

# **Answering the Savoy/Leonardo DaVinci Hypothesis**

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## **Introduction**

With all of the attention from books such as *The Turin Shroud: In Whose Image?*, *The DaVinci Code*, and others, a hypothesis has been put forward to explain how the images on the Shroud of Turin are actually fakes that were produced by Leonardo DaVinci for the Savoy family, who owned the Shroud from the 1460's onward. The alleged mechanism for image generation was supposedly a medieval photographic process developed and perfected by Leonardo DaVinci, and it is thus alleged that the Shroud of Turin of today is a fake created during the period 1492–1506. Another possible alternative to this hypothesis is that the Shroud was produced by an unknown medieval artist using the same technique at some point prior to the year 1355.

It will be demonstrated that this hypothesis and its alternative are not reasonable explanations for the images on the Shroud of Turin and therefore should be dismissed.

This hypothesis is not new, having surfaced in 1996, but it seems that such claims are perennially being made in many places, particularly throughout the internet. These issues have been partially answered in a variety of other documents like the general comments made in articles such as <http://www.shroud.com/scavone.htm>, but the objective here is to gather all of the relevant information in one place in order to comprehensively answer this issue in summary form, and then provide links so that an interested reader can obtain more details as desired.

I am not a sindonologist, but have had a long interest in the Shroud of Turin. This paper comes largely from a book I am currently writing as well as several informal electronic debates which I conducted on this topic with a series of other individuals on the web site [www.templarhistory.com](http://www.templarhistory.com).

## **Scientific Background**

Critics have long claimed that the Shroud of Turin was some type of medieval artistic creation – a painting, a rubbing, a scorching from a hot statue, or a block print. But over time these claims have been debunked as the Shroud has been more intensively studied from 1978 to the present.

In regard to the painting hypothesis, one of the original members of the Shroud investigatory team claimed that the Shroud is a medieval painting based on his discovery of pigments on some parts of the surface. This was Dr. Walter McCrone who continued to claim that the Shroud was a painting done sometime in the early 1300s until his death in 2002. During the research efforts of 1978, he had been given several pieces of sticky tape which had been placed on the Shroud and then removed in order to analyze the surface material. However, what he failed to note was that one or more medieval artists had apparently used the Shroud as a template in order to make painted copies of it, and in

the course of doing this, the copies were laid on top of the Shroud and some of the pigment from the painted copies was transferred to the surface of the cloth. However, it has been shown conclusively that the actual image on the Shroud was not produced by paint or pigment. Dr. McCrone also claimed that he did not find any blood on the Shroud, but later extensive testing has revealed that the Shroud indeed contains blood. Furthermore, the blood was apparently on the Shroud prior to the image – areas containing blood stains have no underlying image and therefore the blood seemed to prevent an image from being formed in those areas.

Much publicity has been generated by the assertions of McCrone (1980), a former STURP consultant, that the image is a painting, judging from the microscopic identification of traces of iron oxide and a protein (i.e., possible pigment and binder) in image areas. The STURP analysis of the Shroud's surface yielded much particulate matter of possible artists' pigments such as alizarin, charcoal, and ultramarine, as well as iron, calcium, strontium (possibly from the soaking process for early linen), tiny bits of wire, insect remains, wax droplets, a thread of lady's panty hose, etc. (Wilson 1981). However, this matter was distributed randomly or inconsistently over the cloth and had no relationship to the image, which was found to be substanceless, according to the combined results of photomicroscopy, X-radiography, electron microscopy, chemical analyses, and mass spectrometry. McCrone's claims have been convincingly refuted in several STURP technical reports (Pellicori and Evans 1980:42; Pellicori 1980:1918; Heller and Adler 1981:91-94; Schwalbe and Rogers 1982:11-24). The results of previous work by the Italian commission also run totally counter to those claims (Filogamo and Zina 1976:35-37; Brandone and Borroni 1978:205-14; Frei 1982:5). Undaunted, McCrone...continues to stake his reputation on the interpretation of the Shroud image as a painting.

