

Dating the manufacture of the Shroud of Turin: An exercise in basic iconography

Nicholas P.L. Allen

Abstract:

This paper refutes the recent spate of attempts to invalidate the 1988 carbon dating results which indicated with a 95% certainty, that the Shroud of Lirey-Chambéry-Turin was manufactured from flax plants that grew sometime between 1260 and 1390. An attempt will be made to show how the iconography employed in the image of a tortured and crucified man as found on the Shroud of Turin corroborate the carbon dating results quite precisely, thereby confirming that this artefact is mediaeval and not a product of the first century CE.

Introduction

If I wanted to present just one tangible piece of evidence of humankind's remarkable ability to transcend the ordinary and to accomplish the most extraordinary technological feats I would point to the Shroud of Turin, a four and a half metre length of linen which contains the full length, negative image of both the front and the back of a crucified man (cf. Fig 1a and 1b) Ironically, if I wanted tangible evidence of the inability of seemingly intelligent people to see the obvious, I would have to point to the same phenomenon. In fact, it would appear that many still want desperately for this artefact to be some form of material proof of their personal religious conviction. Indeed, according to this very powerful lobby, the image on the Shroud of Turin is the very evidence of the physical resurrection of the crucified Jesus Christ, recording as it does the moment when their saviour's body came back to life.¹

The Radiocarbon Dating of 1988

In 1898 the first negative photographs were taken of this extraordinary artefact, which (at the time), inexplicably produced an anatomically accurate, three-dimensional positive image which revealed a wealth of visual detail which cannot be detected by viewing the Shroud at first hand (cf. Fig 2). As a direct result of this photographic *force majeure*, an

abundance of theories were postulated concerning the manufacture as well as the estimated age of this chimerical image. Since none of the many speculative theories proffered up until the late 1980s even came close to adequately explaining the causes of image formation on the Shroud, most supporters of this artefact's claim to being the burial cloth of Jesus Christ felt perfectly confident in believing the image to be of divine authorship and (by implication) to be some two thousand years old.

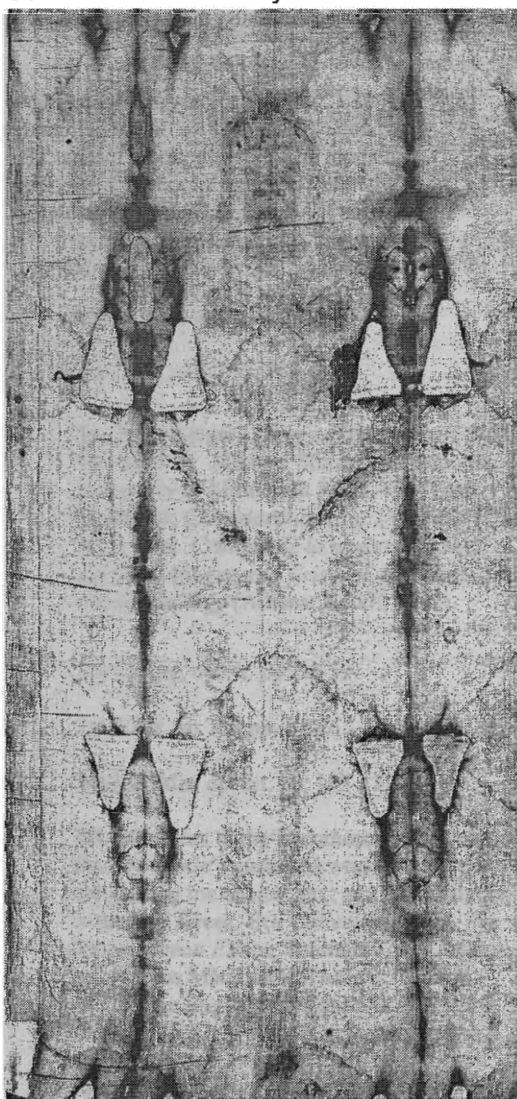


Figure 1a

However, by 1988, after nearly a century of largely pointless debate and speculation, three highly reputable institutions, namely: the University of Arizona in Tucson, the Oxford Research Laboratory and the Swiss Federal Institute of Technology in Zürich, with the aid of the then latest radiocarbon dating techniques, supported the interpretation that the linen material was produced in late medieval times, *i.e.* c. 1260-1390.²

