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THE ORIGINAL FORM OF THE TURIN SHROUD: THE ARCHAEOLOGY OF THE MEDIEVAL RELIGIOUS MIND

Preface

Archaeologists seek material evidence of the past, making it tangible and allowing their contemporaries the temporary thrill of indirect contact with and knowledge of „our ancestors” (or a famous historical personage or event associated with a particular monument). The Medieval world sought such contact not with its own past (that was to come later), but with the historical and holy characters known only to them from the written word of Scripture. Relics were a way of „making the word flesh” (sometimes literally). This paper wishes to examine one of the best-known relics of one of the central events of Christian belief and Scripture in order to set it in its proper social, historical and cognitive context. It aims to explain the processes leading to the formation of the object, and the way perceptions of that object have altered, and also to point the way to further directions of research.

Introduction

The so-called Shroud of Turin has been attracting attention since it was first put on exhibition in Lirey in north-western France in the thirteenth century and exhibited as the burial cloth of Christ. It is a linen sheet 4.36 x 1.10 m which bears a series of irregular brownish stains on one face which resemble the shape of a man’s body, other marks represent bloodstains. Interest in the object was increased when the blurred dark stains on the linen were clearly revealed by Secondo Pia’s photographs in 1898 to be a negative image of a crucified naked man’s body. This image has been the result of much study recently and its apparently mysterious nature has led many to see this as additional proof for the authenticity of the Shroud as the actual cloth in which Christ’s body was laid in the tomb. Despite ambiguities, no convincing evidence has been found that the image was painted. A few years ago however samples of the shroud fibres were

radiocarbon-dated, and the cloth was itself shown to be Medieval. Some have refused to accept this dating, suggesting that the „miraculous” process by which Christ’s body was imprinted on the cloth may have had an effect on the isotopic makeup of the fibres. One of the main arguments proposed by those unwilling to accept the radiocarbon dating has been the apparently „miraculous” process by which the three-dimensional negative image could have been formed on the cloth and the argument that no medieval forger would have conceived of creating (or wanted to, or been able to create) an image in perfect negative.

This paper however aims to show that the Shroud’s image arose in the Middle Ages by a very simple natural process, and discusses the implications of this. What is presented below is hypothesis, but seems a very plausible and internally-consistent hypothesis. It at least has the advantage of explaining most of the features of the Shroud as the result of simple and well-understood phenomena without recourse to processes unknown to modern biochemistry or physics. In setting-out this hypothesis here it is hoped that it may stimulate new directions of research in the subdiscipline which has been termed by its practitioners „sindonology”. The Shroud itself by its nature has attracted a sense of mystery, facts however are hard to come-by. The literature is copious, but much of it published in obscure journals or popular books. Here only a deliberately limited selection of this literature is cited.

Chronology

In the light of the difficulties in dating the object under discussion by other means, in this article we will start our discussion by accepting that the results of the C14 dating are the only ones which have significance for our discussion. The results obtained from various laboratories after

calibration and statistical analysis¹ give the most likely (95%) date range for the production of the cloth of what is known as the „Turin Shroud” as falling between 1260 and 1390 (which means 1325±33).

These absolute dates if accepted can be supplemented by the historical sources. There seems little reason to doubt that the cloth known as the Turin Shroud is the same as that exhibited at the church at Lirey in France in the fourteenth century, but it now seems we may reject the theories³ which linked this with certain Byzantine relics (see below) and explained the object’s supposed survival from the time of the Crucifixion. The Church of Lirey was built between 1353-1356, and the exhibitions of the Shroud began about this time, it seems fairly probable that the possession of the Shroud by the founding family and the construction of the church are related. The unique pilgrim token found in the Seine at the Pont au Change³ which was probably brought from Lirey and shows the Turin Shroud image in the upper field, bears however what seem to be the arms of Geoffrey I de Charney (who had been burnt as a heretic in 1314), perhaps suggesting that the Shroud may even have come into existence in his time. The C14 dates are inconclusive on this matter, though point to the first half of the fourteenth century as the most likely time when the flax was harvested from which the cloth was made.

The exhibitions which began at Lirey about 1356 were opposed by the bishop of Troyes (Henry of Poitiers) who later said that he had found a painter who confessed to having painted the image. Due to this opposition, the exhibitions of the Shroud at Lirey ceased in 1357, but began again in 1389-90 until 1418 when the Shroud left Lirey and started a series of wanderings. In 1532 the Shroud narrowly escaped destruction in a fire which has burnt holes in and left scorchmarks on parts of the fabric.

