



“Shroud of Turin” and “Blood of Saint Januarius”: Two Relics Compared

Giovanni Fazio¹, Francesca Riotto²

¹University of Messina. Department of Mathematical and Computer Sciences, Physics Sciences and Health Sciences. Viale Ferdinando Stagno d'Alcontres 31, I-98166 Messina, Italy.

²Diocese of Oppido Mamertina-Palmi. Via Rocco Pugliese 38, I-89015 Reggio Calabria, Italy.

Correspondence

Giovanni Fazio

1University of Messina. Department of Mathematical and Computer Sciences, Physics Sciences and Health Sciences. Viale Ferdinando Stagno d'Alcontres 31, I-98166 Messina, Italy.

Abstract

In this paper, we aim to compare the investigations of Blood found on the Shroud of Turin and the Blood of Saint Januarius. Analysis of the first relic reveals the presence of whole blood with bile pigments. In fact, fibrils covered in blood and serum albumin were also extracted from the burial linen. For the latter relic, the situation remains uncertain, as the Roman Catholic Church does not allow sampling. This is puzzling, given that the blood of Jesus, which is present on the Shroud, has already been investigated. Why should it not be possible to investigate the blood of Saint Januarius? Only the Ecclesiastical Authorities can provide an answer. We hope it will be the right one.

Introduction

The Shroud of Turin and the Blood of Saint Januarius are two significant objects of veneration in Christianity. They generate profound interest among tens of millions of faithful worldwide, who are spiritually connected to these relics.

A complete comparison of the investigations conducted on the two relics is impossible because the Shroud of Turin has been extensively studied, resulting in a vast body of literature, whereas there are few scientific articles regarding the Blood of Saint Januarius, as we recently discussed in one of our papers [1]. Unfortunately, even though the relic of Saint Januarius has been scientifically underexplored, it, like the Shroud, is subject to religious conflicts of interest, complicating efforts to resolve questions about both relics.

However, amidst the conflicting results in the literature regarding both relics, we note a significant difference. We cannot be certain that the ampoules preserved in the Cathedral of Naples are connected to the martyrdom of Januarius, Bishop of Benevento. There are numerous reports, but few certainties, which leaves us with lingering doubt. In contrast, we are practically certain that the Shroud of Turin is the burial cloth of Jesus Christ. This connection is well documented in the Sacred Texts (both Old and New Testament, from Genesis to the Apocalypse of John) that describe the Passion of Jesus in great detail [2]. The bloodstains and body image on the Shroud align perfectly with these scriptures, depicting a man who was beaten, severely flogged and crucified. The wounds to the forehead, neck and side are clearly described

in the New Testament.

The study of both relics, however, involves blood investigations. The scientists of the STURP (Shroud of Turin Research Project) team used cutting-edge technologies in 1978 to study the Shroud, and their findings were published in several journals. We cite some significant articles here [3-6]:

- i) High concentrations of iron were detected in the bloodstain areas.
- ii) The bloodstains in the central area were red-brown and contained methemoglobin and bile pigments.
- iii) Adjacent areas, with a golden-yellow color, revealed serum albumin, visible also under fluorescence.

The presence of whole blood (i.e., blood and serum, as described above) indicates that these are contact stains, meaning the Shroud wrapped a wounded human body, leaving behind these bloodstains. The notable presence of bilirubin confirms that the blood belongs to someone who suffered extreme violence, consistent with the blood of a beaten, scourged, and crucified man. Moreover, the bloodstains demonstrate that the Shroud is not a forgery. When the red-brown and golden-yellow colored linen fibrils were collected, cleaned and examined under a microscope, no image was visible (these fibrils exhibited an optical density equivalent to the background color). This suggests that the Blood Image was formed before the Body Image. This result was further confirmed by spectroscopic analysis of the serum areas, which were permeable to light, with no image beneath the serum.

Thus, both microscopic and spectroscopic tests indicate that a medieval forger-artist

- Received Date: 25 Nov 2024
- Accepted Date: 02 Dec 2024
- Publication Date: 04 Dec 2024

Copyright

© 2025 Authors. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International license.

Citation: Fazio G, Riotto F. “Shroud of Turin” and “Blood of Saint Januarius”: Two Relics Compared. Japan J Res. 2025;6(3):100.

would not have been able to first apply bloodstains and then (by an unknown mechanism) create the Body Image on a 5 m² sheet. It is impossible! We are confident that the Turin linen is not a forgery.

