

Shroud-like experimental image formation during seismic activity

Giovanna de Liso

Via Servera 16, CAP 10066 TorrePellice (Turin) Italy

Tel. (+39) 0121953061 – Mobile (+39) 3393289158 g_dls@yahoo.it

Abstract

Seismic oxidative phenomena on vegetal structures and ferromagnetic rocks, occurring only along parallel surfaces to the ground, led me to verify experimentally if, naturally, in conjunction with earthquakes, it is possible to form images with a 3D character, similar to Turin Shroud image, of objects placed between the two edges of linen cloths folded in two and soaked with different solutions. Some similarities with the Shroud image were obtained only on ferromagnetic rocks, during seismic radon emission, with electrostatic discharges and geomagnetic variations, in agreement with Lattarulo's theoretical hypothesis.

Keywords: Turin Shroud, images formation, seismic precursors, earthquakes

1. INTRODUCTION

Living in a slightly seismic area (west Piedmont), I studied the seismic precursors with methodical measurements of physical and chemical parameters for over twelve years, for earthquake risk prevention. When I observed that microwaves and oxidative phenomena on ferromagnetic rocks (gneiss), occurred only along surfaces parallel to the ground and not on lateral surfaces, I considered the analogy with the Turin Shroud, because on the Turin Shroud there are no lateral images. So I thought to **verify experimentally the hypothesis by G. B. Judica Cordiglia and Fanti of electrostatic field, and especially Lattarulo's theoretical hypothesis of seismic-electric processes being the cause of the Turin Shroud Image. Verifying the latter hypothesis was the main goal of my work**, because of the obviously difficult experimental verification of natural thunderbolt electric discharges that may generate Shroud-like images.

The cloth had been placed mainly in an underground place, partly excavated in ferromagnetic rocks, in a place with radon emission, in structures (churches) with radioactive stones, and in underground places, not very far from iron and copper mines.

The monitoring of an increasing number of parameters allowed me to gradually reduce the margin of error on the temporal and spatial prediction of the earthquakes. In fact, the earthquake warning signs can now be well specified, thanks to the comparison "a posteriori" of the data observed before, during and after the earthquakes, some of which happened more times, with the same epicenter and the same magnitude.

The error margin on the temporal forecast is now about

10-15 hours, while the error on the distance of the observation place from the probable epicenter is still around a hundred kilometres, for an only *local forecast*.

Separation of the variables, reducing the error margin in the forecast of the earthquakes and verifying their realization are fundamental to distinguish, while studying image formation, what is due to earthquakes and what is not.

2. EXPERIMENTAL

2a) Experimental Methodology of Seismic Parameters Monitoring

In order to find the causes of image formation that I obtained experimentally, it is necessary to consider a synergic action of several factors, mainly unknown or not easily distinguishable from other variables. So, I progressively increased the number of the instruments, in order to quantify more data. Unfortunately, the experimental errors, due to the limited sensitivity of the instruments and to the modalities of non continuous data prospecting, put a limit to the precision of the forecast and to the measurement of all the parameters, while instruments continuously working in conjunction with a computer, would give more reliable elements.

Nevertheless, in every experimental stage, I tried to separate the measurable variables, working simultaneously on more cloth, changing only one parameter at a time. The instruments are:

3 Geigers counter of alpha, beta and gamma particles
1 induction magnetometer (0 - 100 μ T)

Proceedings of the International Workshop on the Scientific approach to the Acheiropoietos Images, ENEA Frascati, Italy, 4-6 May 2010

1 induction magnetometer (0 - 50 mG)
1 ELF detector (0 - 10 mW/cm²)
1 RF detector (mw/cm²)
1 EHF detector (0 - 0.1 mw/cm²)
1 electric field detector (0 - 1000 V/m)
1 thermometer (sensitivity of $\pm 1/100$ Celsius degree)
1 igrotester
many radon dosimeters
2 Wood lamps
4 compasses.

As regards monitoring methodology, having neither a declinometer, nor a theodolite to estimate the angle of the magnetic declination, I placed four compasses in the underground place, a few meters away from each other. The place is partly excavated in ferromagnetic rocks, so every compass gives me a different position of the local north, N1, N2, N3 and N4. Every deviation towards east of the respective needles defines a positive δ angle of declination, in comparison with the starting position of the local north (at the beginning of the long observation period). Every variation towards west defines a negative δ angle.