The original form of the object

We may now consider the nature of the object exhibited at Lirey after 1356. The object known

¹P. E. Damon; D. J. Donahue; B. H. Gore; A. L. Hatheway; A. J. T. Jull; T. W. Linick; P. J. Sercel; L. J. Toolin; C. R. Bronk; E. T. Hall; R. E. M. Hedges; R. Housley; I. A. Law; C. Perry; G. Bonani; S. Trumbore; W. Woelfi; J. C. Ambers; S. G. E. Bowman; M. N. Leese; M. S. Tite, "Radiocarbon dating of the Shroud of Turin", [in] *Nature* 337, 1989, pp. 611-615.

²I. Wilson, "The Shroud of Turin. The Burial Cloth of Christ?" New York, 1978.

³Now in the Museum de Cluny in Paris - illustrated in *ibidem*.

as the Shroud of Turin is well-enough known not to need detailed description here. Here we are concerned with determining the method of formation of the image the cloth bears. The proposed interpretation of the shroud image relies on three points:

1. The Shroud image is made of a series of blurred stains of dark reddish-brown colour on a cloth of linen. This colour has been shown by testing to not be a stain, a dye or paint, and under the microscope is seen to be a surface discoloration of the textile fibres due to differential oxidation and dehydration of the linen in localised patches⁴.

2. The Shroud image is not readily understandable to the human eye as it appears on the cloth (which was always one piece of evidence cited against it being a painting). It can however be made to assume a very understandable image on a photographic negative.

3. The original negative made in 1898 and the repeated versions made in 1931, despite technical problems, remains the best image, and are the ones usually reproduced in publications. Each successive image has been slightly more blurred. This suggests that over the past fifty years, the Shroud image has been fading.

A museum conservator of fragile organic materials should have no trouble in putting these facts together to come to the following conclusion. The image on the Turin Shroud is nothing more than light-deteriorated patches on the linen-surface. The deterioration products of linen are dark in colour due to oxidation and breakdown of the cellulose. This explains the form of the dark patches on the linen and the fact that with each successive exhibition of the Shroud the image itself is fading (the linen around it is deteriorating slightly on exposure to light).

How then was the image formed? The logical and surprisingly simple conclusion of the above is that the Shroud image is nothing more than a naturally-formed photographic negative of a second image. Let us call the object in Turin which we have «Shroud B», let us use the designation «Shroud A» for the object which produced the negative image on Shroud B. The only way that the negative image on Shroud B could have formed was by it being the backing-cloth for a heavily-painted Shroud A, both were exposed to strong sunlight for a long period of time. In the process the backing cloth became discoloured by light flooding through the fabric of A where the paint was thinnest. The areas

⁴J. H. Heller, A. D. Adler, "A chemical investigation of the Shroud of Turin", [in] *Canadian Society of Forensic Scientific Journal* 14, 1981, pp. 81-103.

under the heavily painted background were not affected. This was an entirely accidental effect, and by no means miraculous. The writer's mother had at home nine years ago in a sunny room a foam-filled chair seat where the foam polymer has photodeteriorated (formed holes) in flower-patterns which match the white flowers on the seat. Under the blue flowers or dark blue background the foam had not deteriorated. The chair had been in the English sun only ten years. The similarity to the described situation to that of our reconstruction of the process of the formation of the Turin Shroud is increased by the fact that this deterioration became visible only on the disintegration and tearing of the cloth covering the foam, also due to photodegradation.

Sunlight could probably not penetrate a linen cloth like Shroud B to produce this effect, the clarity of the negative image suggests that the fabric of Shroud A was thin and perhaps almost transparent. The most obvious solution is that Shroud A was of silk. This at once adds a new factor to the discussion, a silk „Shroud” would eventually deteriorate in strong sunlight. We know that at Lirey the Shroud was exhibited (continually?) for about 29 years.

To recapitulate, it is proposed that the artefact under consideration originally had three components: a silk „Shroud” (A), with a linen backing-cloth (B), and a painted image on Shroud A. This model explains perfectly all of the apparently „mysterious” features of the Shroud Image. It is quite clear that such an object would be quite in accord with the sort of „relics” that were being produced in Byzantium and Western Europe at this time. The choice of silk for the representation of the „Wrapping-Cloth of Christ's Body” (i.e., Shroud A) was perhaps inevitable for a Medieval society. That the linen cloth (Shroud B) was always intended as merely a backing-cloth is supported by the fact that it has been widened by sewing to one edge a strip of cloth in two parts.

We should here mention a fourth component of the image as it exists to day, and that is the „bloodstains” The stains do not have the same character as the rest of the image on Shroud B. There are suggestions that they are actually stains, and there are some pointers from recent analyses that they may even have been blood⁵. We shall see below that there are reasons for thinking that these stains were applied to Shroud A at the same time as it was painted. It is however also possible that they were added at a later date to Shroud A

while it was attached to Shroud B and stained both, or the material may have at some time been applied directly to Shroud B to enhance its image.