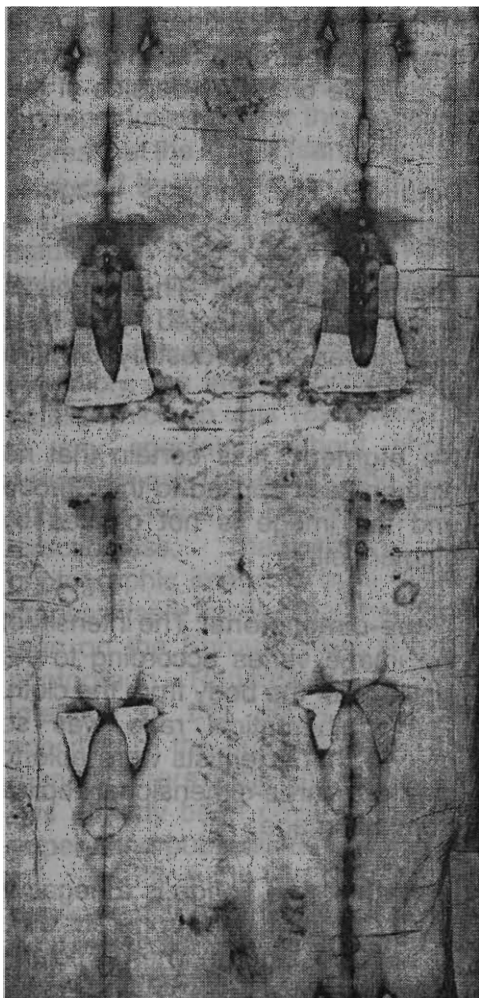


Figure 1b

Understandably, the pro-authenticity lobbyists (shroudies) have not been pleased by this finding and as was expected were far from reticent in their vociferous attacks against the unfortunate scientists involved in the radiocarbon dating exercise. A number of claims were made variously by many contributors, the most technical to date probably being from Remi Van Haelst,³ who

attempted to show mathematical inaccuracies with the calculations made by the three institutions in question. Other claims made, concerning factors that may have affected the dating included such things as the possible existence of bioplasmic material on the Shroud fibres (*e.g.* Leoncio A. Garza-Valdes) as well as the fact that a fire nearly destroyed the Shroud in 1532. However, even if any of these various claims had any merit, no one can yet prove (even with the most circumstantial of evidence) that the Shroud is in fact two thousand years old. Indeed, citing Garza-Valdes' case as an example, the best that can be stated is that the dating could be out by a few centuries.⁴ In short, even if the dating was out by as much as say a millennium, this is clearly too late for the historical Jeshua bar Josef to have left his imprint upon it, regardless of the method employed.

The iconography of the Shroud of Turin

Now, regardless of these unsubstantiated claims, it is possible to corroborate the 1988 carbon dating results by examining the iconography employed in the image found on the Shroud of Turin.

The Shroud depicts a highly naturalistic, three-dimensional (albeit negative) image of a naked man who has apparently been tortured and crucified. If the 1988 carbon dating is correct then this image was produced at a time when Christian art (although tending towards naturalism and humanism in certain centres such as Florence and Rome), was more normally characterized by the fairly rigid stylistic conventions as found in much Italo-Byzantine (c. 1235-1285 CE) and Byzantine (c. 550 -1285 CE) images of Christ). Similarly, the authority of orthodox ecclesiastical teaching in the late thirteenth and early fourteenth centuries would have ensured that Christ be depicted with the marks of the nails in his hands and with the marks of a crown of thorns. However, the Shroud not only shows Christ uncharacteristically naked, but with the marks of the nails in his wrists and with the marks of a 'helmet' of thorns.

In addition to these uncharacteristic,

possibly heretical depictions of Christ, the image of the man in the Shroud displays a degree of anatomical/medical knowledge that simply was not available to a medieval scholar let alone a medieval forger of relics.

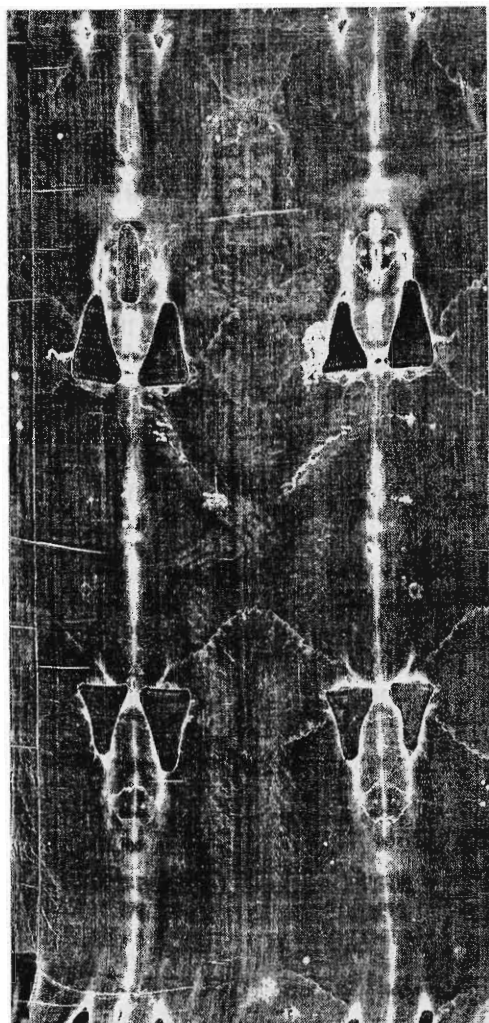


Figure 2

It should also be realized that the image of the Shroud of Turin appears to be two-fold in nature; there is the naturalistic image of the man's body (both dorsal and frontal views) which contain no overt stylistic features and there are the marks of the stigmata, which do contain stylistic attributes. To clarify this issue one should examine the image characteristics (sans the stigmata), all of which are devoid of stylistic consequence.