After exchanging the compasses among themselves, to verify the instrumental sensitivity, I adopted some expedients to reduce the errors due to parallax. The study of the final position, after several oscillations, compared with the initial position of the needle, gives approximately the place where there was a variation of the magnetic permeability, due to the intense magnetic pressures to which the rocks are exposed. The spatial forecast, however, is not always given by the geometrical resultant of the local north of the compasses. Sometimes, in fact, all the compasses have the same dip and the magnetic anomaly is very close, comparing it with previous earthquakes. Moreover, I put iron material quite close to one of the four compasses, in turn, to evaluate the answer of the others. I study magnetic variations also for distance over 50 Km from Torre Pellice, so I can evaluate a new geometrical resultant.

About the temporal forecast, instead, I noticed it is very important to pick up the right moment of the **sudden commencement**, that is the sudden beginning of a magnetic storm: the sudden variation compared with the previous static condition, in fact, is followed by a "small-storm" for a term of about two hours when the magnetic storm shows generally worldwide, with a complex sequence of phenomena affecting the magnetosphere, almost always caused by sun glares. This is, however, estimable "a posteriori". Instead, when it is a seismic warning sign, even if with a sudden beginning, it is followed for some days by a variation of the absolute value of δ and by a variation of the intensity of the geomagnetic field (the maximum variation of the magnetic induction were not over 4 μ T). The needles of the compasses have, in fact, a dampened oscillating motion around a new local north. After 10-15 hours from

the moment in which they settle on this axis there is generally the first shock. But I value magnetic variations in microteslas, not in nanoteslas.

Comparing "a posteriori" several earthquakes that occurred in the same area, even with identical magnitude, I noticed several times a direct proportionality between the absolute value of the declination angle δ , noted at the moment of the sudden commencement, and the magnitude of the coming earthquake. Nevertheless, the complexity of all the parameters, the necessity to specify the anthropic factors, valuing, for example, the induced magnetic and electromagnetic parameters, lead to a strict discretion.

Except for some periods, the monitoring frequency of the physical parameters during the last twelve years was daily. It was repeated several times a day when I observed either an angle different from 0, or an increased radioactivity. The maximum variation of electric field was of 100 V/m

2b) Experimental Methodology About Cloth

I used linen cloth both in a "fishbone" way, like the Shroud, both with warp and weft disposed in an orthogonal way. These clothes since 1860 were washed only with Marseilles soap.

The clothes were soaked with water or oily solutions of aloe, myrrh and tolù balsam, together or in mixtures in different percentages. Sometimes I added sodium chloride or bovine or my blood.

Inside the cloth, folded in two and laid on different surfaces, objects of different nature (vegetal, animal, mineral, synthetic) were inserted for a period of time between 3 and 48 hours. In each experiment the different objects were placed together in every cloth to find out if the possible image formation could depend on the electric conductivity of the objects.

In every experiment I separated the possible variables:

- open air, close environment in the underground place, the 1st floor and 2nd floor.
- support in gneiss, in marble, wood, polystyrene, PVC, soil, iron and copper.
- the cloth had been placed mainly between **two parallel gneiss layers (200×50×3 cm each one)**, with different distance between the two layers. The superior layer was sustained by other smaller gneiss layers or by insulating material. They had been placed near a fissure where, before earthquakes, radon comes out variably, carried by warm gas, especially sulphureous gas.

2c)-Experimental Results

About an hypothetic radioactive influence, I tried to separate the variables formed by the alpha particles of the radon, β and γ particles, enclosing the layers in a wooden coffer; when I have tried this, I have not obtained images with 3D (Three Dimensional) character.

Three to eight hours before the the first local earthquake shock, I have always noticed a **ground temperature increase**, with an average increase of about 4-5 C°, near

Proceedings of the International Workshop on the Scientific approach to the Acheiropoietos Images, ENEA Frascati, Italy, 4-6 May 2010

places where there is gas emission (radon and sulphides). So, three hours before the earthquake shock of 25 December 2008, (at 03.38 a. m., with magnitudo 2.9 and depth of 12 km, epicenter Angrogna), I noted a snow melting on the Vandalino montain (Torre Pellice), with a sudden increase flow of the mountain stream, near my house. I was naturally in alert, but I have experimented after the seismic first shock, no seismic storm, so, **without magnetic variation (measured in μT) and electric variation (measured in V/m), I have had no images.** In fact, just some hours (3-8 hours) before the first seismic shock, I have never recorded magnetic variation in μT and electric variation in V/m.

