

Science by Press Release?

An Editorial Response by Barrie Schwartz

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I was away from my office and in Los Angeles yesterday when the story broke in the media that an Italian professor had "reproduced" the Shroud using techniques that were available in the 14th century. Although I didn't have my computer with me, my mobile phone rang again and again with friends calling to read me the story, so I heard the news almost immediately.

Upon my return late last night, my mailbox was flooded with e-mail, my answering machine was nearly full of messages and more than 20,000 people had visited the website since Tuesday morning. I finally was able to read the story myself at around 1:00 am.

Normally, I don't respond to this type of story, since the media rarely publishes the rebuttals anyway and the stories usually disappear by themselves after only a few days. In the end, giving it any attention at all usually only helps the author of the article and garners even more publicity for him because someone is publicly disagreeing with him. However, since so many viewers have written me, I decided to write this brief response in which I am expressing my own personal opinions on this topic. That is why I titled it an "Editorial" Response.

Frankly, knowing that the Shroud will go on public display again in around 6 months, I am not very surprised to see this type of story coming out, along with its resulting media coverage. This seems to happen every time the Shroud is about to go on public display. Yet whenever a serious scientific article about the Shroud is published in a peer reviewed journal, there is barely a ripple in the popular media. And now, once again, someone claims to have "reproduced" the Shroud, "proving" it is a medieval forgery. They made their claims via nothing more than a press release and got instant global media coverage. However, that is NOT the way science actually operates.

The author who made these claims states that he will make the details available "next week." In the real world of science, a researcher must perform his experiments, compile his data, draw his conclusions, write a formal paper and submit it to a scientific journal for peer review. The work is then examined by other experts, usually of the same discipline, before it is accepted for publication (or rejected). The data must provide a sound basis for the claims and be there from the beginning. Not "next week." And certainly not made public via a press release!

Sadly, in reviewing the article, it is apparent immediately that the author knows very little about the actual Shroud of Turin. He is not the first to suggest that the Shroud image was produced by red ochre pigment (iron oxide). In fact, he is at least the fourth to have proposed this theory in the last 30 years. Of course, this issue was anticipated by the STURP team in 1978 and a number of highly sensitive tests were performed that determined there was not enough iron oxide on the Shroud to be visible without a microscope. Iron oxide does not constitute the image on the Shroud. They also determined the image areas of the Shroud contain no more iron oxide than the non-image areas. It is more or less evenly distributed across the entire cloth.

Obviously, if the image were made in the manner detailed in the article, we would still find thousands of particles of iron oxide embedded into the image fibers of the linen and these would be clearly visible with just a good magnifying glass. Yet the microscopy done directly on the Shroud in 1978 revealed no such thing. These particles just don't go away on their own. STURP's

instruments could detect parts per billion (a very small amount) of any substance on the Shroud and ALL known paints and pigments (including iron oxide) were excluded by the data. Interestingly, iron oxide is also a by-product of retting linen and the minute quantities found on the Shroud were pure and most likely the result of the retting process. The iron oxide used in red ochre pigment has many impurities and is rarely if ever found in its pure form.

I have stated on more than one occasion that making images on linen is relatively easy. However, making images on linen with the same chemical and physical properties as the Shroud is another story. Considering the massive amount of scientific data that now exists about the Shroud of Turin, anyone making claims such as these must submit their work for careful scrutiny and comparative analysis before drawing such dramatic conclusions. That has not been done in this case. Anyone making such claims must create an image with ALL the same chemical and physical properties as the Shroud, not just a few, if they wish to be taken seriously.

It has been demonstrated scientifically that the bloodstains on the Shroud came from direct contact with a body and are all forensically accurate. It has also been shown that the bloodstains were on the Shroud BEFORE the image was formed since the blood and serum acted to inhibit the image formation mechanism. There is NO image under the blood and serum stains on the Shroud.

However, to make this new "reproduction," the "blood" was added (using a different pigment) AFTER the image was created. Obviously, it is much easier to add the blood to the image than to first create the blood stains and then create the forensically accurate image around them, which is exactly what a medieval forger would have had to do to duplicate the actual physical properties of the Shroud!

Many of the bloodstains on the Shroud show a surrounding halo of serum stains that are ONLY visible with UV fluorescence photography. Also, the blood has been chemically analyzed and determined to include components of actual blood, NOT pigment.

A proper, detailed scientific response to this press release is now being drafted by the online **Shroud Science Group** and I hope to publish an in-depth article by true Shroud experts addressing these claims in the near future.

However, I would be remiss if I did not mention that the press release also stated the researcher "received funding for his work by an Italian association of atheists and agnostics but said it had no effect on his results." This is an interesting statement from someone representing a segment of the skeptical community that has frequently charged the STURP scientists with religious bias, implying that their data was somehow flawed because some of them happened to be Christians! Until such time that the data is made available so it can be properly examined and compared to the known data about the Shroud, I will not take these claims very seriously. And neither should you.