The Image Characteristics

The following list of criteria is loosely based on the format proffered by Stevenson

and Habermas in 1981.⁵

- **Directionless:** The process that formed the image operated in a non-directional fashion. It was not generated according to any directional pattern as it would have been if applied by hand.
- **Superficiality:** The image is essentially the discolouration of the uppermost fibres of the linen threads of the Shroud's fabric. The image has not 'penetrated' the threads nor is it visible on the underside of the Shroud.
- **Detailed:** The Shroud's image is highly detailed.
- **Thermally stable:** The Shroud's image was not affected by the heat when it was almost destroyed by fire in 1532.
- **No pigment:** It is certain that no pigment was applied to the Shroud and the image is not caused by pigment either.
- **Three-dimensional:** The intensity of the image varies according to the distance of the body from the cloth. The mathematical ratio was so precise that scientists were able to create a three-dimensional replica from the image.
- **Negative:** The image is a negative which is as visually coherent as a positive photograph when its polarity is reversed.
- **Chemically stable:** The yellow colouration composing the Shroud image cannot be dissolved, bleached, or changed by standard chemical agents.
- **Water stable:** The Shroud was doused with water to extinguish the fire in 1532. Although this has caused a water stain, the image

itself does not appear to be affected.

Slight top-lit quality: The Shroud's image, when viewed in its positive aspect, reveals that the subject was more illuminated from above than below. In short, shadowed areas are to be found beneath the beard, fingers, stomach etc. Highlighted areas are more intense on the forehead, bridge of the nose, cheeks, top of the moustache, chest, fingers, knees and feet.

The first characteristic (*ut supra*) is the most important for this debate, since it proves that the image (*sans stigmata*) is not produced by the actions of human agency. In short, the image (*sans stigmata*) was not made by a brush or other artistic device which was manipulated by direct human interaction. It also is not formed from pigment, dye, stain or powder. Furthermore, incredibly, the image contains naturalistic details which up until 1898 were not visible to any spectator without photographic enhancement. Coupled to the fact that the only way that it is possible to produce a directionless, naturalistic, negative photographic image is by a photographic process itself, implies that the image of the man on the Shroud (*sans stigmata*) is a photograph. Regardless, it is not the intention of this paper to go into the specifics of the process employed by the manufacturers of the Shroud images as that has already been covered in many other papers and publications by the author.⁶

Suffice it to say here, that an exact duplicate of the Shroud has been produced employing chemicals and apparatus known to have existed by 1350 CE (*cf.* Fig 3), which strongly supports the notion that the Shroud of Turin is the oldest extant example of a photographic technology. However, this fact in itself does not give us a date for the production of the Shroud, since the chemicals and apparatus needed for such a forgery were available collectively well before the eleventh century in Europe and possibly even earlier in the Orient.



Figure 3

The Stigmata

Nevertheless, apart from Christ's image, the depictions of his stigmata, as seen on the Shroud of Turin tell a very different story. Readers should make themselves familiar with the details of the various images of the stigmata from the frontal and dorsal image. These are ostensibly flows of blood from different areas of the body, head, hand, torso, feet etc and are each supposedly caused as a result of different types of wounds caused respectively by nails, javelin points and thorns (*cf.* Fig 4,5,6,7,8 and 9). You will observe that each 'blood flow' (regardless of the wound it issues from), has four distinct features:

- the blood flows are always distinctive as separate flows;
- there is always clear directionality;
- there is no smudging as one would have expected had a real bleeding corpse been wrapped up in a cloth; and
- they all have an acute angle at least once in any one flow direction.

If these are supposed to be natural blood flows issuing from a freshly deceased corpse, then clearly, something very strange was going on at the time. Indeed the blood often defies gravity as well as the contour of the body it is supposed to be running upon. Of course, there is a simple explanation for this phenomenon, viz.: the blood flows were applied with an instrument such as a brush (which had a uniform thickness) upon a flat piece of material by human agency. In short, they are clearly applied by hand, showing distinct and common stylistic traits.

Humanistic Iconography

The Shroud seems at first glance to refer directly to the Sacrament of the Holy Eucharist and can therefore be shown to date from a time when the Christian faith had become more focussed on the personality of Christ. This particular christocentric development in the nature of Christian worship steadily supplanted the older hagiocentric forms of expression found before the twelfth century.