The objects were removed only when the cloth was dry. During seismic activity, some images formed already after seven or sometime three hours from the moment in which they had been placed, **if the humidity rate of the environment was not over 35-40%**. But this is possible before the first seismic shock or before any other shock of the following seismic storm, with higher magnitudo. In order to compare the objects and the eventual images, I took a picture of the objects just placed on the inferior face of the cloth and then at the end of the experiment. This let me sometimes note **some double image**, due to a probable earthquake, with objects shifting (Figures 1, 3).

I observed also that many images were **ghost images**, because of the creases of the cloth and the humps made by the objects; ghost images are realized only with myrrh and/or aloe solutions, without earthquakes, probably due to a slow cloth fibres oxidation at the sun.

Some hours before earthquakes, (10-40 hours) in dark and closed places, also with water solutions, ghost images are generated probably by electrostatic discharges, due to telluric currents and magnetic inductions, but they are feebler (see Figure 2).

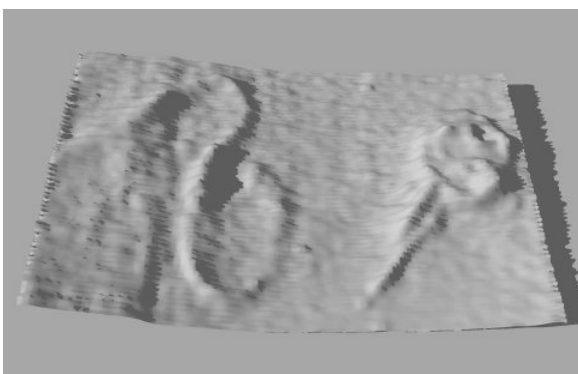


Figure 1 Double images of the key and 3D character for the snake and the key (earthquake of October-27-2000, Incisa Scapaccino, magnitudo VII Mercalli). Aloe imbibition.

After every experiment some clothes have been exposed to the sun, others have been placed in a microwave and then repeatedly washed, others heated up. **The images obtained during earthquakes persisted even if washed.**

During periods when no earthquakes occurred, I carried out similar experiments, with the values of magnetic induction and natural radioactivity reduced.



Figure 2 Ghost image on superior outside face (earthquake of October-04-2000, in Asti, IV Mercalli). Myrrh imbibition.

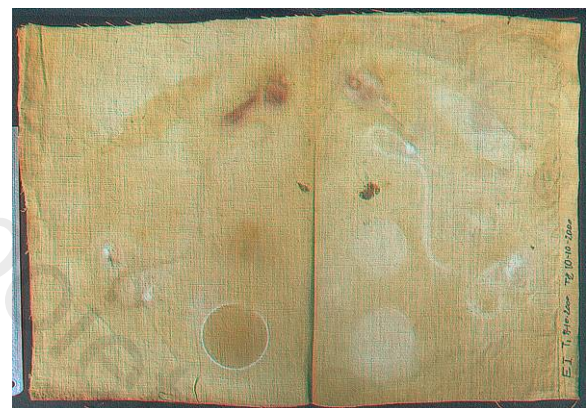


Figure 3 Earthquake of October-09-2000, Torre Pellice, magnitudo 3.2. Aloe imbibition.

In the following I summarise the results of over five hundred experiments:

- 1) the best dilutions, in order to form images, for **aloe and myrrh**, together or not, must not exceed **20g/l**, in water or oil, while the Tolù balsam is not efficient.
- 2) the **photosensitivity of linen cloth** treated with water or oily solutions of aloe and/or myrrh is confirmed, but the images of objects placed on **cloth exposed to the sun** are originated by "**shield effect**". However these images are unstable, and fade with time. I have so obtained only support surface images and cloth creases images. After just three years some confused images, not 3D, are visible only with a Wood lamp.
- 3) the images (3D or not 3D character) come out naturally, with or without earthquakes, only if the clothes are soaked.
- 4) with or without earthquakes, any soaking with aloe or myrrh produces on the cloth a greater intensity of basal colouring where aloe and myrrh quantity is larger due to gravity: on the inferior face if the cloth lies horizontally,

Proceedings of the International Workshop on the Scientific approach to the Acheiropoietos Images, ENEA Frascati, Italy, 4-6 May 2010

folded in two, towards the bottom if vertically, so it is possible to observe different luminance values.