In contrast, the situation with the Blood of Saint Januarius is entirely different. There have been only three experiments: two suggest the presence of blood in the ampoules, and a third indicates that the relic is a handmade object. Here is a detailed description of these experiments [1]:

a) Two experiments, conducted using spectroscopic analysis in 1902 and 1989, showed the presence of oxidized hemoglobin, and scientists believed the ampoules contained blood.

b) The third test, which was not conducted on the ampoules, involved the preparation of a thixotropic substance that displayed certain characteristics similar to those of the Blood of Saint Januarius, including the liquefaction of blood.

We have already stated that these two tests are insufficient to provide a definitive answer [1]. A microchemical analysis is necessary to be certain of the results. The third test, published in *Nature* (1991), is particularly interesting because it produced a substance very similar to the Blood of Saint Januarius that transitions from solid to liquid when shaken. However, we believe that even though this test has greater scientific significance, the substance produced must exhibit all the properties (none excluded) of the substance inside the ampoules. Therefore, further investigation is required. To this end, we proposed two simple experiments [1] that could yield new results and contribute to a deeper understanding of the relic.

Speaking of new investigations, we also mention the Professor Geraci from the University of Naples who stated: 'Thixotropy has nothing to do with blood. There is blood in the ampoules but no miracle. The changes are due to the chemical reactions occurring in the ampoules' [7]. The scholar verified this in his laboratory using blood from a three-hundred-years-old relic of the Camaldolese monks.

We believe it would be important and enlightening to publish these results in a journal. However, once again, we are witnessing the extraction of blood from a relic. It seems that this procedure is only considered impossible when it comes to the Blood of Saint Januarius [1].

Between the two relics, the Shroud is undoubtedly more significant. It not only bears the Body Image but also the Blood Image of Jesus Christ. The same cannot be said for the other relic. The temporal gap between the martyrdom and the first liquefaction is so large that it is difficult to establish a direct connection between the blood and Saint Januarius. Nevertheless,

the two relics do not hold the same level of significance. The Shroud is the burial cloth of the Lord, while the other relic is linked to a human being.

We know that the Roman Catholic Church allowed the analysis of the Nazarene's Blood. This was achieved by collecting fibrils from the bloodstains on the Shroud, while sampling from the ampoules preserved in the Cathedral of Naples has been forbidden. This decision is misguided. In 1978, the Shroud was entrusted for five days and nights to a team of esteemed American scientists, who took minimally invasive samples (fibrils) from all the areas deemed relevant. All the results were published in international journals, leading to significant advances in our understanding of the relic.

The continued refusal by the Bishops of Naples to allow analysis may lead many Christians to question the certainty of the composition of the substance in question. Therefore, it would be advisable to conduct a microchemical analysis after opening the ampoules. Alternatively, and this should be possible, we suggest trying the simple experiments we outlined in Ref. [1].

Acknowledgements

One of the authors (G.F.) would like to remember and thank G. Sturniolo Villa for stimulating discussions on the relics of the Roman Catholic Church.

Conflict of Interest

The authors of this article declare no conflict of interest.

References

1. Fazio G. About the Blood of Saint Januarius. *Japan J. Res.* 2024; 5(12): 087.
2. United States Conference of Catholic Bishop. *New American Bible, Revised Edition.* Confraternity of Christian Doctrine Inc. Washington DC, 2010.
3. Morris RA, Schwalbe LA, London JR. X-Ray Fluorescence Investigation of the Shroud of Turin. *X-Ray Spectrometry* 1980; 9: 40-47.
4. Heller JH, Adler AD. A Chemical Investigation of the Shroud of Turin. *Can. Soc. Forensic Sci. J.* 1981; 14: 81-103.
5. Schwalbe LA, Rogers RN. Physics and Chemistry of the Shroud of Turin. A Summary of the 1978 Investigation. Special Report, *Anal. Chim. Acta* 1982; 135: 3-49.
6. Jumper EJ, Adler AD, Jackson JP, Pellicori SF, Heller JH, Druzik JR. A comprehensive Examination of the Various Stains and Images on the Shroud of Turin. *Archaeol. Chem.* III 1984; 205: 447-476.
7. Geraci G. Il sangue c'è e l'ho visto, il miracolo no. *Corriere del Mezzogiorno* 2010. Italian language.