<http://www.shroud.com/meacham2.htm>

Following are characteristics of the Shroud that make it virtually impossible for any of the aforementioned methods to be used to create the image shown on it:

- The Shroud is linen, and raw unprepared linen repels water and is difficult to paint.
- The “lines” making up the image are approximate 1/100 the width of a human hair, making it virtually impossible for the Shroud to be a painting or a rubbing, especially one created by a medieval artist.
- There are no pigments and no brushstrokes on the image. A three dimensional block print or a rubbing would also distort the image as well as producing smears.
- There is no artistic “style” to the image; it is “photographic” in nature rather than “artistic.” The image lacks the sharp outline and color of a painting, as it is a fairly uniform sepia-yellow in color.
- The image is actually a negative, and must be photographically inverted to see the positive image. Concepts of negative images were certainly known in the past;

for example, the mold that is used to cast a statue is a “negative image.” But it is unlikely that any true negative image was seen until the invention of photography. In fact, this aspect of the Shroud was not noticed until the Shroud was first photographed in 1898.

- There are no silver or silver-related compounds on the Shroud such as would be present in an actual photograph.
- The man’s head and knees are slightly bent, and therefore the image has foreshortening in it. The concept of foreshortening was first discovered and used by the Renaissance painters some time after the Shroud was first shown.
- The image has three dimensional qualities, as the strength of the image is proportional to the distance from the associated body part. For example, the nose area is shown very strongly, but the eyes less so. The three-dimensional aspect of the image also explains why it cannot be a block print. Complex carved wood block printing had been done for some time, but only on a flat sheet of paper or canvas.

Regarding the accuracy of the image, consider the following quote:

Scientific scrutiny of the Shroud image began in 1900 at the Sorbonne. Under the direction of Yves Delage, professor of comparative anatomy, a study was undertaken of the physiology and pathology of the apparent body imprint and of the possible manner of its formation. The image was found to be anatomically flawless down to minor details: the characteristic features of rigor mortis, wounds, and blood flows provided conclusive evidence to the anatomists that the image was formed by direct or indirect contact with a corpse... On this point all medical opinion since the time of Delage has been unanimous.

Of greatest interest and importance are the wounds. As with the general anatomy of the image, the wounds, blood flows, and the stains themselves appear to forensic pathologists flawless and unfakeable. "Each of the different wounds acted in a characteristic fashion. Each bled in a manner which corresponded to the nature of the injury. The blood followed gravity in every instance" (Bucklin 1961:5). The bloodstains are perfect, bordered pictures of blood clots, with a concentration of red corpuscles around the edge of the clot and a tiny area of serum inside. Also discernible are a number of facial wounds, listed by Willis (cited in Wilson 1978:23) as swelling of both eyebrows, torn right eyelid, large swelling below right eye, swollen nose, bruise on right cheek, swelling in left cheek and left side of chin.

The body is peppered with marks of a severe flogging estimated at between 60 and 120 lashes of a whip with two or three studs at the thong end. Each contusion is about 3.7 cm long, and these are found on both sides of the body from the shoulders to the calves, with only the arms spared. Superimposed on the marks of flogging on the right shoulder and left scapular region are two broad excoriated areas, generally considered to have resulted from friction or pressure from a flat

surface, as from carrying the crossbar or writhing on the cross. There are also contusions on both knees and cuts on the left kneecap, as from repeated falls.

The wounds of the crucifixion itself are seen in the blood flows from the wrists and feet. One of the most interesting features of the Shroud is that the nail wounds are in the wrists, not in the palm as traditionally depicted in art. Experimenting with cadavers and amputated arms, Barbet (1953:102-20) demonstrated that nailing at the point indicated on the Shroud image, the so-called space of Destot between the bones of the wrist, allowed the body weight to be supported, whereas the palm would tear away from the nail under a fraction of the body weight. Sava (1957:440) holds that the wristbones and tendons would be severely damaged by nailing and that the Shroud figure was nailed through the wrist end of the forearm, but most medical opinion concurs in siting the nailing at the wrist. Barbet also observed that the median nerve was invariably injured by the nail, causing the thumb to retract into the palm. Neither thumb is visible on the Shroud, their position in the palm presumably being retained by rigor mortis.

Between the fifth and sixth ribs on the right side is an oval puncture about 4.4 X 1.1 cm. Blood has flowed down from this wound and also onto the lower back, indicating a second outflow when the body was moved to a horizontal position. All authorities agree that this wound was inflicted after death, judging from the small quantity of blood issued, the separation of clot and serum, the lack of swelling, and the deeper color and more viscous consistency of the blood. Stains of a body fluid are intermingled with the blood, and numerous theories have been offered as to its origin: pericardial fluid (Judica, Barbet), fluid from the pleural sac (Moedder), or serous fluid from settled blood in the pleural cavity (Saval, Bucklin).

