial had presented a fourth specimen when the Cardinal had already left. Riggi became angry at this sudden arrival, while Tite, who looked surprised, had intended to refuse it. Amongst other considerations, no containers had been prepared for this specimen. Vial, thinking of the trouble Evin had gone to in order to find such a specimen, insisted that it should be weight (sic) and cut. The laboratories received it in separate envelopes prepared by Tite and Gonella. According to Riggi, however, the extra specimen, which he does not mention in his *Rapporto Sindone*, had been added to each of the officially prepared packages. Testore also confirmed this detail, declaring that each of the three sealed boxes, handed over by Ballestrero contained four different specimens. Tite, however, guaranteed that the fourth was not in the boxes with the others. Evin remembered that Gonella had not informed Riggi and for this reason there were only three containers. According to the French radiocarbon expert, it was Gonella and Tite who insisted on the delivery of the fourth specimen to the laboratories.

The accounts diverge even regarding the division and the weighing of the fourth specimen, which among other considerations, should have weighed less than the official specimens, since Tite had asked Evin for 120 milligrams of cloth; instead it weighed more.

Riggi explained that he had received this specimen, which consisted of ivory-coloured linen threads, in three envelopes already prepared for the three laboratories; each envelope was not weighed since Vial had already weighed them. On the contrary, Testore said that it was he who obtained from the thread of the sacred vestment three test-pieces of pure linen each weighing about 70 milligrams. Gonella insisted that all the specimens were subdivided in Turin. Riggi points that the three envelopes were given to him only at the moment of the final sealing of the containers; he asked laboratories' representatives if they wished to receive another accurately dated sample. On the receiving an affirmative reply, the three envelopes were inserted by Riggi, one in each of the boxes which already contained the sealed containers with the other specimens.

The entire operation, except the shuffling 'carried out by persons above suspicion,' as Riggi points out, was performed under the eyes of more than thirty persons, videotaped, and documented by means of photographs."

**Source:** Petrosillo, Orazio and Emanuela Marinelli. The Enigma of the Shroud: A Challenge to Science. San Gwann, Malta: Publishers Enterprises Group, 1996, pp.68-70.

**Comments:** Regarding Evin's presence at the sample taking Petrosillo/Marinelli also noted on pg. 60: "The presence of Evin at the cutting is in itself in doubt. Nobody mentions it and Tite denies it, but Evin himself says that he took part, even though he arrived late."

There was nothing to prevent having the packaging of the samples videotaped but it was the only aspect of sixteen hours of proceedings that was not recorded on tape.

1988 *April*. Meacham wrote, "By March of 1988, a shroud of secrecy (so to speak) was drawn over all arrangements for dating. There were rumors, but hard information was lacking until late April when press reports confirmed that samples had been taken. The senior representatives of the three labs been summoned to Turin and were present as observers at the sample taking. They were called to the Cathedral at 4:30am and the operation began. A lively discussion ensued between Gonella and Riggi on the one hand and the two textile experts, Vial and Testore, on the other concerning where the sample should be taken. One of the textile men is said to have asked, on noting the dark stain on the chest [blood stain from the wound in the side], 'what's this?' Gonella and Riggi finally decided to cut a single strip approximately 1 cm wide by 8 cm long, weighing 300 mg., right next to the small cut that had been made in 1973 at the corner of the cloth to provide the textile expert Raes with a sample. The reason, as Gonella told Al Adler, was that "the Shroud was already cut there." Adler called this the worst possible reason. The sample was adjacent to a seam that joins the main body of the Shroud with the side strip, which seems to be of the same cloth but was attached by a stitched seam at some unknown time. This seam had to be trimmed away by Riggi before dividing the sample into equal segments to give each lab.

