

The Shroud in the News for Christmas 2011

An Editorial Response by Barrie Schwartz

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I always hold my breath a little when I see anything about the Shroud in the news, since the usual media reports on the subject are rarely favorable. As regular readers know, I have often stated publicly that no one should give much credence to media stories about the Shroud, as they rarely get it right, no matter which side of the authenticity issue they fall on. So, on December 14, 2011, when my mailbox filled with hundreds of e-mails telling me about some “breaking Shroud news” and asking my opinion, I was frankly expecting the worst. Imagine my surprise as I clicked on one of the links and found a headline stating, “The Shroud is Not a Fake.”

Within hours, the web traffic at shroud.com shot up like a rocket, peaking on December 22, 2011, with visitors totaling more than 1100% greater than the normal December daily average. I have long ago come to terms with the fact that most mentions of the Shroud in the popular press are usually negative, and they often show up around Easter time (or on those rare occasions when the Shroud goes on public display). In the sixteen years we have been online, there has never been any noticeable increase in web traffic at shroud.com over the Christmas holidays, so this was highly unusual. I was actually feeling pretty pleased and remember thinking this was like a Christmas present for all my Christian brothers and sisters!

However, as I started checking all the links and reading the press stories I had been sent, I realized immediately that the “new” scientific information being touted in these articles was actually from research originally presented at the “[International Workshop on the Scientific Approach to the Acheiropoietos Images](#)” sponsored by ENEA Research Center, Frascati, Italy, in May 2010! Could it actually have taken more than a year and a half for this information to become “news?” Links to every paper presented had been readily available online since 2010 and a printed Proceedings of the event had been published and distributed worldwide. Still, I thought “better late than never” certainly applies in this case and I was still feeling pretty positive.

But what exactly did the scientific papers mentioned in the news articles actually say? Here is a quote from [Vatican Insider](#), one of the first outlets to publish the story on December 14th that reports the basic facts quite correctly:

ENEA, the National Agency for New Technologies, Energy and Sustainable Economic Development, has published a report on five years of experiments conducted in the ENEA center of Frascati on the “shroud-like coloring of linen fabrics by far ultraviolet radiation.” “Simply put: we tried to understand how the Shroud of Turin was imprinted by an image so special that it

constitutes its charm, and poses a great and very radical challenge, "to identify the physical and chemical processes capable of generating a color similar to that of the image on the Shroud."

Fair enough, and very clearly stated. The researchers attempted to find a means of coloring the surface of linen fibers using 21st century technology, in an effort to better understand the actual image properties on the Shroud itself. To that end, they used pulsed xenon excimer lasers, frequently used in human medical applications, and were able to ablate the surface of linen fibers to create on their test samples, coloration similar to the color of the Shroud image. However, they also admitted that there were no excimer lasers 700 or 2000 years ago. They did NOT say this was how the Shroud's image was formed. Here is another quote from the above article that states this clearly:

The double image (front and back) of a scourged and crucified man, barely visible on the linen cloth of the Shroud of Turin has many physical and chemical characteristics that are so particular that the staining which is identical in all its facets, would be impossible to obtain today in a laboratory, as discussed in numerous articles listed in the references. **This inability to repeat (and therefore falsify) the image on the Shroud makes it impossible to formulate a reliable hypothesis on how the impression was made.**

So the original story was completely clear and accurate as to what the researchers had actually said.

Several days passed and more articles appeared as other media outlets picked up the story. It was then that the headlines of the successive news articles started to catch my eye. Here are just a few:

- "New research from ENEA on the sacred Linen kept in Turin" - Vatican Insider
- "No scientific explanation for Shroud of Turin, scientists conclude" - Catholic World News Headlines
- "Turin Shroud 'was created by flash of supernatural light': It couldn't be a medieval forgery, say scientists" - Daily Mail UK
- "Turin Shroud really could be Christ's burial robe, say scientists" - Daily Telegraph - UK
- "Scientists say Turin Shroud image created by ultraviolet lasers" - Yahoo News
- "Turin Shroud Required Electromagnetic Energy" - The Mark - Canada
- "Was Holy Shroud created in a flash? Italian researchers resurrect claim" MSNBC
- "Italian study claims Turin Shroud is Christ's authentic burial robe" - Telegraph - UK
- "Scientists Determine The Shroud of Turin is Not a Fake" - Blogcritics.org

Notice anything unusual here? Each headline was basically reporting the same story! Are you beginning to see the pattern? It seems that each successive article took the story to a new level of inaccuracy and hyperbole. It would appear that no one took the time to even read the original ENEA report (perhaps because it was originally released in Italian). The story ultimately spun completely out of control and of course, the Shroud blogs went wild.