So convincing was the realism of these wounds and their association with the biblical accounts that Delage, an agnostic, declared them "a bundle of imposing probabilities" and concluded that the Shroud figure was indeed Christ. His assistant, Vignon (1937), declared the Shroud's identification to be "as sure as a photograph or set of fingerprints."

<http://www.shroud.com/meacham2.htm>

Following are links to several related articles discussing various image formation theories:

<http://www.shroud.com/pdfs/ford1.pdf>

<http://www.shroud.com/piczek.htm>

<http://www.shroud.com/piczek2.htm>

<http://www.shroud.com/piczek3.htm>

<http://www.shroud.com/bar.htm#shanks>

<http://www.shroud.com/meacham2.htm>

Given the failure of other techniques as realistic explanations for the Shroud of Turin, the best possible method advanced to date for the production of a fake Shroud seems to be photography, especially given the fact that the images are actually negatives. In 1993, Dr. Nicholas Allen, professor of art at a university in South Africa, proposed a method of creating an image via a photographic process using technology and chemistry that was

possibly available in medieval times. This method employed a photographic technique written about by Leonardo DaVinci called the *camera obscura*. Dr. Allen actually produced images similar to the Shroud of Turin in 1995 by hanging a sculpture of Christ in a room (i.e., in a *camera obscura*) that projected an image onto a piece of cloth soaked in silver sulphate. After the image had been properly exposed and the cloth washed with an ammonia solution to remove all of the silver compounds, an image was produced that is similar to the one on the Shroud of Turin. Dr. Allen's methods and results are documented in the link below:

<http://www.petech.ac.za/shroud/nature.htm>

## **Historical Background**

In order to understand this hypothesis, a short review of a portion of Shroud history is in order:

1. The Shroud was first made public by Geoffrey de Charny and his family in 1355, and put on display in their church in Lirey, France, in the period of 1355–1357. Many pilgrims came and paid to see it so that it became a source of revenue for both the de Charnys and the church. How the Shroud came into the possession of the de Charny family is an interesting topic, but will not be considered here as it is not relevant to this discussion.
2. In 1389 Bishop Pierre D'Arcis of Troyes wrote to Pope Clement VII, claiming that the Shroud was a painting and therefore a fake relic, and in his memorandum he referred to the Archbishop Henri de Poitiers, who had supposedly come to the same conclusion some "thirty-four years or thereabouts" previously (i.e., in 1355) and had supposedly conducted an inquest into the Shroud at that time.

D'Arcis' testimony is somewhat suspect because the priests of the Lirey church had apparently not gotten his approval, and he may have wanted the revenue coming to his cathedral in Troyes instead of Lirey (Troyes is located approximately 20 miles from Lirey). It is also known that the roof of the Troyes Cathedral collapsed within days of the time that D'Arcis' memorandum was written in late 1389, destroying many of the relics kept there, and D'Arcis may therefore have been seeking to recoup and raise funds by forcing the de Charnys to bring the Shroud to his cathedral, or by paying him a portion of the proceeds to keep him quiet. Furthermore, a letter dated May 28, 1356 exists from Archbishop Henri de Poitiers to Geoffroy de Charny, the original owner of the Shroud. The letter praises de Charny, and makes no mention of the Shroud or any concerns about its being displayed, and D'Arcis' reference to an inquest by Henri de Poitiers in the same general time period is therefore cast into doubt.

Alternatively, D'Arcis may have honestly believed the Shroud to be a painting and therefore a fake, although it is unclear whether or not he had personally examined it – the implication in his memorandum to the Pope is that he had not seen it. D'Arcis also intimated that he knew the identity of the artist, but the name was never revealed.