What is remarkable is how poor the planning and execution of this project was, despite all the brouhaha and the months of secretive preparations, in addition to the disastrous choice of sampling site and the disastrous decision to take only one sample. It is hard to imagine that, in all the months that had passed since the Turin conference, Gonella had not given due consideration to the location where material was to be removed, and that it was decided only after discussion on the very day of sampling. Riggi was brought in to do the cutting, although he had no expertise in textiles. Riggi was also given the responsibility of video-taping the proceedings, a conflict of interest one could argue. He would later treat this video as his personal property, and charge the BBC a hefty sum for use of several segments in a documentary. What is even more amazing is that, after all the exhortations by Gonella that the amount of material removed from the relic had to be minimal, Riggi cut **double** what was actually going to be given to the three labs. He then cut the 300 rug strip in half and divided one half into three segments, the other half being retained as a "reserve piece." Presumably, if there were any discrepancies in the results obtained by the three labs, this reserve piece was going to be used for another run. Gove's constant harping on the possibility of lab error or statistical outlier must have registered with Gonella, so he came up with this precaution. My constant harping on the need for a minimum of two sample sites obviously did not sink in, nor did the distinct possibility, as plain as the nose on your face to anyone who has done archaeological dating, that if the first run gave discordant results a second run on the same sample would very probably produce similar results.

Unfortunately, Riggi failed to cut the half into three equal segments. The Arizona sample was only 40 mg, whereas the other two were approximately 50 mg. He then shaved about 10 mg from the reserve. Later, there were significant discrepancies between the weights of sample material made on the spot and by the labs. Even more mind-boggling is that Riggi was allowed to keep the seam trimmings, and to take sticky tape samples from another part of the Shroud with blood stain, and to run his vacuum over the Shroud in a zigzag pattern that he appears not to have planned in advance or plotted at the time. Riggi would later distribute the trimmings and the tape with blood-stained fibers to researchers in Texas, earning a stern rebuke from Ballestrero's successor. His involvement in this operation was a huge mistake on the part of Gonella.

In addition to Riggi's shenanigans, the labs were told the age of the historical known-age control pieces, a fact that rather diminished their value as controls. Paradoxically, the pretense of "blind testing" was maintained for the whole dating exercise, despite the fact that everyone knew that the Shroud weave was easily recognizable. Even if the samples were shredded the Shroud fiber could probably be identified by the labs, since there was so much technical data published by STURP. What happened next simply beggars belief: to maintain the pretense, Ballestrero and Tite took the samples into a private area, out of view of all the people in attendance and of the camera, and put them into vials labeled with numbers. These vials were then brought out and presented to the representatives of the three labs. This secrecy gave rise to the allegation, quite absurd on the face of it, that Tite had conducted some sleight of hand and switched the real Shroud samples with others of medieval age. There are still quite a few Europeans who believe to this day that the samples were substituted and the C-14 date that was later obtained is not from a piece of the Shroud. Loading the vials in private was a totally unnecessary and ridiculous procedure, another major error on Gonella's part.

Standing on the sidelines through the eventful proceedings of that morning were the lab directors: Hall, Hedges, Damon, Donahue and Woelfli. Their only apparent role was that of couriers --to await the delivery of the vials into their hands. No microscopic, physical or chemical examination was done on site, since these could of course be done back in the labs. What is surprising to learn is that, once they had brought the vials back to their respective labs, very little scrutiny of the sample was carried out. Not one lab photographed the samples they received properly, i.e. both sides and with a scale. The samples were examined under a microscope, and a few alien fibers picked out, but no lab reported anything suspicious, even though later a STURP chemist found that threads from the adjacent Raes sample had high levels of aluminum, a high occurrence of cotton fiber intermingled with the linen, some kind of coating or encrustation, a high degree of oxidation, and FTIR spectra markedly different from threads elsewhere on the Shroud. Certainly the labs were not in a position to know all the results of all previous investigations of the Shroud, but they could have consulted with STURP personnel, or they could have requested comparison fibers from other parts of the Shroud. The fact that they did neither indicates an over-confidence in their ability to date the samples through standard procedures. It seems very likely that this was a huge mistake, and as Ray Rogers, the late STURP chemist remarked: 'there will be hell to pay when the truth comes out!'

**Source:** Meacham, William. The Rape of the Turin Shroud: How Christianity's most precious relic was wrongly condemned and violated (Lulu.com), 2005, pp. 90-92.

**Comments:** The decision to take the C-14 samples from the one region of the Shroud that "was already cut there," as Meacham writes Gonella told Adler, is unbelievable. There seems to have been no serious examination---before the sample removal---to choose an area of the Shroud that was indisputably original and had not been subjected to reweaving or restoration. STURP chemist Ray Rogers' comment "There will be hell to pay when the truth comes out" will be proven correct if and when the *general public* is ever exposed to the whole truth. It is my hope that this article will facilitate that knowledge.