I check the [Shroud of Turin Blog](#) by Dan Porter at least once every day to see what new information might be available. I am also a member of the online Shroud Science Group (SSG) whose members make regular contributions to the blog and I am always interested to see what my colleagues are thinking. And one of the SSG members is Paolo Di Lazzaro, a good friend and one of the primary authors of the ENEA report. On January 15th I noticed that Dan posted an article about the ENEA report in which he quoted from an e-mail from Ray Rogers (deceased STURP chemist). Rogers had done extensive research on various image formation mechanisms and had concluded that energetic radiation by itself could not create an image with the Shroud's properties. Dan drew a conclusion based on the ENEA report and made a comment that seemed inaccurate. Dan said:

*BTW: In this email, Rogers stated, "Energetic radiation absolutely cannot be used to explain the properties of the image." That, at least, the ENEA team **proved** was wrong.*

I understood Dan's point of view and only disagreed with ONE WORD of his post, and that was his use of the word "proved." Ray Rogers long ago had chastised me for "recklessly" using the word "prove" on this website. He explained that claiming something was "proved" required a very high standard of evidence and instilled in me the discipline to be very careful in using that word. However, because I was busy working on the 16th anniversary update to this website, I did not have time to write a lengthy response and decided to simply send a short note to Dan personally with my disagreement of his use of that one word in that particular context and sent him the following e-mail:

I totally disagree. All the ENEA team did was color the surface of a fiber. They did not create any image that could be compared with the Shroud. So their research only shows that they can discolor a surface fiber with their laser. It does not show that they can create an image with the Shroud's (image) properties using this method. They proved very little.

Of course, Dan posted my comments the next morning and shortly thereafter, all hell broke loose! It seems that Antonio Lombatti, well known Italian atheist and Shroud skeptic, saw the posting and immediately reprinted it on his own blog, incorrectly attributing Dan's statement and my response to it as both coming from me. He made it sound like I totally disagreed with the ENEA report, which is absolutely incorrect. I guess that's what I get for speaking in haste (and especially about the Shroud)!

I immediately received another batch of e-mails, mostly from Italy, and most asking why I was agreeing with Lombatti regarding the ENEA report! I then heard from my friend Paolo Di Lazzaro, primary author of the report, that my out-of-context statement on Lombatti's blog was causing some real problems for him in Italy. Fortunately, a few days later he was interviewed by Tom Chivers of The Telegraph and was able to put the ENEA report into proper perspective. I am including a link here so you can read it for yourself: [The Shroud of Turin: Forgery or Divine? A Scientist Writes](#). And because of this furor, I felt compelled to write a more detailed response, which I am including in this editorial.

First, let me clarify the short statement I made to Dan Porter that got me into trouble. Although the ENEA team successfully colored a linen fiber, which is very important in our understanding of the Shroud image, their experiments did not create any images which could be directly compared with the image on the Shroud, except perhaps microscopically. Remember, I am a photographer and comparing images is what I do best! We also have to remember that the Shroud has some very unique image properties when studied on a more global scale. I am referring specifically to the fact that the Shroud's image density or darkness is directly proportionate to the distance between the cloth and body at the time the image was formed. In other words, the greater the distance is between cloth and body, the fainter the resulting image. STURP determined that the image formation mechanism worked at a distance of up to about 4 centimeters. It is that property which encoded spatial or topographical information into the Shroud image and yields the well documented three-dimensional results and the natural relief of a human form we see when the image is processed accordingly.