3. A series of correspondences then ensued between the Pope, the canons of Lirey, and the de Charnys. The final result was a papal order to D'Arcis requiring him to refrain from any further attacks, and another to the de Charnys and the Lirey canons allowing them to display the Shroud but with the stipulation that it could not be claimed as the true Shroud of Christ. Another papal order in 1390 granted indulgences to those who visited the Lirey church and its relics.
4. The Shroud then came into the possession of Margaret de Charny who allowed it to be publicly viewed on a number of occasions during the period of 1400–1453.
5. Leonardo DaVinci was born in 1452.
6. In 1453 Margaret de Charny received the castle of Varambon and revenues of the estate of Miribel near Lyon for “valuable services” from Duke Louis I of Savoy. Those services are thought to have been the bequest of the Shroud. Meanwhile the Lirey canons were attempting to get the Shroud returned to them.
7. In 1464 Duke Louis I of Savoy agreed to pay the Lirey canons an annual rent, to be drawn from the revenues of the castle of Gaillard, near Geneva, as compensation for their loss of the Shroud revenues. This agreement was drawn up in Paris and is the first known document indicating that the Shroud had become the property of the Savoys. The agreement specifically notes that the Shroud had been given to the church of Lirey by Geoffrey de Charny, lord of Savoisy and Lirey, and that it had then been transferred to Duke Louis by Margaret de Charny. Around twenty years later a history of the Savoy family recorded that Louis' acquisition of the Shroud was his greatest achievement. Later generations of the Savoys periodically displayed the Shroud, built churches to house it, and often took the Shroud with them when they traveled (in other words, they considered it to be extremely valuable).

See the following for more historical details:

<http://www.shroud.com/history.htm>

<http://www.shroud.com/bar.htm#scavone>

## **Elements of the Hypothesis**

Following are the elements of the Savoy/Leonardo DaVinci hypothesis:

- The image on the Shroud of Turin is a fake, but it admittedly could not have been created through the methods described above due to the afore-stated problems with those methods; therefore the image must have been produced through some other mechanism. The most reasonable possibility that could have been available to a medieval artist is Dr. Allen's photographic approach outlined above.
- The criticisms raised by D'Arcis, et al, were valid and the Shroud of Lirey was actually a painting (i.e., it was a different shroud than today's Shroud of Turin).

- The Shroud purchased by the Savoys was actually the Shroud of Lirey – the supposedly painted version. Leonardo was one year old when Margaret de Charny was paid for the Shroud in 1453, and twelve when the agreement with the Lirey canons was made in 1464. Therefore, he could not have produced the Lirey Shroud, which -- as described above -- was first displayed in 1355.
- At some point after the purchase, the Savoys became aware that the Shroud of Lirey they had bought was a painting and therefore a fake. So to salvage their reputation they contracted with Leonardo DaVinci to create a more realistic fake relic which they displayed from that time on, and which becomes the Shroud of Turin that we have today.
- Leonardo DaVinci, the eccentric inventor, artist, and anti-catholic Renaissance man who developed and wrote about a number of arcane technologies was the ideal person to have created a fake relic that would deceive and confound the best scientific minds of our day.

## **Response to the Hypothesis**

While this hypothesis may be theoretically possible, it is not reasonable or believable for the following reasons:

### **Historical Problems**

1. Pierre D'Arcis was the only known individual of his time to seriously claim that the Shroud of Lirey was a painting. But as indicated above, his motives were suspect, and it is not at all clear that he had even examined the Shroud himself. Pope Clement VII ordered that the Shroud could not be claimed as the true Shroud of Christ, but it is doubtful that he had personally examined the Shroud, so the order may very well have been a political compromise between the Bishop of Troyes and the de Charny family as well as the Lirey church officials.
2. Even if D'Arcis' claim was honest, there are many who have claimed that the Shroud was a painting, especially in recent years, until the research teams of 1978 and following have demonstrated that the image on the Shroud could not have been painted, and have debunked such claims.
3. The Savoy family supposedly became aware of and were convinced that the Shroud of Lirey was a fake after spending significant sums to acquire it. Why would they then spend even more money on Leonardo DaVinci to produce yet another fake that could perhaps have been even worse? In other words, what assurance would they have that another fake would actually be more convincing than the original?
4. Many people had seen the Shroud of Lirey through the years from 1355 through 1500, and if the Shroud of Lirey were truly a painting it undoubtedly would have looked very different from the current Shroud of Turin. If the Savoys had

disposed of the Shroud of Lirey in favor of one from Leonardo, they would have then run the risk of having it seen and questioned by those who had seen the Shroud of Lirey. It would be better from a political and continuity standpoint to just continue displaying the Shroud of Lirey even if it were known by the family to be a fake, or suspected to be.

5. Much of the substantial body of artwork that has been created through the centuries shows Christ being pierced through the hands, as indicated in the Gospels. However, in the Shroud image, the wrists are pierced and as stated above, that piercing through the hands would not have held a body on the cross, and the hands would have torn free. The artist creating the photograph would have had to know this.