5) **in the presence of earthquakes, a soaking with even only water is sufficient to form images** (I have obtained the best images with similarities to the Turin Shroud characteristics).

6) in absence of earthquakes the images are confused or in the best case enlarged in relation to the orthogonal projection of the objects onto the planes of the cloth and have no 3D character.

7) only during earthquakes or 2-3 days before, images come out which are not enlarged, with respect to the projection of the objects onto the planes of the cloth. This could be compatible with **3D character**: in fact the image of the snake (figure 1) has 3D character (as noticed by Prof. Balossino of Turin University and Prof. Giulio Fanti of Padova University). The richness of details and the clearness of the images of the objects reproduced are inversely proportional to the distance from the epicenter, directly proportional to the magnitude of the earthquake and to the radioactivity of the place: (from an average natural radioactivity of $0.13\mu\text{Sv/h}$ I have registered tips of $0.98\mu\text{Sv/h}$ and one time of $3.74\mu\text{Sv/h}$). It is very interesting to note how the best images with 3D character are possible only if the cloth is placed between two gneiss layers, near radon emission and iron material, that amplifies magnetic variations (I suppose). Radioactive places, but without gneiss layers and iron material, are not sufficient to generate 3D character images.

8) the blood trace of a reptile, that left a 3D image, looks dark brown on the cloth middle; away from body, it looks clear on the body and inside, so inside the mouth and the caudal extremity it appears clear (figure 3), while my own blood, with an identical experiment, on another cloth, looks ancient pink (figure 4). About my blood, it is possible to note an effect consistent with an electrostatic discharge.



Figure 4 Human blood looks more ancient pink, after ten years (earthquake of October-09-2000, Torre Pellice, magnitudo 3.2). Aloe imbibition.

9) snake blood is not fluorescent at the UV light, on cloth middle, it is fluorescent on snake body (Fig. 5), so human blood is fluorescent at the UV radiation (Fig. 6). Snake inside mouth and the caudal extremity are fluorescent at the UV radiation on the two surfaces (see Fig. 5).

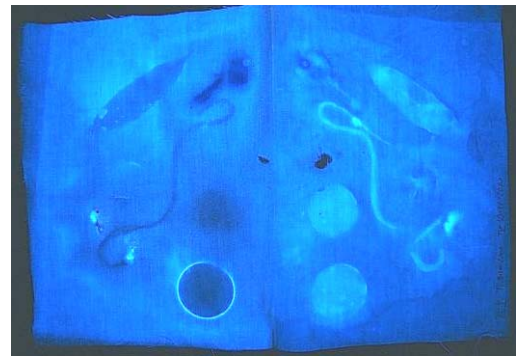


Figure 5: (earthquake of October-09-2000, Torre Pellice, magnitudo 3.2). Aloe imbibition. Cloth under UV light

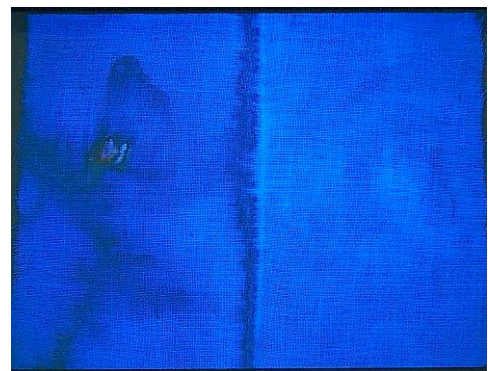


Figure 6 Human blood looks fluorescent under UV light (earthquake of October-09-2000, Torre Pellice, magnitudo 3.2). Aloe imbibition.

10) two linen fibrils of the image of the snake of figure 7, analysed with a microscope ($60\times$) under cross-polarised light by Prof. Fanti from Padua University, show **pleocroism** with probable spatial periodicity correspondent to the cloth weft.