Figure 4



Figure 5

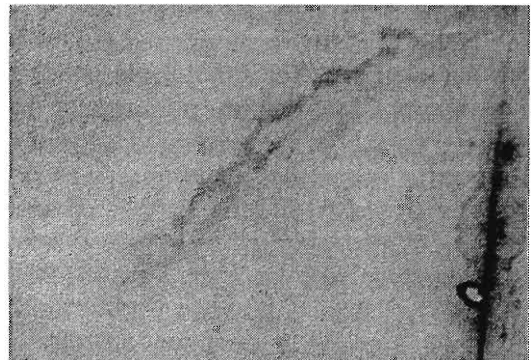


Figure 6

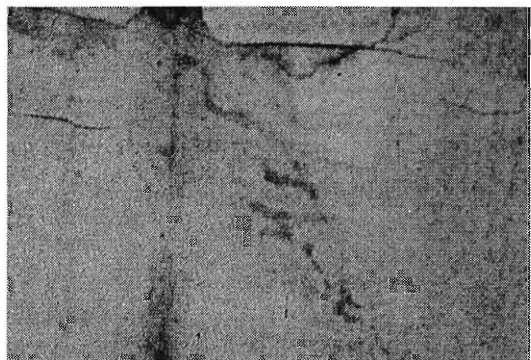


Figure 7

This of course does not in any way imply that the role of saints was seriously undermined, merely that Christ steadily became the more focal point in Christian faith. This increasingly humanistic approach to the Christian faith may be further attested to by the fact that in 1264, Urban IV granted to the Catholic Church the new feast of the Blessed Sacrament (*Corpus Christi*). Cabrol explains that this feast rapidly increased in importance as the piety of the later Middle Ages found in it an opportunity for an imposing manifestation of faith in the Real

Presence of Christ in the Blessed Sacrament'.⁷

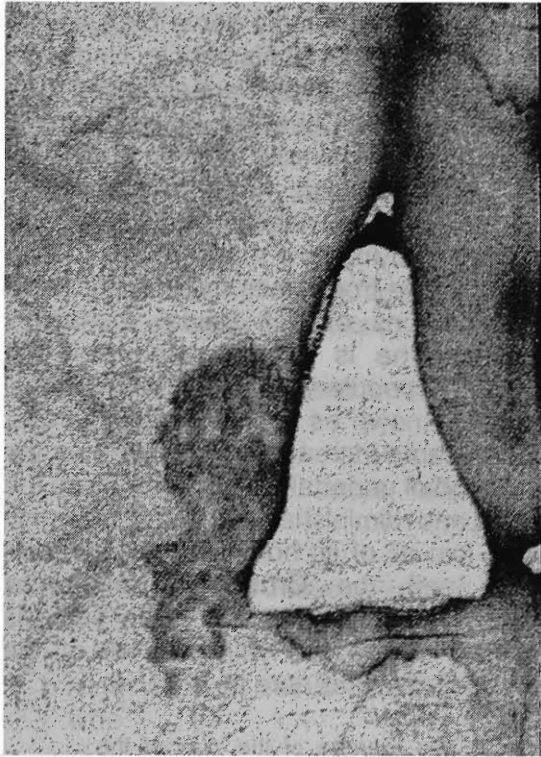


Figure 8

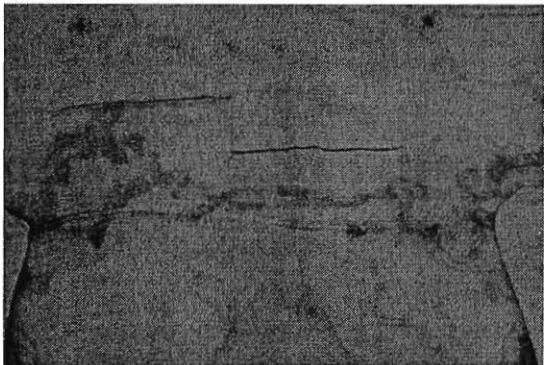


Figure 9

Indeed, by the thirteenth century, the transubstantiated bread and wine of the Eucharist were believed by the faithful to be far more important than other relics of saints (regardless of their actual manufacture, authenticity or pedigree).

Now if viewed from an art historical perspective alone, it is possible to see conspicuous similarities between the manner in which Christ's passion is depicted in western art after the first quarter of the thirteenth century and the depiction of Christ's wounds (stigmata) as found on the

Shroud and specific iconography in the image itself (albeit without stylistic characteristics).

In fact, before the thirteenth century, Christ is normally depicted in a very symbolical way and only gradually assumes the more humanistic characteristics we normally associate with Christ's passion, death and resurrection as this particular century unfolds. The older, more symbolical (two-dimensional) Byzantine portrayals of Christ as Judge (which were normally to be found high in the domes of churches and seemingly out of reach to mere mortals), were slowly supplanted by more naturalistic (three-dimensional) representations of Christ as a man who lived and existed in the world of men.

This is most evident in the development of Italian painting between c. 1235-1335 and if we briefly compare the works of such artists as Bonaventura Berlinghieri (active 1235), Cimabue (active 1285), Duccio (active 1311), Giotto di Bondone (active 1320) and Simone Martini (active 1340), we may observe this process quite clearly.

For example, one will notice the increasing emphasis in the depiction of the crucifixion of such features as the blood flowing from the wound in the side, the blood flowing from the stigmata and the blood flowing from the crown of thorns and bloodied knees. In particular, there is a specific interest shown in depicting blood as it flows along the forearms, starting at the nail wound site and ending at the elbow. This latter feature seems to be largely absent from images before c. 1200CE.

Likewise, the image of the man in the Shroud contains specific features which are synonymous with the kinds of humanistic iconography employed by the Roman Catholic world of the late 13th and early 14th century. In addition, it is very obvious that this iconography often takes precedence over the more traditional aspects of Christ's Passion which are supported (to a greater or lesser degree) by the biblical account of the trial, crucifixion and resurrection of Christ.

