

Shroud: the contested results of radiocarbon

The announcement of the results was made in Turin by Cardinal Ballestrero on the morning of 13 October 1988. On the afternoon of the same day the representatives of the laboratories held a press conference in London. Controversy immediately broke out: improprieties by scientists and beyond

by [Emanuela Marinelli](#) on April 9, 2020 4:00 pm

In the period following the collection of the sample for radiodating the Shroud, which took place on April 21, 1988, in May there were **two blatant violations of the obligation of confidentiality**. Zurich was **allowed to resume all operations** by a '**BBC**' crew for the '*Timewatch*' program. This was reported by Anglican Reverend David Sox, also present. **Physicist Harry Gove**, of the University of Rochester (NY, USA), **and his secretary, Shirley Brignell**, were **admitted to Tucson**. For his part, engineer **Luigi Gonella**, professor of Physical Instrumentation at the Polytechnic of Turin and scientific consultant to the cardinal, **complained**: "*The experts of the British Museum did not trust the cardinal and wanted to be present when the Shroud samples were taken but then they did not allow a representative of the Church to attend the analysis as an observer.*" The chemist **Piero Savarino**, professor of Industrial Organic Chemistry at the University of Turin, comments: "*This behavior is honestly incomprehensible. Consider that in the legal seat any analysis performed in the absence of the counterparty is rejected by the courts.*"

In **July**, the leaks that caused a sensation in the English newspapers **begin**, culminating with the announcement on the front page of the '*Evening Standard*' of **August 26**: '*The Shroud is a fake*'. Gonella reacts indignantly: "*They haven't communicated anything to us yet. It is rude behavior. They had given us their word. Now they have betrayed her.*"

Even the technician Giovanni Riggi, who had carried out the sampling for radiodating, is irritated: "*The laboratories had committed themselves to their honor that nothing would be leaked. Instead they exploited the research, they use indiscretions to promote themselves. They certainly don't come out clean.*" But the director of the Oxford laboratory, physicist **Edward Hall**, candidly declares: "*Frankly I think it was a hopeless prospect to keep the result secret. It was not possible. With the greatest determination in the world.*" In the same interview, **Hall declares that he considers the Shroud a fake**; he admits that there is blood on the sheet, but adds: "*But if it is man's or pig's blood, who knows?*"

Hall wants to ensure the survival of his chair after his retirement and **hopes to get a large sum of money from a Sunday newspaper for rights on the history of the Shroud dating. He gets a hundred thousand pounds from 'ITV', the BBC's rival independent television, and a million pounds from 45 businessmen and 'wealthy friends.'** **The chair will be occupied by physicist Michael Tite**, director of the research laboratory of the British Museum in London, who had been the coordinator of the Shroud dating operation.

Gonella underlines: “From *the beginning the story of the dating of the Shroud has been spoiled by the publicity aspects*, to which the radiocarbon laboratories have proved all too sensitive...” The cardinal's consultant, exasperated, expresses a heavy judgment: “*The custodians of the cathedral of Turin have behaved more seriously, who have kept silent on the removal of seven centimeters of the sheet, than a group of scientists, who have allowed themselves to violate the secret and to announce in tabloid newspapers that the Shroud is a medieval fake. For me there is an anti-Catholic conspiracy of certain well-defined environments.*” Which environments? In a subsequent interview, Cardinal Ballestrero will receive this question: “*In all this affair could masonry have given us a hand? What about external pressures?*” Card. Ballestrero replied: “*I think it is indisputable!*”

The agreements that were made in London in January are completely disregarded. The laboratories not only did not complete the measurements within three months and did not maintain confidentiality, but they also do not send the data to the Colonnetti Institute of Turin for statistical analysis. At this point, Colonnetti asks not to be involved anymore and only the engineer Anthos Bray remains in the game, as a personal favor to Cardinal Ballestrero. **The representatives of the laboratories do not meet in Turin**, as was expected, for the preparation of a scientific communication and to make the results known to the Custos, who will be informed by Tite with a hand-delivered letter on September 28th. There is an indiscretion that during the summer there was a secret meeting in Switzerland.

The announcement of the results of the radiocarbon dating of the Shroud was made in Turin by Cardinal Ballestrero on the morning of 13 October 1988. On the afternoon of the same day, **Tite and representatives of the Oxford laboratory held a press conference in London.** Behind them stood a blackboard with the date followed by an exclamation mark. Hall declared that no one with a scientific value can now think otherwise than to believe that the Shroud is a fake.

The following day the cardinal's statement appeared in the '*Osservatore Romano*.' In the text, the evaluation of the examination results is left to science. This will not be the last official pronouncement by the Vatican. In fact, in the Bulletin of the Press Office of the Holy See of 18 August 1990 we read: “The result of medieval dating was a singular

point, indeed in contrast, with respect to previous results, which were not contradictory with a dating dating back to 2000 Years ago. This is an experimental datum among others with the validity and also the limits of the sectoral exams that are to be integrated into a multidisciplinary framework.”