So this extremely important image property could not be compared to the ENEA results. And that is why I told Dan that the ENEA report did not really PROVE that Rogers was wrong. It was just another piece of the puzzle. Remember, excimer lasers are a very recent invention and the authors of the research clearly pointed that out. So I was simply disagreeing on Dan's use of the word "proved" and NOT disagreeing with the ENEA report when I said they proved very little. That is why I underlined the word in the first place. The ENEA conclusions are very clearly stated and they make no dramatic claims. They definitely demonstrated one mechanism for creating a discoloration on linen very similar in color to the image on the Shroud. Their research comprises another piece of the complex puzzle that is the Shroud of Turin and I am sure that much can be learned from it.

For example: Several years before Rogers's death, he had heard the theory proposed that some form of radiation might have created the image on the Shroud. To test this, he performed a series of experiments in which he applied different types of energetic radiation to linen fibers. Remember, he was a chemist at Los Alamos National Laboratory and had considerable experience with energetic radiation (not to mention access to these materials). In his tests, he observed that every type of radiation he used left some tell-tale damage to the linen fibers, particularly to the outer layer known as the primary cell wall. Because of these observations, he believed radiation was excluded as a possible image formation mechanism. Rogers eventually summarized his observations in an article titled, [The Shroud of Turin: Radiation Effects, Aging & Image Formation](#).

This is very important since both Rogers and Alan Adler (deceased STURP blood chemist), had carefully studied the image fibers in the tape samples taken from the Shroud by Rogers in 1978. They observed that when Shroud image fibers embedded in the tape gum were removed, the image color stripped off the fiber and remained behind in the gum itself, leaving a clean and *intact* fiber. Adler promptly dubbed the image color that remained in the tape gum, "ghosts." Most importantly, the remaining linen fiber was *undamaged* with no visible effect on the primary cell wall. All of Rogers' tests with energetic radiation had caused observable damage to the primary cell wall of the fiber, very similar to the results ENEA achieved with their laser.

Rogers was convinced by this observation (and a separate microchemical analysis) that there was a surface contaminant, a pentose sugar, on the Shroud in which the image color resided and identified it as *saponaria officinalis*. He believed it was a residue deposited on the top surface of the fibers by evaporation after the cloth was rinsed in saponaria during its manufacture. He eventually developed a naturally occurring image formation theory based on these observations that he proposed in an article titled, [The Shroud of Turin: An Amino-Carbonyl Reaction \(Maillard Reaction\) May Explain The Image Formation.](#)

As I mentioned earlier, the ENEA excimer laser results were evaluated microscopically and compared with the known chemistry and physics of the Shroud image. There were similarities and there were differences. However, before any definitive conclusions can be drawn, the ENEA results will have to be reconciled with the Adler and Rogers observations. It is hard to accept that Rogers had mistaken the primary cell wall itself for a surface contaminant, as some have suggested. I believe he clearly knew the difference. In a recent e-mail Paolo stated:

“In the ENEA report we have detailed the scientific reasons why it is so difficult and unlikely to achieve a thin coloration depth by lasers, more and more when a submicrometer coloration depth is achieved.”

So the ENEA research does have true importance in helping to develop a viable image formation theory that takes into account all of the known properties of the image. Every possibility has to be thoroughly examined, evaluated and eventually, either accepted or rejected. As usual, in addition to adding something to our knowledge, the ENEA report has also generated some new questions. Welcome to the world of Shroud science!

Paolo summed it up perfectly (and humorously) in his most recent e-mail to me,

“Our results are more evidence that it is not easy to replicate the body image and skeptics will have to believe in a miracle to sustain it was done by a forger in the middle ages!”

As you can see, the facts are rather complex (and maybe even a little boring) and definitely not nearly as “exciting” as the headlines we all were reading around Christmas time. But they clearly demonstrate that credible scientific research into the enigmatic image on the Shroud of Turin continues. And I still feel it was a great Christmas present too!

Finally, (and I know I am starting to sound a lot like the proverbial “broken record” here), I have to remind you one more time that relying solely on the popular media or commercial books or television programs or blogs or even websites for accurate information about the Shroud of Turin can be risky. Choose your sources carefully.

Barrie Schwartz