1988 *April*. Gove recounted Paul Damon's description of the sample taking: "Riggi was to remove the sample, but it took two hours to decide where it should be taken. Everyone knew it would be near the spot on the hem where Raes' sample had been removed and that is where it was finally cut."

**Source:** Gove's book: Relic, Icon or Hoax: Carbon Dating the Turin Shroud (Bristol and Philadelphia: Institute of Physics Publishing, 1996, pp. 260-261).

**Comments:** It's amazing that despite the elaborate planning meeting held in Turin in 1986, authorities discussed where to take the sample from for two hours at the time of sample taking. They ended up choosing an area that many had recommended avoiding and had the required thorough chemical analyses been performed or had STURP been consulted, the conclusion that the sample was anomalous might have been made in 1988. Now, almost 30 years later, based on all the accumulated new evidence, the original results are clearly in doubt.

1988 *April*. Sox supplied the wording to the certificates signed by Cardinal Ballestrero given out to the labs when they were given their samples: "The containers labeled [A, O or Z]1, [A, O or Z]2, and [A, O or Z]3 to be delivered to [Arizona, Oxford or Zurich] contain one sample of cloth taken in our presence from the Shroud of Turin at 9:45 a.m., 21 April 1988, and two control samples from one or both of the following cloths supplied through the British Museum: First-century cloth; eleventh century. The identity of the samples put in the individual containers has been recorded in a special notebook that will be kept confidential until the measurements have been made."

**Source:** Sox's book: The Shroud Unmasked (Basingstroke, Hampshire: The Lamp Press), 1988, pp. 136-137.

**Comments:** Not only were the control sample dates given to the labs on the day the samples were taken, they were announced publicly both by the Vatican newspaper *Osservatore Romano* on 23 April and in an article published in June



in *Shroud Spectrum International* by the late French C-14 scientist, Jacques Evin!

1988 *April*. Ted Litherland, who was director of the IsoTrace lab in Toronto and co-inventor of the AMS method with Harry Gove, commented about the choice of the area from which the sample was taken, "All the samples came from one corner. Oh Dear! My God! That's no way to run a show."

Laverdiere wrote, "They took every care so that no accusation of possible fraud could be made. The procedures were recorded on video tape so that all the handling of the samples would be well documented. This video was later sold to BBC who produced a program on the Zurich experiment. It permitted Turin people to repay some of the important expenses incurred (sic), by selling the rights to BBC." But the author then continues, "Yet the wrapping of the samples was kept more secret than the rest of the operations: the test was not fully blind anymore, but they still acted as if it was."

Another control sample was brought in at the last minute by French textile expert Gabriel Vial, who had received it from Jacques Evin, whom Tite had previously asked to find a control sample similar to the Shroud. Laverdiere noted, "They decided there and then to include it in the controls."

**Source:** Laverdiere, H. "The Socio-Politic of a Relic: Carbon Dating of the Turin Shroud," 1989, pg. 97. Accessible via free download at <http://ethos.bl.uk/OrderDetails.do?did=1&uin=uk.bl.ethos.531916>

**Comments:** Laverdiere says that the packaging of the samples was more secret than the rest of the operations but doesn't specifically say what is known—that the packaging wasn't actually recorded on video, which is suspicious to say the least. It is unbelievable that another control sample (from the cope of St. Louis d'Anjou, dated to about AD 1290-1310) would be added to the mix on the spot in the sample packaging.

According to the Petrosillo/Marinelli book (pg. 67), "The operation, according to the official statement, was carried out by the archbishop of Turin and by Tite. Actually, these two were not alone; Gonella and Riggi also took part in the shuffling of samples." Note that there are several versions of who was involved in discussion regarding where the samples would be cut and who was present for the packaging of the samples. One would think that those facts could have been documented so there was no confusion.

One Shroud researcher told me that the late Al Adler viewed on video the various procedures of the sample taking and told him it was some of the worst science he had seen in his life. The two co-inventors of the AMS method, Gove and Litherland were highly critical of the Shroud dating enterprise and Adler said it was some of the worst science he had ever seen. Scientific rigor took a back seat to politics.