The **final laboratory report** will appear in the journal ['Nature' on February 16, 1989](#), four months after the official communication of the results. It reads this lapidary statement: “These **results therefore provide conclusive proof that the linen of the Shroud of Turin is medieval.**”

But the numerous perplexities on the matter have brought **Savarino** to an opposite consideration: **the results "cannot be considered axiomatically conclusive."**

Comments will not be missing. Riggi expresses a heavy reservation on the exam: "We believe that it, alone, separated from the other 25 exams proposed, cannot give a reliable answer." Gonella is furious: « *The lords of Oxford and London have behaved very badly; in their attitude there is an attack on other scientists without even having read their articles. I had a great esteem for the University of Oxford which I no longer have. Scientists from this test came out very disqualified.*” The cardinal's consultant believes that the scientific procedure adopted by the three laboratories is not flawless: “*The vast majority of colleagues are not persuaded, neither by the procedures adopted, nor by the conclusions. Those gentlemen, moreover, proclaim to the four winds that the last word is now said on the matter.*” He also stressed that **a preliminary physical-chemical examination was missing and the pre-treatment** of the three samples, i.e. the techniques for eliminating impurities, are questionable.

Gonella accuses the laboratories of "successful drunkenness" and adds: "*There were a lot of flaws. Radiocarbon colleagues behaved lousy. Those scientists have hatched a real plot to discredit the Shroud. At the beginning, when they asked us to be able to examine a Shroud sample, they guaranteed the utmost seriousness and completeness of the analyses, together with the collaboration with the custodian of the Shroud, that is, the bishop of Turin, and with his scientific consultant, that is, the signed. Caught by celebrity fever, those scientists began to take back their commitments: no more interdisciplinary tests, only radiocarbon. They also stormed Rome under pressure for Turin to accept their terms. They made use of the then president of the Pontifical Academy of Sciences, Professor Chagas, to get the undersigned out of their feet and go out of their way.*"

It is natural to ask Gonella: why then did the Holy See and Cardinal Ballestrero accept? “*Because Chagas,*” replied the professor of the Polytechnic, “*acted alone, bypassing the other academics. And the Vatican was continually threatened by the laboratories themselves, which they repeated: if you do not leave it to us, only us, the results will not be acceptable. So, in the end, Ballestrero had to give in, despite suffering a lot. And I,*

submit. Also because those gentlemen did everything to support the thesis that the Church was putting the wheels on science.”

Gonella explains: «***It was a blackmail. They put us up against the wall with blackmail. Either we accepted the radiocarbon test under the conditions imposed by the laboratories, or a campaign would have been unleashed with accusations against the Church of fear of the truth, of being an enemy of science.***”

In the declaration of the scientific committee of the international symposium, held in Paris in 1989, we read that there are strong reservations on the statistical analysis of the results, in particular on the 6.4 value of the chi-square (χ^2) for the samples of the Shroud, who provided non-homogeneous radiocarbon dates. Therefore **the scientific committee asked for the publication of all the raw data obtained by the three laboratories** and for the comment written by Professor Bray del Colonnetti. During the international symposium, held in Rome in June 1993, the statistician Philippe Bourcier de Carbon listed **fifteen points of anomaly** in the radiocarbon affair of the Shroud:

The absence of a formal report of the withdrawal;

The absence of a video archive on the final sample packaging operations;

The contradictions in the official reports of those responsible for taking the cut and weight of the samples;

Failure to comply with the protocols initially envisaged for the dating operation;

Refusal of the usual double-blind test procedure;

The refusal of interdisciplinary documentation, usual in radiocarbon dating procedures;

The exclusion of recognized Shroud specialists, in particular the American scientists who participated in the previous works of the STURP (Shroud of Turin Research Project);

The communication to the laboratories, completely unusual, **of the dates of the control samples prior to the test;**

The intercommunication of the results between the three laboratories during the works;

The disclosure to the media of the first results before the delivery of the conclusions;

The **refusal to publish the raw results** of the measurements (also insistently requested in its official press release by the scientific committee that prepared the Paris symposium in 1989);

The failure to clarify the singular isolation of the confidence interval of the measurements carried out by the Oxford laboratory compared to those made by the other laboratories;

The unacceptable value of 6.4 published in the journal ' *Nature* ' for the statistical chi-square test on the results of radiocarbon dosages on the Shroud;

The refusal of any contradictory debate on the statistics of the measures carried out;

The totally unusual refusal to publish the statistical report of this operation, officially entrusted to prof. Bray of the G. Colonnetti Institute in Turin (also insistently requested in his official statement by the scientific committee that prepared the Paris symposium in 1989).

Bourcier de Carbon concludes: “Such a finding of shortcomings remains completely unusual in the context of an authentically scientific debate and one can only deplore this derogation from the usual ethics.”