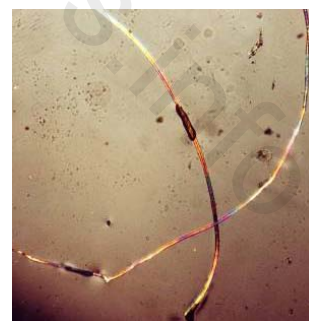


Figure 7 Pleocroism on 2 fibrils of the snake's image

11) the objects made of baked clay, brass, pewter, bronze, copper and wax left no images, so did the objects placed on a PVC surface.

12) on the same cloth the images are different according to the chemical nature of the object and we can have different colours.

13) **when the gneiss superior layer is not insulated**

Proceedings of the International Workshop on the Scientific approach to the Acheiropietos Images, ENEA Frascati, Italy, 4-6 May 2010

from the inferior one, the images are dark on the superior face of the cloth, white on the inferior face, in negative, maybe because of the shield effect; this occurs if the imbibition is with aloe and/or myrrh (Figures 3 and 5).

14) images realized during earthquakes appear with **double superficiality** at thread-level, but it is necessary to control it at fibril-level.

2d) Some Considerations about a Relation between Image Formation of my Experiment and Earthquakes

We must consider how all physical and chemical seismic parameters share in sinergism for images formation, but in several experiments, only a place with radon emission, iron material, gneiss support for linen cloth and underground rock cavity was able to form images with 3D character and other similarities with Turin Shroud Image.

In the same experiment in a closed place, with constant distance "d" between the parallel gneiss layers (200x50x3 cm each one), radioactivity over 0.35µS/h, we obtain images with **3D character if the height of the objects in the linen cloth does not exceed the 35% of distance d**.

The following tables summarize the results:

TABLE 1. Without earthquakes on linen and cotton cloths with or whitout radioactivity

Imbibition	Sun exposition	Shade	Darkness
	support surface		
	images and cloth		
Dry or	creases images		
Water	No 3D	No	No
imbibition	(Shield-effect	images	images
	and cloth		
	photosensibility)		

TABLE 2. Without earthquakes on linen and cotton cloths with or whitout radioactivity

Imbibition	Sun exposition	Shade	Darkness
Myrrh,			
Aloe,			
Aloe and		No	No
Myrrh		images	images
together			

I obtained images with **3D character**, with the percentage reported in table 3, as a function of the **distance of epicenter** and with a **radioactive parameter** $R \geq 0,35 \mu\text{S/h}$, during earthquakes or two or tree days before seismic shock:

TABLE 3. Images 3D character percentages, on linen and cotton clothes, only with water/aloe/myrrh imbibition, with electric conductor objects, with cloth only on gneiss support and radioactivity intensity $R \geq 0,35 \mu\text{S/h}$

Magnitudo	ED≤20 km.	20≤ED≤50 Km	50≤ED ≤100km
$M \leq 3$	100%	93%	75%
$3 \leq M \leq 4$	100%	100%	80%
$4 \leq M \leq 5$	//	//	100%

ED = Epicenter Distance
 R = Radioactivity Intensity
 M = Earthquake Magnitudo

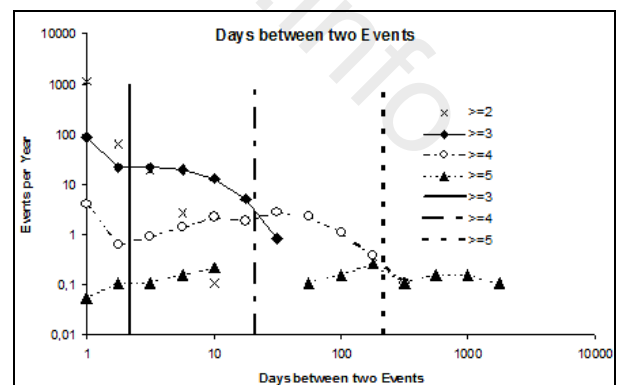
About the relation between the 3D character images and earthquakes, we have to consider how the seismic warning signs in slightly seismic areas are better perceived than in other seismic areas.

We must value the number of Italian seismic events, their magnitudo and distance from the place of the experiments (Torre Pellice). So, I considered the analysis of the physicist **Ulf Winkler** which concerns the period of time from January 01-1984 to December 31-2002.

