



D26 The Shroud of Turin as an Object of Forensic Science Investigation

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The goal of this presentation is to present an overview of the scientific data that exists with respect to the Shroud of Turin and its image in order to encourage new collaborative studies that involve the methods and techniques of applicable forensic sciences.

This presentation will impact the forensic science community by helping attendees who wish to contribute their particular expertise to the understanding of the Shroud as a legitimate forensic object, and could increase the knowledge of the Shroud from a forensic perspective.

The Shroud of Turin is a long rectangular cloth that exists in the Italian city of Turin. This cloth appears to bear full-size frontal and dorsal images and apparent bloodstains of a human male. It is seriously thought to be by many to be the burial cloth of the historic Jesus. This paper is presented at this time to coincide with a public showing in Turin of this cloth.

The Shroud of Turin was allowed to be examined for five days (around the clock) during October 8-13 in 1978. This examination was conducted to extract, in a non-destructive manner, scientific data for later hypothesis testing pertaining to image formation and authenticity (with respect to the hypothesis that the Shroud is the historic burial shroud of Jesus). The data collections included sticky tape sample removal, Spectral reflectance and UV fluorescence photography, close-up photography, spectral reflectance spectroscopy, x-ray radiographic imagery, and x-ray fluorescence. The results of these data collections and their subsequent analyses were published in the peer-reviewed scientific literature which are available for reference and study. The two major conclusions from the scientific team, working collaboratively, were: (1) that the image on the Shroud, which contains no evident extraneous substances that can be associated with the image color, is chemically a degradation of the cellulose; and, (2) that the blood-like stains on the Shroud are indeed blood.

Ten years later, in 1988, the Shroud was subjected to radiocarbon analysis, which yielded a radiocarbon date of mid-Fourteenth century. Certain challenges to this result are currently under investigation based on possible contamination from air-borne carbon-containing molecules.

From the available scientific data that is presently available for the Shroud, collaboration is encouraged and even solicited from the forensic community to formulate and test hypotheses via the Scientific Method in order to advance proper understanding of the Shroud and its image. The presentation will discuss several example topics where forensic input might be useful from scientific, cultural, and historical perspectives. Finally, collaborative ideas may be suggested from the forensic community regarding how modern techniques might acquire useful data from the Shroud of Turin in a non-destructive manner for further hypothesis testing.

Shroud of Turin, UV Fluorescence, Forensic