It should perhaps be mentioned at this point that we must not confuse two quite

separate issues, namely: the actual style of painting as found in many examples of thirteenth and fourteenth century art (produced variously during the Italo-Byzantine, International Gothic and Proto-Renaissance periods) and the iconography employed in these works.

In this regard, we may safely state, that on the one hand there is a definite parallel between the kind of iconography employed in the Shroud and certain paintings (especially from the Italo-Byzantine period onward), between the years c. 1225-1350. On the other hand, many of these paintings, are also becoming more and more naturalistic in terms of their painting style. For example artists are increasingly looking at nature for guidance. Figures in paintings increasingly take on volume, walk on the ground and display emotion. In opposition to this, the Shroud is, as it were, styleless, because of its means of production which is clearly dependant on photography. In this sense alone, the 'naturalism' of the Shroud would make it impossible to place definitively anywhere in the history of art. However, the clear, painted, iconographical details (*i.e.* stigmata) present on the Shroud, do position it very firmly in a time period after c. 1200 CE, when Christ's human suffering is particularly stressed — an emphasis which is evident not only in the paintings of this period but also in the details of 14th century mystery plays and poetry.

The Way of the Cross

It is no accident that the development of such christocentric organizations as the Franciscans, the Clarisses and even the Knight's Templar, occurred at this period in history, all of which modelled their spiritual life on Christ's human existence. Even medieval Christian kings very often modelled their lives on the life and activities of Jesus Christ as a person.

For example, one may recognize this phenomenon in the saintly attitudes of persons such as King Louis IX of France (died 1270), a most pious man, who actively persecuted heretics and the enemies of Christendom during his long reign. In

Joinville's famous biography of this virtuous king's life, Louis is characterized as a saintly crusader king, one who has no other ambition but to humbly serve God and to ensure the welfare of his people. Under his guidance, his ministers were expected to be the paragon of Christian justice. Louis is represented by Joinville as even ending his life on the correct note, attempting to convert the infidel whilst on crusade in Tunis (1270) and dying as a martyr for his ideals.

Aside from these more fashionable interpretations of this feudal monarch's attributes, he is largely responsible for helping to popularize the Catholic spiritual exercise known as the Way of the Cross. This became increasingly prevalent as the likelihood of undertaking a pilgrimage to the Holy Land diminished after the Christian world lost all of its holdings in the Islamic world and the Crusading spirit was irredeemably lost. This moment in history is normally associated with the fall of the crusader castle at Acre in 1291.

The exercise of the Way of the Cross consists in meditating piously on the fourteen principal scenes of the Passion of our Lord, from his condemnation to death to his burial. Nothing helps better to inspire us with horror of sin, love of heavenly things and zeal for Christian perfection than the thoughts of our Lord's sufferings and death, so the Sovereign Pontiffs have attached to this exercise all the indulgences, both plenary and partial, which are granted to those who have the privilege of following the original Way of the Cross at Jerusalem. In fact the Way of the Cross is a miniature pilgrimage to the Holy land, a substitute for the actual visiting of the Holy Places, introduced in early times, though the present form of the devotion is relatively modern.⁸

It should be noted by non-Catholics, that being traditional, not all of the fourteen events that are meditated upon are mentioned in the New Testament. I have listed them in order of devotion as follows, viz:

— First Station: Jesus is condemned to

death

- Second Station: Jesus receives his cross
- Third Station: Jesus falls the first time under his cross
- Fourth Station: Jesus meets his afflicted Mother
- Fifth Station: Simon of Cyrene helps Jesus to carry his cross
- Sixth Station: Veronica wipes the face of Jesus
- Seventh Station: Jesus falls the second time
- Eighth Station: Jesus speaks to the women of Jerusalem
- Ninth Station: Jesus falls the third time
- Tenth Station: Jesus is stripped of his garments
- Eleventh Station: Jesus is nailed to the cross
- Twelfth Station: Jesus dies on the cross
- Thirteenth Station: Jesus is taken down from the cross
- Fourteenth Station: Jesus is laid in the sepulchre

It can surely be no coincidence that nearly all of the stations of the Way of the Cross, (except the 4th, 5th and 8th) are either blatantly represented or explicitly implied in the image of Christ as found on the Shroud, viz:

First Station: Jesus is condemned to death:

On the Shroud, the crowning with thorns, and the results of various assaults to Christ's face are indicated. These obviously refer to the Roman soldier's mocking of

Christ. Christ also bears the marks of his scourging which (according to normal orthodox interpretation), was only authorized by Pontius Pilate, because he wished to spare Christ's life. However, according to this interpretation, the crowd wanted Christ to be crucified and were not appeased by Pilate's actions. Pilate was thus, compelled to condemn Christ to death.

Second Station: Jesus receives his cross:

There appear to be abrasions of the skin on both shoulders in the Shroud's dorsal image. This could understandably be viewed as evidence of a heavy object, such as the cross, rubbing on Christ's shoulders.