In total, 22481 events with a magnitude of 2 or more occurred in Italy between 01-01-1984 and 12-31-2002, hence in 19 years. Events with a magnitude of 3 or more occurred 3206 times. Magnitude 4 was exceeded 333 times, and finally magnitude 5 occurred 33 times. The highest magnitude reached during the years under consideration was 5.9, reached on 5July-1984, in Abruzzo. Divided by 19 (the number of years) this yields 1184, 169, 18 and 1.7 events per year with a magnitude of at least 2, 3, 4 and 5 respectively, see table 4.

This equation holds for all magnitudes between 2.3 and at least 4.5.

TABLE 4: Ulf Winkler's table



The horizontal axis of Table 4 shows the day interval between two earthquakes in Italy with a magnitude of at least 2, 3, 4 and 5 respectively. The vertical axis shows

Proceedings of the International Workshop on the Scientific approach to the Acheiropietos Images, ENEA Frascati, Italy, 4-6 May 2010

the average interval which results from the average number of events per year (2, 20 and 217 days for events with magnitude of at least, 3, 4 and 5 respectively).

Events with at least magnitude 2 should occur at a rate of 3 a day (table 4). Torre Pellice lies rather far away from the seismically most active areas of Italy. The two major active zones are about 500 and 900-1050 km away. Still, every year about 10 events with a magnitude of 2 or above take place within 50 km from Torre Pellice.

However, in order to register 10 events per year with a magnitude of 3 or above, events within up to 300 km from Torre Pellice have to be considered.

To register 10 events of magnitude 4 or above, the range has to be extended to 800 km (note that only events occurring within Italian territory are considered here).

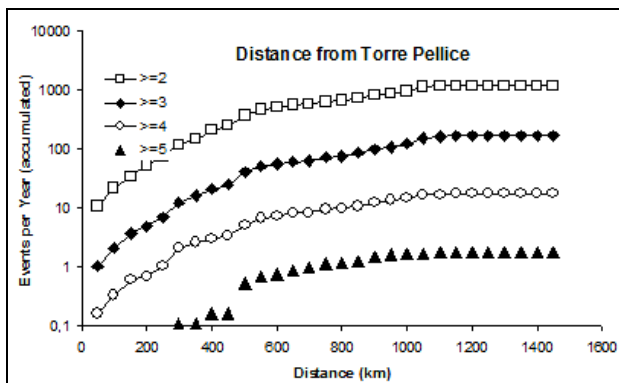
Events of magnitude 5 or above are on average only expected once or twice a year in whole Italy.

It is important for electric seismic discharges to evaluate the distance from the epicenter, so it is prudent to consider **only local earthquakes, not over a distance greater than 150 Km.**

Really, in spite of high values of radioactivity and of magnetic induction variation before earthquakes of magnitude 4-5, far over 300 km, without a temperature ground increase and other local warning signs, I have not obtained images.

The table 5 shows the number of seismic events per year in Italy from 1984 to 2002 within a certain radius from Torre Pellice.

TABLE 5: Ulf Winkler: table from his manuscript sent to me.



So, about image formation during earthquakes, it is important to consider the synergy of numerous parameters.

I don't know why the two parallel gneiss layers are so indispensable to originate images. I can suppose that two parallel gneiss layers behave like a "maser" and that the iron material enhances magnetic variations.

I have often registered **infra-sound with 4-5 Hz of frequency for local earthquakes**, it is also necessary to know how **seismic infra-sounds** can influence image formation.

Two days before the first seismic shock of 10 September 2000, Torre Pellice Magnitudo 3.2, at 09.13 am, I have

observed in a small area of Torre Pellice a sudden sun light decrease, due neither to astronomic phenomena, nor to sudden weather variations. The sun light was almost green, like before a sun eclipse. I registered an emission of infra-sounds, with 5 Hz of frequency.

2e) Reflexion About Similarities and Differences With the Turin Shroud Image

We can resume the following points.

Similarities with the Shroud:

1) the image looks, at first sight (this needs to be checked) an **oxidation of the fibrils** due to a probable electrostatic discharge, because I noticed variations of magnetic and electric field (Figures 2, 3, 8);

2) when the **imbibition is only with water** there is **no image fluorescence** (Figures 8a);

-at a first sight the images seem to have a **3D character** (Figure 1, 3, 8, 8a);

3) **when the imbibition is only with water, luminance values are constant**; in fact, we have some similarities with the Turin Shroud if we use a similar linen cloth, with water imbibition, but not with aloe and myrrh, that give different luminance values.

