

Petrus Soons Responds To Garlaschelli

*This excellent response was written October 6, 2009 by **Petrus Soons**, noted Shroud researcher who produced the first three-dimensional holographic images of the Shroud. Petrus presented his dramatic results at the Ohio Shroud Conference in August 2008:*

In the last few days, a story appeared in the mass media that an Italian professor of chemistry at the University of Pavia (Italy), reproduced the image on the Shroud of Turin using materials and methods that were available in the 14th century, concluding that the experiment proves the relic was man-made. Basically, he used a linen cloth in scale 1:1, that was baked at 215 degrees C for 3 hours and then put it in a washing machine with water only. Then they put a person dirtied with RED OCHRE (IRON OXIDE) on the linen and corrected by hand the colored image. A chalk bas relief was used for the face printing, liquid tempera simulated the blood and sulfuric acid at 1.2% in water added with Aluminium and Cobalt modified the linen surface. An artificial aging was the final treatment before the pigment was washed. The final goal was to show that it was possible to create a fake in the 14th century.

Now, there is nothing new to this. In 1979, Walter C. McCrone (1916-2002), an internationally recognized microscopist and the director of the famous McCrone Associates Research Laboratory in Chicago, reported that the Shroud image was due to the application of RED OCHRE, also known as Venetian red (an earth color) a red artist's pigment, which is a red IRON OXIDE, so probably Prof Garlaschelli took over this idea from Walter C. McCrone.

This theory was already disproved by the scientific STURP team (and others in the years after that) that conducted the investigations in 1978 on the Shroud of Turin.

Their conclusions were:

- 1) Adler reported that the " straw yellow color" of the body image fibers does not match the color of any of the known forms of ferric iron oxides.
- 2) Moreover, Adler reports that there is no correspondence of the body-only images to the concentration of iron oxide since the spectral characteristics of the body-only image are different from those of iron oxide.
- 3) The colors of the fibers, due to iron oxide, is also precluded by the fact that oxidation or reduction converts the yellow fibers of the body-only image to a white color.
- 4) Only rare particles of iron oxide are noted on the body-only image fibrils.
- 5) Large amounts of iron bound to the cellulose of the Shroud (not iron oxide) and Calcium were both present throughout the Shroud. This is believed to be due to the ability of linen to bind iron and water by ion association during the retting process (manufacturing process by which linen is immersed in water during fermentation). AN ESTIMATED 90 PERCENT of the iron and calcium exist in this form bound to the cellulose of the linen, AND ONLY A SMALL AMOUNT IS PRESENT AS IRON OXIDE.
- 6) X-ray studies of the body-only image do not contain enough iron oxide to show up on the X-radiographs.
- 7) All of the iron of the Shroud, whether from iron oxide particles or from blood, proved to be 99 percent chemically pure, with no discernable MANGANESE, NICKEL, or COBALT.

The earth pigment, RED OCHRE (Venetian red), from either medieval or older sources that were being used, was contaminated with manganese, nickel or cobalt GREATER THAN 1 PERCENT!!!

The STURP team employed microprobe Raman spectroscopy, mass spectroscopy, optical and infrared spectroscopy, micro FTIR spectroscopy, pyrolysis mass spectroscopy, X-ray and a variety of microchemical tests on the fibrils, and came to the conclusion that there was NO ochre or other pigments, dyes or stains on the fibrils of the Shroud.

Prof Garlaschelli told Repubblica he didn't think his research would convince those who have faith in the Shroud's authenticity. " They won't give up," he said. Those who believe in it will continue to believe."

Well, the reason why serious scientists do not believe Prof Garlaschelli's work has been explained.

Prof Garlaschelli explains the absence of any traces of iron oxide on the original Shroud by stating that the pigment on the original Shroud faded away naturally over the centuries. This is not a statement that you would expect from a serious scientist. The spectroscopic investigations being done in 1978 would even show the slightest traces of iron oxide present on the Shroud and it is a little bit "unscientific" to state that they disappeared "naturally."

He also mentions the fact that his image shows 3D qualities. Well that is a field that I am very familiar with having produced with a team of experts the first holograms of the Shroud image. The uniqueness of the Shroud-image is that hidden in the gray-scale (image density) is distance information, meaning that the image on the Shroud varies inversely with the cloth-to-body distance. When converting the grayscale from 2D to 3D, the result is an anatomically correct image of a human being, contrary to the result that you will obtain using any other image (photograph, painting etc.), including the one of Prof. Garlaschelli, that always will show distortions, like the nose pressed into the face and protruding cheeks etc. etc., which means that this unique distance info is not present.

Another little detail is the fact that on the original Shroud there is no image under the bloodstains, proving the fact that there were two image formation processes. Direct contact for the blood proper and another image formation process for the image itself. Prof Garlaschelli added the "blood" (liquid tempera) later on top of the image that he had created. Under Ultra Violet fluorescence photography (not known of course in the 14th century), the blood on the Shroud shows a serum separation, visible as a lighter ring around a darker center, which is typical of post mortem wound exudate. This is not visible with the naked eye. The proposed artist from the 14th century could of course not have known this fact, so he could not create it either.

Petrus Soons M.D.
Volcan
Panama
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