1988 *April*. When Riggi di Numana cut the sample, Cardinal Ballestrero curiously remarked, “The crime is accomplished.” Testore recommended taking more than what the labs requested in case one of the three came up with a significantly different date from the other two. Italian researcher Marinelli said, “Also, regards the weights, there later were pronouncements that gave different weights. Dr. Bollone of the Turin Centro commented, “These weights do not correspond with what is seen on the scales used to weigh the material at the time of the sampling. As far as I’m aware, these inconsistencies have never been explained.” The actual measurements of the 3 samples were shown as: 52 mg. for first sample, 52.8 mg for 2<sup>nd</sup> sample and 53.7 mg in two parts for 3<sup>rd</sup> sample (which went to Arizona).

Testore commented regarding the packaging of the samples, “There was something we didn’t understand: when—how—the three samples were put into their containers. There was only Cardinal Ballestrero and Tite, the director of the British Museum—that was all—in a separate room from where we were. But they came back and sealed them in public.

*La Stampa* journalist Marco Tosatti noted, “Once again we are faced with something that raises questions within a procedure that should have been followed absolutely rigidly to avoid any possibility of doubt or misinterpretation.”

**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. (The material cited here can be found between approximately the 23 minute and 35 minute range on the original version review DVD).

**Comments:** It is not known what Ballestrero meant by his strange remark. Perhaps he was expressing that such a religious relic shouldn’t have been subjected to scientific testing. Testore seems certain that only Ballestrero and Tite went into the adjacent room with the samples, but other reports say that Gonella was also there (and Gonella stated he was there). It seems as if were discrepancies on the most basic facts.

## APPENDIX

### UNDATED (SPECIFIC MONTH/YEAR) PERTINENT INFORMATION FROM LAVERDIERE DISSERTATION

Pages 13-14: “An indicator of the touchiness which surrounded the whole process of dating the Shroud was the ubiquitous utterance of expressions like: ‘God I don’t know what you will do with that.’, ‘Please don’t quote me on this.’,

'Please keep this for yourself, don't make me any more problems, I've had already enough with all those leaks.', 'I don't think you should publish this, not before everything is well over., etc'. . . .

. . . . Interviews had to be adapted every time to the role of the interviewee in the organization of the test, to the development of the situation, to my own evolving understanding of both the technical and '*political*' (my emphasis) matters, and perforce, to the temperament of the individuals involved."

Page 23: ". . . . There were so many arguments about how to do it [*carbon date the Shroud*] that it created a certain uneasiness in the carbon dating community. And it could be dangerous for the reputation of the technique: It was deeply felt that the result would be heavily scrutinized by those it would displease (sic), and that whatever date was found, it was bound to displease someone. . . ."

Pages 24-25: ". . . the Shroud was quite a 'glamorous' object. So much so that, for this particular test many things were reversed. It is the labs who asked for the samples, which is very unusual. 'It is the first and only time I think in the history of archeology (sic) that labs... take the initiative of dating an object' (Gonella, interview)."

". . . . Similarly they were asked for the publication of their results. 'That's the first time in my life...you know I have published, or tried to publish many hundreds of papers. That's the first paper in my life which has been accepted before one line was written.'" (Wolfli, interview)

Pages 26-27: ". . . it is well known that the head of at least one laboratory hired an agent and found a publisher right from the beginning. He hoped to raise enough money to endow a permanent chair in his department. I was often told, also, that another expert already had his book 'How I dated the Shroud' written and was just waiting for the date to fill in the blanks."

**Comments:** The head who hoped to raise money to endow a chair was, as mentioned in Part I, Edward Hall of Oxford. The "How I dated the Shroud" book was never published. Does anybody really think the labs would have admitted publicly to any problems that had gone on given the stakes?

Pages 27-28: "Although they could always have argued that it did not prove anything, the biggest impact of a first Century date could have been for non-believers. One of the experts reported the conversation he had with a bishop: 'He said there is at least one person whose views on religion and Christianity might be influenced if it turned out to be 2000 years old.' And I said: 'Well who is that?' He said: 'You Gove.' (Gove interview)"

**Comments:** I had been under the impression that Gove was at least a nominal Christian but this passage suggests he was an atheist.