It is important to know how the 3D character images obtained appear at **infrared light**, with different frequencies, to compare if also these experimental images show a visible emission in the 8-14 micrometers infrared range, like the Turin Shroud. We know that on the Turin Shroud there is no Body Image in a **range of infrared light between 3 and 5 micrometers**. I must verify this for my experimental images.

In figures 8, the cotton cloth was soaked only with water, the gneiss superior layer was not insulated from the inferior one, the cotton cloth was put in an underground place two days before the earthquake of the 10 September 2000, Torre Pellice, magnitudo 3.2 and depth 12 Km. It is possible to notice a clear halo, around the key, on the inferior and interior surface.

The key image on the superior and interior surface shows a slight 3D character, with a feeble inclination, due to the cloth raising by the leaf near the key.



Figure 8 Internal surface (two days before the earthquake of 10-09-2000, Torre Pellice, of magnitudo 3.2 and depth 12 Km), water imbibition

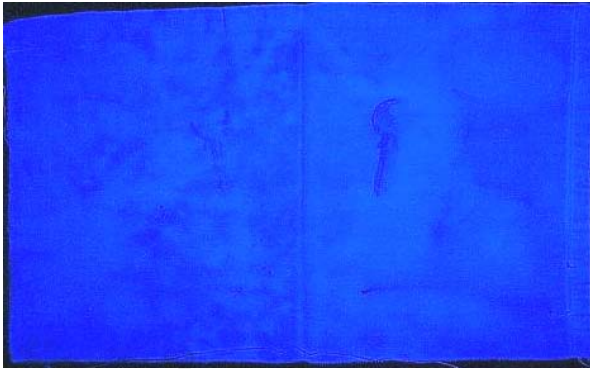


Figure 8a Internal surface, experiment of Fig. 8, UV light; key's image is not fluorescence.

- When the earthquakes have a magnitudo ≤ 2.5 and they are local ($ED \leq 50$ km), we have an image only on the interior surface with more frequency;

Differences from the Shroud:

1) the **mechanic resistance** of the fibrils with grey images, (figure 1) as mentioned in the testing of Prof. Fanti, is not much lower than the ones without images, the other images were not analysed;

2) **with aloe and/or myrrh soaking there are different luminance values;**

3) when gneiss superior layer is not insulated from the inferior one, **the images are dark on the superior face of the cloth, white on the inferior face**, like negative images, maybe because of the shield effect; this occurs if the soaking is made **with aloe and/or myrrh;**

4) sometimes on the same cloth some objects give images only on the interior surface, other objects give images also on the exterior surface;

5) with a microscope (60 \times) under UV light, we can notice that the **darker area is in relation with the fibrils crossing**, while on the Shroud Image the area more oxidated is superficial. (see Figure 9);

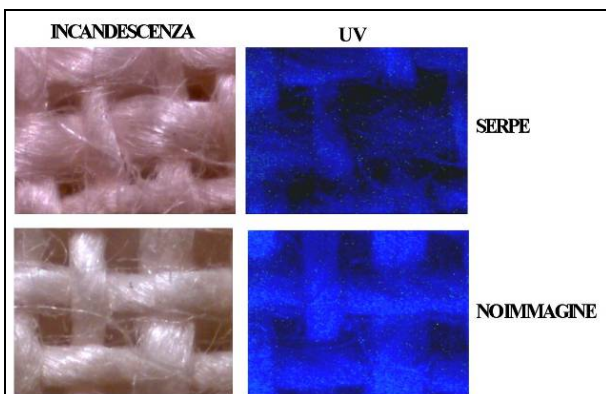


Figure 9 Oxidation kind of fibrills of figure 1.

In order to perform, using strict criteria, an evaluation of the features of the obtained images, weather or not similar to the Shroud, it would be convenient to perform some

further quantitative and qualitative analysis, like for instance the evaluation of the colour intensity with a reflectance spectrometer, of the mechanical resistance with every kind of image, infrared and UV light answer, in order to clarify if the image formation is really due to electrostatic discharge.

CONCLUSION

Some images similar to the Shroud image were obtained only on ferromagnetic rocks, during seismic radon emission, with electrostatic discharges and geomagnetic variations, near iron material, with infra-sound emission. The lack of even one of these parameters does not allow to obtain images.

