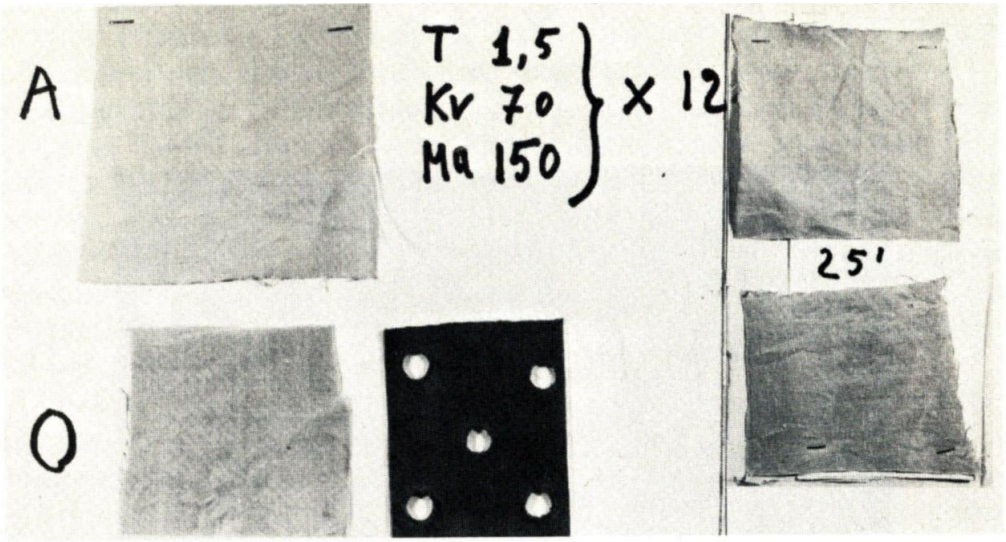

Fig. 1a: X-rays

Fig. 1b: Laser rays

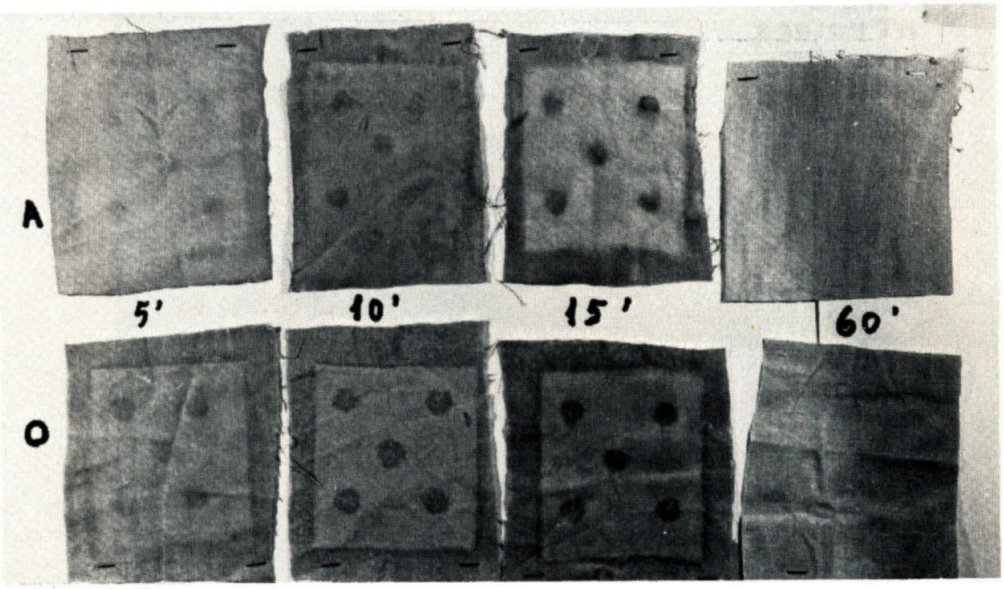

Fig. 2a: Solar rays

Fig. 2b: Dry cloth

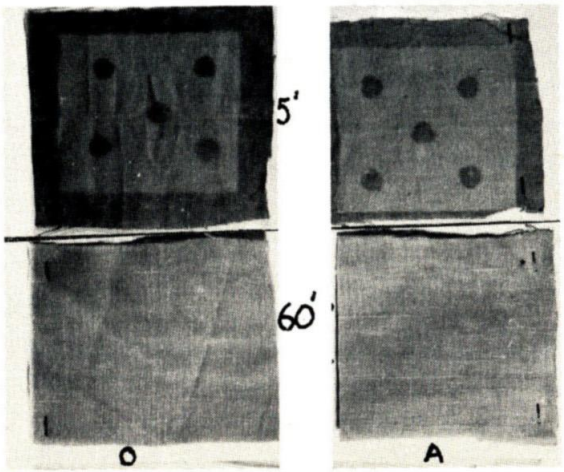

Fig. 2c:
UV rays,
dry cloth

The samples on lines marked "A" were cloths soaked in a water [acqua] solution; on lines marked "O", in an oil solution.

THE IMPRINTS OF THE SHROUD DO NOT DERIVE ONLY FROM RADIATIONS OF VARIOUS WAVE-LENGTHS*

SEBASTIANO RODANTE

Previous experiments have demonstrated the possibility that the somato-hematic imprints on the Shroud could have been formed because the Linen, soaked in a water or an oil solution of aloes and myrrh, covered a body which had sweat blood.[1]

American scientists advanced the hypothesis that the imprints could have been produced by a flash of radiation of a thousandth of a second, released from the body of Christ at the moment of Resurrection. Thus was confirmed the concept that to have recourse to a *supernatural* explanation for something which can be experimentally obtained by *natural* means, ought not to be the objective of the researcher. In case there had been a photoradiant action, this—on the cloth still damp because it had been soaked in a solution of aloes and myrrh—could have operated as a "fixative" on the marks which had already been imprinted naturally.[2]

Developing this idea with equipment which we now have at our disposal (x-rays, laser rays, ultraviolet radiation), I was able to produce some evidence on cloth soaked in water and oil solutions of aloes and myrrh, using a perforated wooden screen (in the case of x-rays, a lead screen was used) which I placed over the cloth to find out what effect the various radiations would have on the cloth.

I report the data deduced from these tests:

