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Tristan graduated in Modern History, Public Law, and Law and Economics. He works as a research analyst for French regional administration. Since 2010, he has been interested in Turin Shroud studies. In his research, Tristan has focused on history and on philosophy of science. In 2017, he discovered in the British Museum new data about the radiocarbon dating of the Turin Shroud.

ABSTRACT

Radiocarbon Dating of the Turin Shroud: Lessons from Failure

In 1989, Damon *et al.* claimed that the radiocarbon dating of the Turin shroud provided "conclusive evidence" of its medieval origin. However, since the 2000s, this conclusion has been increasingly put in doubt. In 2017, in response to a legal request, the British Museum, which was the centralizing institution for the dating process, released its documentation. The statistical analysis of the raw data strongly suggests a lack of homogeneity of the tested samples. Therefore, the radiocarbon results do not provide "conclusive evidence" of the AD 1260-1390 calendar age range. The new documentation also provides insight into the elaboration and acceptance of the 1989 article, including the internal (Anthos Bray) and external (Nature) peer review process. It supports the hypothesis of a replication crisis in science, partly based on pressure to publish, confirmation bias and data dredging. In the case of the Turin Shroud, this crisis could affect future robust protocols and our knowledge of the artifact.

Baker, "Is there a reproducibility crisis?", *Nature*, 2016, 533, 452-5.

Casabianca, Marinelli, Pernagallo and Torrasi, "Radiocarbon Dating of the Turin Shroud: New Evidence from Raw Data", *Archaeometry*, forthcoming, DOI: 10.1111/arc.12467 Damon et al., "Radiocarbon dating of the Shroud of Turin", *Nature*, 1989, 337, 611-5.