I am the first researcher that has naturally obtained, during seismic activity, images with 3D character and some similarities with the Turin Shroud. My work is in agreement with Lattarulo's theoretical hypothesis [11] and partially to Cordiglia's [10] and Fanti's [8, 9] hypotheses. About Fanti's hypothesis of "corona discharge" there is a different quantity level about electric discharges, not over 100 V/m for my experiments, but I have luckily observed earthquakes with magnitudo $M \leq 5 R$.

ACKNOWLEDGMENTS

The author wishes to thank for their co-operation:

A. Dadda, Y. Dadda, C. Fidani, N. Balossino, B. Barberis, P. Di Lazzaro, G. Fanti, G. Ghiberti, Y. Kolodny, F. Lattarulo, G. Martinelli, P. Michelin, D. Mongiello, M. Moroni, A. Nicolotti, P. Savarino, A. and M. Vaio, G. Volpe, G.M. Zaccone, U. Winkler, CSI Piemonte, Foto Pellegrin.

REFERENCES

1. AA.VV. "La Sindone, indagini scientifiche", Atti del IV Congresso Nazionale di Studi sulla Sindone, Siracusa 1987, Edizioni Paoline, Cinisello Balsamo (Mi) 1988.
2. AA:VV. "The Shroud of Turin-Unrevealing the Mystery". Proceedings of the 1998 Dallas Symposium Alexander Books, North Carolina, USA, 2002.
3. AA.VV. "Il Gesù storico nelle fonti del I-II secolo"-Atti del X Convegno di Studi Neotestamentari (Foligno 11-13/September/2003 EDB/RBS 2007 pp.77-182.
4. Baima Bollone P. L. "La presenza della mirra, dell'aloè e del sangue sulla Sindone", in "La Sindone, scienza e fede", Atti del II Convegno Nazionale di Sindonologia, Bologna 1981, CLUEB, Bologna 1983, pp. 169-174.
5. De Liso G., "Verifica sperimentale della formazione d'immagini su teli trattati con aloè e mirra in

Proceedings of the International Workshop on the Scientific approach to the Acheiropietos Images, ENEA Frascati, Italy, 4-6 May 2010

- concomitanza di terremoti*”, Sindon, NS, Quad.14, dicembre 2000, pp 125-130.
6. De Liso G., “*Verifica sperimentale della formazione d’immagini su teli trattati con aloe e mirra in concomitanza di sismi*” IV Symposium Scientifique Internationale du CIELT, Parigi, 25-26 April 2002.
 7. Fanti G., Marinelli E., “*La Sindone ritrovata- misteri e certezze*” Progetto Editoriale Mariano, Vigodargere (PD) 2003 p. 128.
 8. Fanti G., “*A proposal for high resolution colorimetric mapping of the Turin Shroud*” in “*Acheiropietos, non fait de main d’homme*”, Actes du III Symposium Scientifique International du CIELT, Nice 1997, Editions du CIELT, Paris, 1998, pp. 39-43.
 9. Fanti G., “*La Sindone una sfida alla scienza moderna*” Aracne Ed. 2008 pp 232-234, p. 250, pp. 276 – 278.
 10. Judica Cordiglia G.B., “*La Sindone immagine elettrostatica?*” in *La Sindone, nuovi studi e ricerche*, Atti del III Congresso Nazionale di Studi sulla Sindone, Trani, 1984, Edizioni Paoline, Cinisello Balsamo (MI) 1986 pp. 313-322.
 11. Lattarulo F. “*L’immagine sindonica spiegata attraverso un processo sismo elettrico*” III Congresso Internazionale di studi sulla Sindone, 5-7 June 1998 CD pp. 334–346.
 12. Rikitake, “*Previsione dei terremoti*” Libreria Dario Flaccovio Editrice 1986.
 13. Boschi E., Dragone M., “*L’ira di Poseidone. Cos’è un terremoto e come difendersi*”, Ed. G. Galilei, 1988.
 14. Volpe P.E., “*Determinazione di radon e radio nelle acque della Valli Pellice e di Susa*”, Rend. Soc.Geol. It, 3 (2006), Nuova Serie, 33.36, 3ff, 4 tabb.

www.acheiropietos.info