### **Technical Problems**

1. The production of a photographic image via a *camera obscura* would require an unknown number of crucified cadavers, as they rot fairly quickly (refrigeration was not invented until the 1800s), and it must certainly have taken a number of attempts to get an image in focus with the correct exposure and with the lifelike accuracy of the image on the Shroud of Turin. It is uncertain where such cadavers could have been obtained. An alternative is that a super-accurate sculpture of a crucified Christ was carved and used for this, which included all of the whip marks, contusions, and lacerations as described above. See the following articles for more information on the characteristics of the body depicted on the Shroud:  
<http://www.shroud.com/bucklin.htm>  
<http://www.shroud.com/bucklin2.htm>
2. Although Leonardo described a *camera obscura* in his notes, there is no mention of it being used as a photographic device. Rather, it was used as an aid for visualizing scenes in order to paint them. Furthermore, there is no hint of him using or experimenting with any type of photographic process involving light-sensitive silver compounds; the invention of photography and film took place over three hundred years later. Dr. Allen has produced some evidence that the properties of silvering were known in medieval times, but there is no record of anyone employing them to produce a photograph until the 1800s. Just because the raw materials for these advanced technologies existed, does not mean that someone actually developed and employed them, particularly before human knowledge had advanced enough to make this type of work truly possible.

Leonardo would therefore have had to invent the concept of photography, use the correct silver compounds (Dr. Allen points out that only silver sulphate will really work), build and use a darkroom for preparing the cloth (the linen must be soaked in a solution of diluted silver sulphate and then air-dried in a light-proof environment prior to being exposed), and understand that the image could only be retained and set by washing the cloth with an ammonia solution. The last step of washing the Shroud to remove the silver sulphate is critical because there are no silver-related compounds on the Shroud of Turin. In other words, this work

- would have required several new inventions and developments in chemistry to be made before an image could have been produced successfully, and an unknown amount of trial and error. All of this done was supposedly done with the technology available around 1500 that produced the highly accurate image that is present on the Shroud of Turin.
3. Since there are no records of this type of artwork ever being produced, Leonardo would have had to destroy any notes he kept on this process, smash the sculpture of Christ, and never sell, use or claim this technology except to produce this one work of art. Leonardo died in 1519, so he certainly would have had the opportunity from 1500 through the end of his life to employ this technology for other works of art if he were the one who had truly pioneered it.
  4. The 1988 radiocarbon dating process used on the Shroud dated it to the years 1260 through 1390. These results have now been discredited by the recent discovery published in January 2005, showing that the samples used for the dating process included rewoven threads from medieval times, so the cloth is presumably much older. But even given a date of 1350, Leonardo would have had to obtain a series of large (fourteen feet long by four feet wide), one-hundred-and-fifty-year-old pieces of linen for testing and producing an image on cloth. For more information on radiocarbon dating of the Shroud, see the articles, <http://www.shroud.com/nature.htm>  
<http://dx.doi.org/10.1016/j.tca.2004.09.029>  
<http://www.shroud.com/pdfs/cotton.pdf>  
<http://www.shroud.com/meacham.htm>  
<http://www.shroud.com/pdfs/marben.pdf>  
<http://www.shroud.com/pdfs/histsupt.pdf>  
<http://www.shroud.com/pdfs/textevid.pdf>  
<http://www.shroud.com/pdfs/brown1.pdf>  
<http://www.shroud.com/adler2.htm>  
<http://www.shroud.com/wilson.htm>
  5. Leonardo would have had to apply Middle Eastern pollen and plant material that has been detected on the Shroud - <http://www.shroud.com/pdfs/daninx.pdf> and <http://www.shroud.com/danin2.htm>
  6. It is claimed that Leonardo used his own face on the Shroud, but he was not Semitic, as is the case of the Shroud figure. He also would have had to apply his own or someone else's blood on the cloth.
  7. Given the fact that this image would have been produced by photographic means, would it still be visible, as is the current Shroud of Turin, over 500 years later?