Page 57: “The cloth could date to 1<sup>st</sup> Century but the image need not; both could date to the 1<sup>st</sup> Century without originating in Palestine; they could be from the 1<sup>st</sup> century Palestine but not from the grave of Jesus; and evidence for any of the above could be faked.” Quote from Cole, J.R. Reply to Meacham, W. “The Authentication of the Turin Shroud: An Issue in Archaeological Epistemology”, *Current Anthropology*, 24(3):296.

**Comments:** This emphasizes the fact that carbon dating the Shroud was a no-win situation for the Vatican. Even with the most favorable results, skeptics could always come up with a rationale why the Shroud was not authentic. Performing additional multi-disciplinary tests would not have been a total antidote to this stance but could certainly have strengthened the case for the Shroud’s authenticity.

Page 60: “ . . . around 1978, Rome and Turin authorities, under the pressure of STURP, made their inquiry about the dating, they were told by specialists that the technique was not ready. And even recently, some experts feared that some laboratories could make a mess of it, which could put ‘the whole technique into disrepute’ (Hall, interview).”

Page 69: “‘If it is an artefact we should better damn well understand it because it could have implications on the carbon dating. So that’s sufficient reason for me to have both techniques [AMS and proportional counting] used.’ (Gove, interview)”

**Comments:** How could the Shroud not be an artefact? We know that it dates at least from the 1350s. As the Shroud had been in a major fire and not buried in the ground as most objects carbon dated (and possibly have been boiled in oil but that is not proven), it was a rather unique object and more tools, not fewer, should have been used.

Page 80: [Regarding outliers, i.e, one lab having a widely different result from the other two:] “...if the 3 labs make the measurement and they all agree, you know they can be lucky and things will be O.K...’ (Gove, interview; emphasis added)

Moreover the three chosen laboratories were all using the same technique, ‘an additional reason to make the test less believable’ (Gove interview according to an expert.”

**Comments:** If the C-14 method was so trustworthy, why would the labs need to be “lucky?” And if Gove himself, the co-inventor of the method is saying that the test results were less believable because of only having used the AMS method,

how is it that the *Nature* report stated that the result was with a “95% confidence level?”

Page 111: “I was told by the head of one of the , if not THE foremost carbon dating laboratory in the world – a lab which had been proposed to date the shroud but had refused: ‘The thing is that the treatment (sic) that most of the laboratories who are going to date the shroud are using is just acid and alkaline and that does not remove the contamination. And the cloth is dirty, terribly dirty...’ (Beukens, interview)

So what is the right sort of pre-treatment?

‘Which particular methods are employed will to a large extent depend on the information provided by the user... The user must be aware that no pretreatment procedure can guarantee (sic) absolute decontamination’ (Gillespie, 1984:12)”

[Gillespie R. (1984) Radiocarbon User’s Handbook printed by Oxford University Committee for Archaeology.]

Page 119: “Arizona and Oxford measured  $^{14}\text{C}/^{13}\text{C}$  ratios by AMS and determined the  $^{13}\text{C}/^{13}\text{C}$  ratios using conventional mass spectrometry. Zurich determined both  $^{14}\text{C}/^{12}\text{C}$  and  $^{13}\text{C}/^{12}\text{C}$  quasi-simultaneously using AMS only...

This also worried some experts:

‘So they’re not able to make corrections for this so-called fractionation. And Toronto [Isotrace laboratory] said that... he just feels a little unhappy that they picked labs that don’t do this. When they are going to get the result there’s going to be a lot of us who look at it very carefully and criticize any aspect of it. That looks a little shaky.’ (Gove, interview)”

Page 122: ‘The spread of the measurements for sample 1 [Shroud] is somewhat greater than would be expected from the errors quoted.” [from the official *Nature* report]

“As we have seen all along up to now the big fear concerning this test was that there could be an outlier. And that is more or less what happens here, in the sense that at least one lab has a systematic error. This was acknowledged, privately, to me.

It could be also that two laboratories had a systematic error. . . .”

**Comments:** Notice that it was admitted only in private and not publicly, by presumably one of the members of the three labs involved in the dating, that there had been a systematic error.