Third, Seventh and Ninth Stations: Jesus falls three times:

These events are normally indicated by bloodied knees in late thirteenth century Italian painting. The Shroud conforms to this imagery by displaying what physicians have identified as excoriations to the patellae.

Sixth Station: St Veronica wipes the face of Jesus:

On the Shroud, Christ's face has no blood on it apart from the blood clot in the shape of an inverted number 3. Interestingly enough the cloth that St Veronica (*cf.* Fig 10) employs *i.e.* the so-called Veronica (another linen cloth, dating back to the 7th century, which also bears an *acheropita* (*acheiropoietos*) type image of Christ's head), may very well have been an inspiration for the Shroud image (*cf.* Fig 11), and Ian Wilson's comments on this aspect are worth noting.⁹



Figure 10

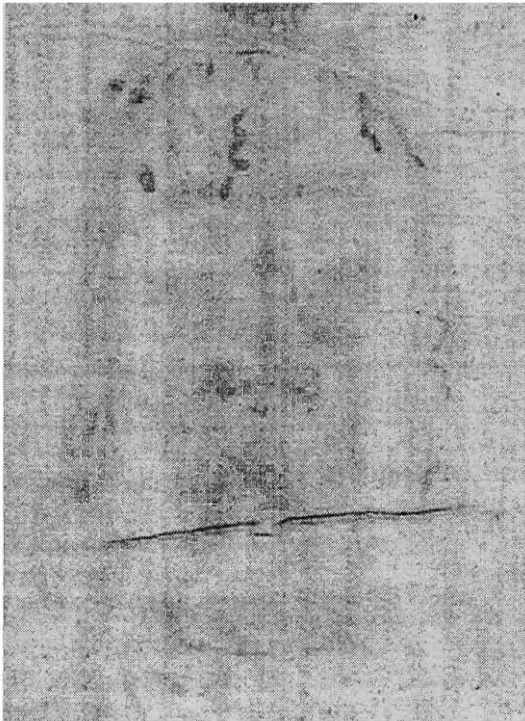


Figure 11

Tenth Station: Jesus is stripped of his garments:

The Shroud depicts Jesus as naked. He also, very pointedly, assumes what

medievalists refer to as the *venus pudica* pose — a pose which is associated with nudity and loss of innocence.

Eleventh Station: Jesus is nailed to the cross:

Christ is clearly shown with the marks of the stigmata and the crossed arms may also refer to the crucifixion itself.

Twelfth Station: Jesus dies on the cross:

This is alluded to by the wound in the side (from which flows blood and water), and by the apparent detail of *rigor mortis*.



Figure 12

Thirteenth Station: Jesus is taken down from the cross:

This is obviously implied by the fact that the body bears the marks of the crucifixion at the time of the deposition.

Fourteenth Station: Jesus is laid in the sepulchre:

The Shroud itself, refers directly to this event, since it is posing as the very burial sheet placed in the sepulchre.

The Man of Sorrows

Although, as may be seen above,

obvious correlations exist between the Way of the Cross and the events implied by the design of the image itself, the Shroud goes somewhat further by also including aspects of the Man of Sorrows (cf. Fig 12). This latter type of meditative image was very popular by the early fourteenth century and portrayed the upper torso of the crucified and tortured Christ, complete with bloody marks of the passion. Normally, this image shows Christ standing in the tomb. It is also very important to note that Christ is normally depicted with his arms extended, even in some instances pointing to his various wounds. These images are quite naturalistic as regards the details they contain, greatly emphasizing Christ's human suffering.

The link between the Shroud of Lirey-Chambéry-Turin and the Man of Sorrows imagery is extremely strong. In fact, not only were aspects of the Shroud modelled on this popular form of devotion but ironically, the Shroud became itself a model for at least one version of the Man of Sorrows in the late fifteenth century.

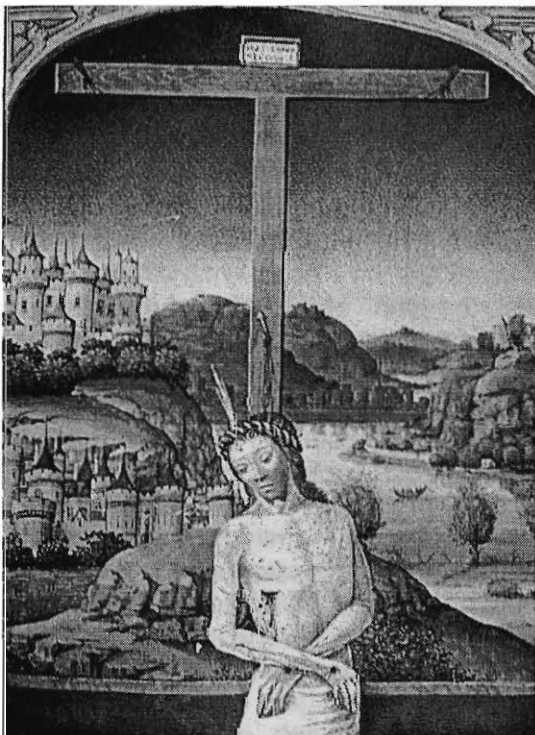


Figure 13

In this regard, a comparison should be made of the upper torso of the man who appears in the Shroud of Turin and a

painting by Jean Colombe (c. 1430-1493), which depicts the Man of Sorrows (cf. Fig 13) being contemplated by Duke Charles I of Savoy (died 1489) and his wife, the Duchess Blanche of Montferrat from folio 75 of the *Très Riches Heures de Duc de Berry*. This well known book of hours was originally commissioned by Duke Jean of Berry (1340-1416), who incidently was also the second youngest son of King Jean II of France.