Dr. Allen himself criticizes the Savoy/Leonardo DaVinci hypothesis in the following article: <http://www.petech.ac.za/shroud/Leonard.htm>

### **Image Problems and Photographic Incompatibilities with the Shroud of Turin**

Photography works on the basis of reflected light; a camera takes in light that is reflected from the subject being photographed, focuses it through a lens and then applies it to the film inside the camera. It is the contrast between the brighter and the darker shadowed areas on the subject that makes a photographic image visible. However, the “light source” for the image on the Shroud of Turin seems to be internal, coming from the body that the Shroud covered, rather from an external source. In other words, the image seems to be created by internally generated light and/or a chemical reaction rather than externally reflected light, as indicated by the following:

1. The directionality of light in a photograph is critical as it will create directional shadows, as is the case with the Shroud images created by Dr. Allen. However, the Shroud of Turin does not contain any such shadows. In order to create a purely frontal photographic image with minimal directional shadows, the artist would have had to have understood this potential image formation problem, and operated the *camera obscura* at only certain times of the year when the sun was low on the horizon and shone continuously on the image in a completely frontal manner.
2. There are also problems with areas such as the feet becoming overexposed in a photograph, which is not a characteristic of the Shroud. In addition, there is the fact that the Shroud image contains darkened areas both above and below the hands, which would seem to be very hard if not impossible to photographically generate. Yet another problem is that there is no image in the blood-stained areas of the Shroud, and it is unclear how this aspect could have been photographically produced.
3. The Shroud of Turin has three dimensional aspects in the image, because the strength of the image is related to the distance of the body from the surface of the cloth. In other words, areas such as the nose and hands of body which were presumably touching the cloth are more strongly exposed than other areas, and the image becomes proportionately lighter as the distance from the associated body part to the cloth increases. This three dimensional aspect of the Shroud has been modeled by an image analyzer, and cannot be accurately duplicated via photography, because -- as indicated above -- a photograph shows light reflected from the surface of a body rather than energy and/or chemical reactions created from within a body and applied to the cloth. See the following articles for more information: <http://www.shroud.com/pdfs/aldo1.pdf>  
<http://www.shroud.com/pdfs/aldo2.pdf>
4. The photographic process produces an image with strong “edges” as in a typical photograph if the lens is in focus. The Shroud image does not have any such sharp edges, and seems to “melt away” as the image is approached.

5. Dr. Allen has indicated that a photographic version of the Shroud would have involved the composite of at least three different exposures, with a different lens used for the head and face. How Leonardo or any other medieval/renaissance artist could have achieved these composite images and combined them on one piece of cloth with the technology available circa 1500 or earlier is completely unclear. Different sections of the cloth would have had to be soaked in silver sulphate solution, and the image produced in the correct place on the cloth

A comprehensive critique of Dr. Allen's work is found in the following article:  
<http://www.shroud.com/pdfs/orvieto.pdf>

### **Response to the Alternative Hypothesis**

Another version of this hypothesis is the one proposed by Dr. Allen himself. He hypothesizes that today's Shroud of Turin is the same one as displayed by Geoffrey de Charny in Lirey in 1355, but that it was a medieval photograph produced by an unknown artist at some point prior to 1355. This hypothesis is also theoretically possible, but likewise, it is not reasonable or believable. All of the technical and image formation problems stated above would apply to this hypothesis; in addition, the following problems arise:

1. If the medieval artist used a sculpture of Christ as the model for the photograph, he must have been or must have employed an exceptional sculptor, because the image on the Shroud of Turin is very lifelike and accurate as indicated above. If this was not the case, he would have had to obtain a number of crucified and tortured cadavers for this purpose, with the afore-mentioned problems of rotting.
2. Even assuming that all of the necessary optical, photographic and chemical inventions could have been made and perfected by this unknown artist, what motive would he have had to perform this elaborate effort? Who would compensate the artist for this work which must have taken years to create and perfect? If the artist wished to make a secret forgery, clearly a painting of the body of Christ would have been much easier, and would have required no inventions or quantum technological leaps.
3. It already has been stated that there are no records of this type of artwork having been done, nor have any other known similar pieces of art been created. In the case of an unknown artist, this would be even less likely than someone like Leonardo DaVinci. Such an artist surely would have needed a sponsor to pay for the elaborate research and effort that this would have required, and would have had even more incentive to publicize his work and financially capitalize on it, making such a hypothesis even more tenuous.

**Conclusion:** My conclusion, given the comprehensive and seemingly overwhelming evidence stated above, is that the Shroud of Turin is not a medieval photograph and was not produced by Leonardo DaVinci. Furthermore, the debunking of photography as a possible method of producing a fake image raises serious questions of whether any artistic method can account for the Shroud image.

In the words of the Shroud researcher John Walsh, “The Shroud of Turin is either the most awesome and instructive relic of Jesus Christ in existence... or it is one of the most ingenious, most unbelievably clever products of the human mind and hand on record.”

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