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Pressure and Temperature during the Shroud Image Formation

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Abstract

In this paper, we investigate the trend of Pressure and Temperature during the Shroud Body Image formation. The Pressure is constant with different values on the two images. The Temperature of the corpse decreases to reach the thermal equilibrium. The first parameter acts on the dorsal image that becomes a contact image. The decrease of the second parameter leads to trigger a stochastic process.

Keywords: Shroud of Turin; Pressure; Dorsal Image; Temperature; Stochastic Process

Short Communication

The Shroud of Turin is an ancient burial sheet of linen [1] which appeared around the Middle of the XIV Century. Its characteristics suggested and still suggest that we could be in front of the funerary linen of Jesus of Nazareth, the anointed of the Almight God. So, this Archaeological Find became the most studied in the world by many scientists thirsty for knowledge. In fact, the main question was: is it the burial linen of Jesus Christ or is it a fake? We believe it is of the Nazarene, but at the same time, we must underline that for many scientists it is a medieval fake.

Therefore, the above Archaeological Find has been studied with much attention by authoritative scientists, and also by ordinary people, for a long time (over a Century). A big leap forward in the knowledge was achieved by the team "Shroud of Turin Research Projected" (STURP). The team worked day and night for 120 consecutive hours producing many articles. Here, among many, we shall mention those which we consider most interesting [2-6]. Among the open questions, we have chosen to analyze parameters as the pressure and temperature during the Shroud Body Image formation. Jackson et al. [7,8] have analyzed both the images, dorsal and frontal. They also evaluate different values of pressure. In the above cited references, they ascertained that the value of the average pressure, for the dorsal image of a body of about 75 Kg, was 26.8 g/cm^2, while the frontal one was 0.35 g/cm^2 with $P_{back} \approx 76.6\, P_{front}$.

The same authors have showed, using the VP-8 Image Analyzer that converts the optical density in spatial relief, that the back relief amplitude is roughly the same as the amplitude present in the frontal image. Moreover, because also the other characteristics were almost the same, the above researchers have thought of a pressure independent formation mechanism.

However, it is known that the surface of corpse-burial linen contact for the back image was ≈ 2800 cm^2 while the front image was ≈ 1100 cm^2. This explains the values that describe the different pressure between back image and front image. Therefore, the back-front difference in pressure does not yield changes in the cellulose structure of the dorsal image. The characteristics of the two images, frontal and dorsal, are almost the same. The changes are in the dorsal image which becomes a contact image. This is what we wish to highlight: the pressure transforms the dorsal image in a contact image. In fact, for the latter, it is impossible to obtain a Correlation between the density of the yellow fibrils and the body-linen distance. Therefore, information on the body-linen distance is not encoded in the linen structure. On the contrary, the analogous Correlation for the frontal image can be obtained.

With regard to the temperature, we point out that there can be no sources of energy in a sepulcher dating back to 1st Century. The only one present is the one possessed by the corpse wrapped in the burial linen which emits energy, by releasing heat, until an equilibrium is reached with what surrounds it. Therefore, in the tomb, the only transfer of energy is that due to the human being who emits a weak thermal energy, only.

This state of affairs makes vain all the attempts to obtain an image, characterized as it is on the Shroud of Turin, with the help of the radiative hypotheses [9-11] as we have recently written in a previous paper [12]. The corpse can be considered, for a limited time, a source that emits only thermal energy.

In 2001, R. Rogers was in contact with Dr. R. Irvine, Pathology Section, Office of Medical Investigator, University of New Mexico. In this meeting Dr. Irvine showed how some bodies postmortem can reach temperature of 41^0 C. In certain cases, values as high as 43^0 C are achieved [13]. The emitted weak energy is able to trigger a stochastic process that by its nature leads to latent results. The time of latency varies from years to decades [14,15]. This explains why Matthew, Mark, Luke and John, the four authors of the Gospels, did not write about the mentioned image [16].

Therefore, it is the value of the temperature of the corpse that involves a poor emission of thermal energy, small enough to cause a stochastic process which as a result provides a latent image like the one on the Shroud of Turin. Moreover, we have noticed that the distribution of the yellowed fibrils is similar to that of human beings who died after years or decades from the weak irradiation received. These men were not affected by the deterministic effects produced by radiation. The long-elapsed time means that death is due to stochastic effects.

These considerations lead us to make a comparison men-fibrils: healthy men-fibrils with background color, weakly irradiation men-fibrils affected by weak thermal radiation, dead men-yellowed fibrils. Consequently, the men and the fibrils undergo a stochastic effect. In fact, the Shroud Image was generated by the small amount of thermal energy emitted by the corpse. The stochastic effects are absent when the involved energy is zero. Moreover, the already affirmed latency of the Shroud Image is a result of the stochastic process [17,18]. However, in this case, we don't know the latency time.

Finally, we can say that the action of the pressure causes the dorsal image to become a contact image. Moreover, the low thermal values involved favor a stochastic process as a mechanism of formation of the Shroud Body Image.

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Conflict of Interest

The authors have no conflict of interest.

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