This book was commenced in the early years of the fifteenth century by the Brothers Limbourg, who worked for the Duke de Berry and as fate would have it, they died in the same year as their patron (i.e. 1416). The book was finished some seventy years later by Jean Colombe himself.

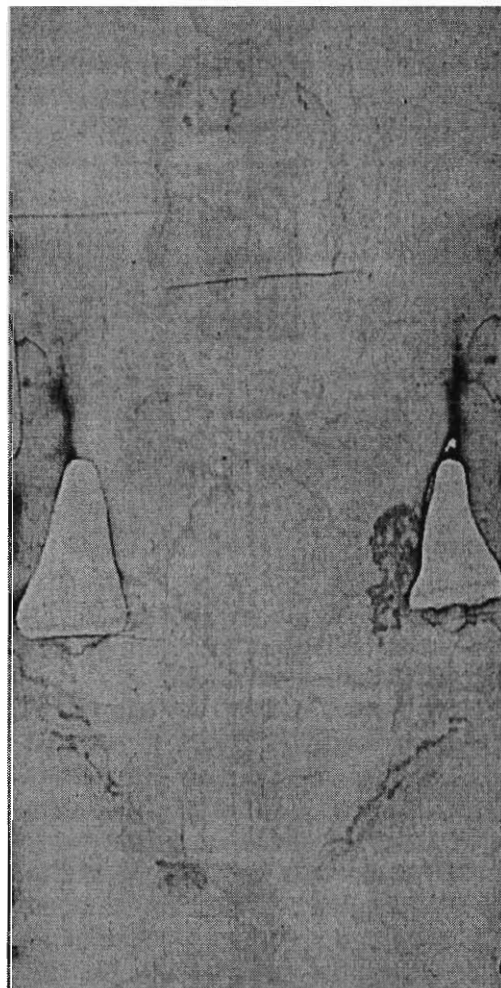


Figure 14

The depiction of Christ in this image is clearly based on the iconography which

appears on the present day Shroud. Unlike most other depictions of the Man of Sorrows, Christ does not indicate his wounds, rather he poses with his arms crossed in the *venus pudica* pose. The riverlets of blood which flow from his wounds are directly comparable to those found in the Shroud, as are the whip marks and the distinctive colour and forked shape of the beard (cf. Fig 14). Indeed, Colombe has depicted Christ's head in an identical fashion throughout the *Tres Riches Heures* even alluding to the Shroud directly in his Deposition (from the same manuscript) which shows Christ being laid to rest on a long thin piece of linen cloth.

It should be further noted that Charles I of Savoy and Blanche of Montserrat, depicted in this image, were both direct descendants of Jean de Berry and not only inherited the *Très Riches Heures* document but the Shroud of Lirey as well.

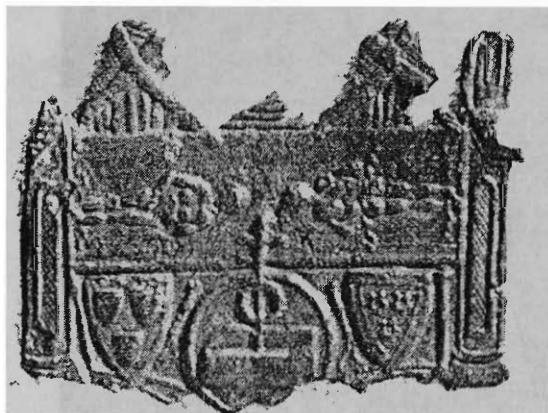


Figure 15

The Pilgrim Medallion

Now there has been an attempt in recent years by certain authors, to suggest that the Shroud which was recorded in Lirey in c. 1355-57 is not the same artefact as the Shroud that now resides in Turin. Obviously this could not be true in the light of the preceding evidence, since the images known to have been produced before 1489 by Jean Colombe are based on an iconography identical with the present Shroud of Turin. This means that the present Shroud of Turin has to be at least as old as 1489. An additional piece of evidence which places the Shroud of Turin

even further back in time is a small lead pilgrim medallion, (found in the Seine river in 1855), which is a crude visual souvenir (cf. Fig 15) of one of the numerous Shroud expositions held at Lirey (presumably no earlier than 1355 and certainly no later than 1400).

In support of this interpretation, this medallion clearly shows both the coat of arms of the man who is believed to be the first owner of the Shroud, viz: Geoffrey I de Charny (died 1356) as well as his wife Jeanne de Vergy.¹⁰ The anonymous craftsman, who worked this diminutive piece of metal has still managed to portray (albeit stylistically) a rectangular support containing a two-fold depiction of a man with his arms crossed over his pelvic region, such that it corresponds to the present day image. In addition, the artist has carefully described the herringbone weave which is characteristic of the present day Shroud of Turin. The most convincing evidence that this lead pilgrim medal refers specifically to the artefact now resident in Turin is a braided rope-like pattern traversing the small of the back of the dorsal image.