1. a) cloths soaked in a water or oil solution of aloes and myrrh are not sensitive to x-rays, in spite of the very high radiation charge directed toward them (time, .15ms, Kv70, Ma150)x 12 (Fig. la)
   b) cloths soaked in the solution and then dried, also are not sensitized by the same amount of x-rays.
   It results that the sindonic imprints are not a consequence of x-rays alone.
2. a) the soaked cloths, after prolonged exposure (25 mini) to laser rays (He-Ne power max. 25 mw, average 20 mw, wave-length 6328 A°) are not sensitized. (Fig. lb)
   b) the same thing happens when the cloths, first soaked and then dried, are subjected to an equal charge of laser rays.
   The same conclusion is evident: the possibility of image formation by this type of radiation is excluded.

*This article, which appeared in *SINDON* 31, Dec. 1982, is translated & published by permission of the Centro Internazionale di Sindonologia.

3. a) cloths soaked in a water or oil solution of aloes and myrrh, exposed to the action of solar rays, after 5 min. take on a superficial color of brown-sepia. The cloths do not become sensitized on the side opposite to the luminous source. This coloration becomes progressively more intense as the time of exposure is increased (15 min.) and they always remain superficial. (Fig. 2a)
   b) the cloths soaked in this solution and then dried, on the contrary are not sensitive to solar rays even after prolonged exposure (60 min.). (Fig. 2b)
   Therefore it results that solar rays have the property to sensitize a cloth soaked in the solution indicated above.
4. a) soaked cloths, exposed to ultraviolet rays (wave-length 2800A° power 500 W), take on superficial coloration of brown-sepia after 5 min. (Fig. 2c)
   b) cloths soaked and then dried, on the contrary, do not take on color when exposed to the same radiation, even at longer exposure (60 min.).
   The conclusion is identical to the preceding, since UV rays are a component of solar rays.