It should be emphasised that the former existence of Shroud A is admittedly only hypothesis. If it were possible to explain the selective darkening of parts of Shroud B in any other way, it would remain one of several hypotheses available to explain the nature of the Turin cloth. At present however, if we disregard the possibility of miracles, it seems to be the only possible hypothesis which explains the formation of the image. In such a situation, the former existence of Shroud A seems to be demonstrated by the existence of what can only be interpreted as its traces on Shroud B.

The discovery of the turin shroud (b)

In the light of this theory, we may construct a hypothesis to explain the origin of the object now known as the Turin Shroud. To make it easier to assess the hypothesis, it will be broken down into logical stages, each one of which follows on from the previous one:

a) According to our interpretation of the evidence, it started life merely as the backing-cloth for a painted representation of the burial cloth of Christ. What is most likely to have happened is that the composite object was over a relatively long time on display in a church probably over the altar in the full glare of the sunlight (this hypothesis is supported by the deterioration of Shroud B).

b) The result of this would have been that after a period of time after the beginning of the exhibitions, the cloth was visibly deteriorated; the silk was crumbling and splitting. The amount of sunlight which would cause such marked effects on the backing-cloth can only have had a devastating effect on the textile covering it.

c) The Shroud would have been removed from the altar for Medieval conservation treatment, probably it was intended to restitch it to a backing-cloth. This seems a logical consequence of (b).

d) When the object was brought down from above the altar and work was started however, it could not fail to escape notice that the silken Shroud was obviously and thickly painted, but it was also found that under the silk was a humble linen cloth. Furthermore the linen under the painted Shroud A bore mysterious and (to the medieval mind - and it seems not only) apparently miraculous dark traces seeming to be due to contact with a body and bloodstains (which we refer to below). The bodystains

⁵J. H. Heller, A. D. Adler, "Blood on the Shroud of Turin", [in] *Applied Optics* 19, 1980, pp. 2742-2744; S. Waliszewski, "Cahun Turyński dzisiaj", Kraków, 1993, pp. 135-146.

might have been more starkly-contrasted with the undeteriorated cloth than today.

e) As a result of these revelations, a conference of senior clergy was held, at which it seems likely that it would have been decided that the painted image (A) was a mere cover for what was then taken as the „real” Shroud (B). According to clear statements of the Scriptures, Christ’s body was wrapped in a linen cloth and not silk. Shroud B bore mysterious marks of unknown origin.

f) From this time on then it would be Shroud B that was revered as the True Shroud of Christ and became known as the Turin Shroud.

This reconstruction of the sequence of events is a logical one, and indeed the most probable one, and fits the few facts we know about this object. Despite this, in the absence of other supporting data (other than the existence and characteristics of the Shroud itself), it is as difficult to test as the other unsubstantiated theories of mysterious life forces and bodily radiation advanced to account for the image characteristics. The main advantage of the hypothesis presented here however is that it does not require the involvement of any supernatural or unknown phenomena. While it is difficult to test the hypothesis, neither is it possible to falsify it on the basis of existing knowledge.

A key point in the argument is the fate of Shroud A. This may have been discarded once it was realised to be a painting, or it may have been retained in a reliquary (presumably originally kept with Shroud B) as a contact relic. It may thus have been destroyed in the 1532 fire. An alternative view would be that at the time of the separation of the two components, Shroud A was still revered as the True Shroud (or a representation of it, the two being quite closely-connected in Medieval ecclesiastical understanding) but the image on cloth B was deemed „miraculous” and worthy of worship and contemplation in its own right. Shroud B will have also acquired the status of a relic by virtue of its contact with A. In either case it seems that with time Shroud B became worshipped as the True Shroud, and that eventually the fragmentary Shroud A became forgotten. The subsequent fate of Shroud A is unknown, perhaps further documentary research on „the other Shrouds” (like most of the major relics, such as the Cross and Nails or Veronica, the Shroud too has its duplicates) may reveal traces which support this theory.

The iconography of the painted image on shroud a

We have no way of knowing when and where Shroud A was painted. The linen backing-cloth might

have been applied to an already weakened and old object, or the two may have formed an integral part from the beginning. What is clear is that the artist was extremely skilled, so much so that most of the pathologists dealing with the Shroud images in modern times thought that they were dealing with the image of a real body⁶. The technique seems interesting, since the light portions of the body image were apparently less opaque than the background, we may surmise that the picture was built-up like a watercolour, the light tones of Christ’s body (ivory white?) were made of thin paint, the shadows with darker, light-absorbent, darker colours. The background was totally blacked-out (and perhaps may even have been gilded or patterned).