On the Shroud of Turin may be found a line of trickled blood running across the small of the dorsal figure's back. As an aside it is worth mentioning here, that when the Clarisses repaired the Shroud after an accidental fire burnt holes in it in 1532, they remarked at the time about what they perceived to be "chain marks" running across the small of the back of the image. The medieval craftsman (possibly misinterpreting the blood for a chain or rope) faithfully reproduced this on his medal. With this evidence it is safe to conclude that the present Shroud could not have been made later than 1400. There is also no evidence for the De Charny family having replaced their precious possession with a facsimile between 1355 and 1398. Therefore it is safe to assume that the Shroud itself dates from at least the middle of the fourteenth century.

Discussion

Due to the fact that depictions of the crucified Christ (including deposition and lamentation scenes) do not show a: excessive bleeding from the marks of the

stigmata; and b: do not depict blood flowing along the forearms before the beginning of the thirteenth century it is safe to state that the Shroud cannot date to much before 1200 CE.

In addition, the supporting iconographical evidence also defends the fact that the Shroud was made no earlier than the beginning of the thirteenth century and by persons who fully understood the spiritual practices of the Catholic church during the humanistic phase of its development. The direct reference to a Man of Sorrows and the Way of the Cross points to a date well after the middle of the thirteenth century and even supports a date after the fall of Acre (1291). Conversely the latest date for the Shroud of Lirey-Chambéry-Turin's manufacture cannot possibly be after 1355. There are a number of good reasons to support this latter notion; the first recorded owner, Geoffrey de Charny died in 1356 and a letter written by the bishop of Troyes, Pierre d'Arcis in April 1389, confirms a date of 1355 for the first known exposition of the cloth.¹¹

Any claim that the Shroud (now resident in Turin) is not the same artefact as described by d'Arcis in 1389 may be refuted by pointing to two supporting visual documents, viz: The lead pilgrim medallion (1355 - 1398), which bears the coat of arms of both the de Charny as well as the de Vergy family and which accurately depicts the Shroud as it now appears, and an illumination from the *Tres Riches Heures de Duc de Berry* (c. 1490) which clearly shows that the artist (Jean Colombe) viewed an image which had the same features as those that appear on the present Shroud of Turin.

Thus, without the benefits of carbon-dating, it is perfectly possible to make connections between the kinds of iconography employed in the image on the Shroud and the specific iconography of the late thirteenth and early fourteenth centuries. These latter assertions are supported by the details visible on the Shroud, all of which refer specifically to Christ's human suffering and indirectly to the Eucharist.

With this evidence alone it is

possible to place the Shroud within a time period which conservatively stretches from c. 1200 to 1400 CE. Given that the cloth must have been in the possession of a man who died in 1356 we can narrow that down to a period c. 1200 to 1355 CE. Further, because the cult of the Way of the Cross was only well established after 1270 CE and became common place by the early fourteenth century it is also far more likely, given the specific iconography contained on the Shroud of Lirey-Chambéry-Turin, that it dates from a period well after c. 1270 CE.

In conclusion, the iconography of the Shroud of Turin taken together with supporting historical documentation favours a manufacture date between 1270 and 1355. The carbon dating results favour a date between 1260 and 1390. I submit that the correspondence between the two is so close as to serve as conclusive evidence that the Shroud of Turin was made sometime between the years 1260 and 1355.

Notes

- 1 For example, one of the many popular websites devoted to this belief, the so-called 'Holy Shroud Guild' claims to promote 'study and devotion of [the] Shroud of Turin, which many believe to be the Holy Shroud, the cloth that covered Jesus Christ at the resurrection.' 1999. (www.holyshroudguild.com)
- 2 N. Ostler, Debunking the Shroud of Turin, *Time*, 24 October, 1988, p. 56; I. Anderson, Teams agree on medieval origins of the Shroud..., *New Scientist*, 22 October, 1988, p. 25.
- 3 See R. Van Haelst, Radiocarbon Dating The Shroud: A Critical Statistical Analysis. 1997. (www.shroud.com/vanhels3.htm)
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- 6 (cf. N.P.L. Allen 1993a, 1994a, 1994b, 1995a, 1995b, 1998a, 1998b and 1999).
- 7 Abbot Cabrol, *The Roman Missal*, London: A. Mame & Sons, 1931, p. 16.
- 8 Cabrol, p. 1410.
- 9 See Ian Wilson's account, *Holy faces, secret places: the quest for Jesus' true likeness*, London: Doubleday, 1991, p. 20.
- 10 See Wilson, pp. 21-26; 78-79.
- 11 d'Arcis, Pierre de, 1389. Memorandum of Pierre d'Arcis to anti-pope Clement VII. *Collection de Champagne*, v. 154, fol. 138. Paris: Biblioteque Nationale. [Manuscript c. 1389 CE.]

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