Having shown that imprints with the same characteristics as those of the Shroud can be obtained on cloths soaked in water or oil solutions of aloes and myrrh placed upon a face sprayed with bloody sweat, the above-mentioned experimental demonstrations are a "reality" which can bring up several considerations relative to the superficial brown-sepia coloration, as in the experiments 3 and 4 (a & b).

One fact in particular emerges: the cloths, soaked in a water or oil solution of aloes and myrrh, are not sensitive to x-rays nor to laser rays. Exposed to solar or ultraviolet rays while they are still damp, they do take on a superficial brown-sepia coloration, but only on that side which faces the luminous source.

Such photoradiant reality (even if it is not essential for the formation of the sindonic imprint, which, I repeat again, comes about in the presence of bloody sweat by a chemical reaction between the components of aloes and myrrh and the bloody sweat), if it happened, could have determined on the still-damp cloth a better "fixing" of the image formed by the above-mentioned chemical reaction.

If, at a certain moment, the body wrapped in the Shroud was irradiated with an instantaneous and effulgent flash of light, such as solar light, that could have caused a better "fix" of the imprints already formed upon the Linen in the above-mentioned manner with bloody sweat.

Obviously, it is a non-demonstrable supposition which goes beyond every experimentation, but, in the particular case of Christ, who sweated blood and suffered the crucifixion and the wounds that are encountered on the Shroud, we do not hold it to be impossible. And here is why: there is the record of an event in this Man's life which could have some connection with our supposition. Matthew,

evangelist and apostle, certainly learned of the event from the three disciples who witnessed the scene: and he reports that the Master, taking Peter, James and John apart, went up a high mountain, "And he was transfigured before them and his face shone like the sun and his garments became white as light". (Mt 17:2)

We only want to consider this fact in relation to the superficial brown-sepia coloration (which was already previously produced) on cloths soaked in a water or oil solution of aloes and myrrh, and on the side exposed to light rays similar to solar rays.

In conclusion: a) the experiments with bloody sweat have shown that it is possible to obtain—*naturally*—somato-hematic imprints of brown-sepia with the same characteristics encountered on the sindonic Linen: and b) the evidence presented in this study has brought into consideration the possibility that the Shroud imprints could have been better "fixed" on the cloth in case that it had been exposed to a luminous radiation similar to solar light, which emanated from the body it covered.

In this case, the supernatural intervention, if it occurred, would have worked to re-enforce that which nature itself, "creature of God", had already accomplished.

NOTES

1. RODANTE: "Mixturam myrrae et aloes in soluzione?" *La Sindone e la Scienza*, Acts of II International Congress, Paoline, Turin, 1979. "Migma oleoso ed impronte sindoniche: esclusione di morte apparente". Report given at II National Congress, Bologna, 1981; abstract in *Scienza e Fede* #4, Palermo, 1982.

2. RODANTE: "Ipotesi sulla natura delle impronte sindoniche", L'Uomo della Sindone, *Orizzonte Medico*, Rome, 1978.

1. Plaster head, modeled in the likeness of the Shroud image, sprayed with bloody sweat, with dried blood-clots on forehead and hair, covered with a cloth soaked in a water solution of aloes and myrrh. Contact, 36 hrs. in the Catacomb of Siracuse. 2. Three-dimensional elaboration of previous imprint; made by Prof. Tamburelli, 1979. 3. A cloth soaked in an oil solution of aloes and myrrh, laid over the plaster head sprayed with bloody sweat, fluoresces in UV rays, giving the characteristic bluish color. Photo by Aurelio Ghio.