Page 134: “Nobody questioned the use of only one technique instead of two. Similarly, the problem of the scatter of the results went unnoticed as well as the possibility that at least (sic) one laboratory had a systematic error. That is to say that these problems went unnoticed in the public forum, as they were mentioned to me privately by various participants who also expressed concern about the

way the results had been plotted, the choice of the controls, the limited blindness, the fact that the three samples came from the same place, and that two laboratory (sic) were not able to make the correction for fractionation.”

**Comments:** This is a scathing critique by the very same people who claimed that the results could be taken with a “95% confidence level.”

Pages 141-142: “Backward reading occurred (sic), everything having to be reevaluated in a new light.

An expert was saying in 1987:

‘The whole image thing is a complete mystery. It appears not to be painted, it might be the one thing history has established.’ (Gove, interview).

‘I just can’t imagine an artist a thousand or more years ago, being able to do something in that incredible detail.” (Gove, interview)

“After the test, however, the same expert argued that it is simply ‘a clever artist’ who did it.

The expert who thought that ‘it’s... like something produced by heat, some kind of a scorch, and there is no scientifically known phenomena that could cause it.’ (Gove, interview) and that: ‘God, we shouldn’t reject the notion that there are miracles. Why should we? Miracles are fun.’ (Gove, interview), felt that Phillips (sic) argument [see comments below] was not to be taken seriously, because the latter had no explanation for how a corpse would produce radiation, and was therefore invoking a miracle.”

**Comments:** The mention of Phillips’ argument refers to Harvard University nuclear physicist Dr. Thomas Phillips’ hypothesis that the Resurrection of Jesus may have caused a neutron flux that caused a fluctuation in the C-14 content in the cloth. It was proposed in a letter-to-the-editor published in the same issue of *Nature* as the official report.

Page 143: Wolfli of Zurich on the D’Arcis memorandum of the 1380s, in which the bishop of Lirey claimed that his predecessor had discovered the artist who “cunningly painted” (sometimes translated as “depicted”) the Shroud: “I think this is even more convincing than carbon dating, this memorandum... For it is a much stronger argument than all carbon dating... Nobody ever talked about this memorandum... I read it and was quite surprised: ‘why the hell I was participating in a project which was already solved!’ (Wolfli, interview)”

**Comments:** This is an amazing statement. As ballyhooed as C-14 was and is, he is saying that a memorandum that was unsigned, undated and not even certain that it bore the handwriting of Bishop D’Arcis is actually a stronger argument than the radiocarbon dating test!! There’s plenty of literature out there on the memorandum (do a search on “Arcis memorandum” in [www.shroud.com](http://www.shroud.com)) and it’s certainly not the slam-dunk that Wolfli made it out to be. There is also

plenty of historical and artistic evidence that the Shroud pre-dates the AD 1260-1390 range the labs gave. A significant problem was the fact that most of the C-14 scientists knew little or nothing about the Shroud's history. Regarding strong artistic evidence, there is something called the "Hungarian Pray Manuscript," dated to AD 1192-1195 that seems to depict the Shroud. The reader can do a search on that term in [www.shroudstory.com](http://www.shroudstory.com) and find a massive amount of information.

Page 147: "... the big winners still are the three laboratories selected in the final protocol. Oxford might not have a lot of experience with their machine as it took them years to set it up . . ."

**Comments:** That fact makes Oxford a questionable choice, especially considering there were plenty of other good labs with more experience.

Page 148: "As for the Turin people they remained quite angry against the laboratories involved, feeling that 'they succeeded (sic) in transforming the scientific research into a farce.' (Gonella, interview)"

Pages 156-157: "I am really sick with this thing that everybody who has clearly stated that the Shroud must be a fake and is a foreigner from Italy is automatically objective, and everybody in Italy is suspect. (Gonella, interview)"

Pages 161-162: Discussing the radical act of stopping the experiment due to the scandalous behavior of some: "We would have done that if we were a lay museum, but the Cardinal was a religious institution so every time that we... said something, there was immediately, it was not explicit, but [there was the implication] [*brackets in original*] that the Church was afraid. (Gonella, interview)"

**Comments:** Clearly, Church politics allowed a test to proceed that should have been halted.

Page 165: Regarding Harry Gove being invited to Arizona, against the provisions of a signed agreement, to view their dating: "[In Arizona, they said:] [*brackets in original*] 'after all it is a colleague, and we had him signing a pledge that would not telling anything to anybody... we asked him because he was so critical of the new protocol, that we thought that it was best to invite him in order to keep peace in the family' ... [I answered] [*brackets in original*] we.. (sic) know quite well this mentality of keeping the peace in the family, we call it Mafioso behavior. That is our definition of Mafia... you are a mafia. Because the origin of mafia is just that. It is a family, it is a group, and in the group you must agree, and this comes before any considerations of morality with the rest of the world. Thus the killings are just a logical consequence... the main thing is to keep agreement with each other, with the carbon community."

**Comments:** Laverdiere didn't identify who made that statement but from my knowledge of other material I know it is someone whom she has named for other quotes. Although Gove signed Arizona's agreement not to divulge any information, it was revealed in Sox's book and Gove's own book that he did reveal information to his colleague Shirley Brignall. Apparently signed agreements weren't worth the paper they were printed on.

Pages 167-168: "Interestingly the exclusion of four laboratories, which led to the invitation of Gove in Arizona and the accusation of a mafiosi behavior, also led to complaints, within the group of laboratories, that some people were not sufficiently concerned with the good of the carbon dating community, but were rather devoted to an even smaller group. As we have seen, when the time came for the three chosen laboratories to accept, or refuse to continue they were faced with the choice between loyalty to their institutions, their laboratory, and allegiance to the larger carbon dating community. But it was felt that one lab would go ahead along, showing its allegiance to a smaller group than what was expected. And others reproved of 'his constant desire to push his lab.. his constant behaving in improper way...' (Gove, interview).

This lab was perceived as too self-centered (sic), to an extent that made some wish to see it replaced by another. 'I would like to see X replace Z. Because [the head of Z] [*brackets in original*] has made so sneering (sic) comments about the public, sneering (sic) comments about the small counter technique, God that would be just marvelous.'

It was also felt that all those arguments would affect the fabric of the community. 'I guess the thing I resent most... is the fact that he [Gonella] [*brackets in original*] has caused this kind of unfriendliness to develop between leaders of the three labs, of the seven laboratories. We were colleagues and in some cases close friends. We're now looking at each other in different ways... more suspiciously, and that's very.. I mean the kind of human interaction that we had which is terribly important has been soured...' (Gove, interview)

**Comments:** It sounds like there's plenty of blame to go around.

Page 229: "Alleged failure from the point of view of ethics also prompted someone to say, for example that –not for himself but for other people he has met- 'it takes an intellectual effort to believe (sic) the results of somebody who behaved like that' (Gonella, interview)"

**Comments:** This is an extremely strong statement. He was saying that it's justified to doubt the results of the labs based just on their behavior alone—not to mention the not uncommon unreliability with the C-14 method.



Page 253, endnote 4: “Although even among the laboratories there might not have been such a consensus about whom to include in the test. One told me that he would have liked ‘to chuck’ out three of those laboratories, Zurich because they had a wrong result in the pre-test, Rochester because they had the ‘wrong machine’ and Harwell because ‘so far their results have been untrustworthy’. (They were still having an argument about the outcome of a carbon dating test they both had done on the same object.)”

Page 256, endnote 3: Regarding a British television program on the Shroud called “QED”: . . . “What hope then of a final answer for the Shroud of Turin which carbon dating has shown does not come from Jerusalem 2000 years ago...” But they conclude on a more pessimist view of the ability of science to solve that problem: “...This is a mystery science is never likely to explain.”

**Comments:** Some of the mystery can be attributed to the fact that, despite some skeptics’ claims, it is not known how the image got on the cloth, so there is the possibility that the image-formation project may have impacted the C-14 dating in some unknown way.

Page 259, endnote 13: “In the mist (sic) of all the arguments about the test one of the expert’s previous admiration for a second one turned so sour that the latter was even said by him to have ‘as much fair play as a barracuda’.”

Page 264, endnote 16: “. . . during my interviews, . . . I was often told that ‘any reasonable person’ would accept the result of the carbon dating test.”

**Comments:** Almost thirty years later, there are numerous “unreasonable” people out there.

*[To be continued in Part 3]*

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