Since it now seems that the Shroud image was painted by a Medieval artist, probably in the early fourteenth century, art historians will have to seek other surviving examples of his work, and also determine the source of the inspiration of such an image. What is clear is that it was a very skilful artist who painted an image so realistic that it seems to have deceived not only contemporaries, but also many modern investigators who believed that they were looking at an image formed not by human hands, though this effect may have been aided by the relatively poor quality of the surviving image which is the only surviving trace of this lost masterpiece. In hindsight, looking at the image (in negative and ignoring the visual distortions caused by the sixteenth patches) we can see that to some degree (despite its novel iconography) it fits our conception of late Gothic art-styles. In determining the identity of the author of the painted image, we recall the statement of the Bishop of Troyes that (in the 1350s?) he had a confession of an artist who said he painted the image. Those who preferred to believe the miraculous origin of the image preferred to believe that an untrue confession was obtained by bribery or torture (or that the Bishop was lying). We are not told where and how the Bishop found the artist or what his nationality was, whether he was found at Lirey itself, within his episcopate or perhaps at court. Certainly it would have had to be an artist also accessible to the family commissioning the representation of the Shroud. When the image was painted (if it was commissioned by the de Charneys) the artist was perhaps working in the region of central France. Unfortunately if the bishop had not in fact found the true artist, we have no guarantee that the image on Shroud A was painted in France.

⁶Most recently see S. Waliszewski, *op. cit.*

We may note that the style of the painting is undeniably western, and has little in common with the proportions, stylisation and character of contemporary Byzantine art. The significance of this will be seen below. The technique which was used to paint the image seems to suggest that we should be looking for a late thirteenth or early fourteenth century artist precociously interested in chiaroscuro techniques of building-up a picture from thin glazes starting from a white background in the manner of a watercolour artist (illuminator?).

The unconventional iconography of the Shroud image clearly needs careful study. It is the realism of the image which primarily draws our attention. Representations of the Crucified Christ in Gothic art were relatively standardised and stylised, drawing on Romanesque models. At the end of the thirteenth century however new tendencies were appearing in the representation of the Crucifixion which reflect other trends in theology at this time. Here we see the disappearance of Christ Triumphant on the Cross and an increased emphasis on the physical pain of the act of Crucifixion, representations of this are naturalistic and shocking in their depiction of the details. The proportions of the body become more true to life, dominating over earlier tendencies to expressionistic deformation. The disturbing image on the Shroud fits this picture very well.

Whoever the artist of Shroud A was, it is obvious that he had a clear idea of the physical realities of death by crucifixion. The meaning of this is also worthy of further examination in terms of the cultural context of the production of this item. Many authors have remarked on the faithfulness by which the wounds of Crucifixion have been depicted in the Turin Shroud representation, especially the non-conventional depiction of the wounds in the wrists instead of the hands. This raises the possibility that the image on Shroud A may have been painted with unusual attention to detail using as a model the actual victim of a Medieval crucifixion carried-out in accordance with the Scriptural account of Christ's death. Either this was the victim of some persecution (e.g., of heretics or Jews) or cruel revenge on a transgressor of some rule of a secret sect, or (as in some known cases) a depiction of someone who went through the act of crucifixion as an act of piety (though not necessarily intentionally to his death).

We have already mentioned the bloodstains on Shroud B. The results of several analyses seems to suggest that these marks were apparently made with wet human blood of AB group. Several studies by pathologists⁷ have emphasised that these marks on the Shroud image are in fact accurate

depictions of the blood flows expected from a dead body which had been beaten, crucified and then laid on a cloth, they show familiarity with the effects of crucifixion and if we accept that the original artist modelled his image on a real crucifixion victim, were thus probably part of the original image of Shroud which had soaked-through to Shroud B. If this is so, this is good evidence that Shroud A had the backing-cloth at the time it was painted (i.e., the C14 dates are a reasonable pointer to the date of the original painting).

Unlike the close attention clearly paid to the Scriptural account of the Crucifixion, the method of use of the shroud imagined by the artist does not in fact match the wording of the Scriptures. We know little about the precise method of use of shrouds in Medieval France among particular social, ethnic or religious groups, thus we cannot determine whether the model he chose was derived from contemporary practice. The hands are folded over the genital region, right over left (as is usual in such depictions in this period). It would be interesting to compare this with data on hand position of excavated burials of different types of community of the period.

There are few parallels in western art of the period to the type of image shown on Shroud A, where the body of Christ is shown full frontal isolated in the centre of the field. Most other views of the Crucified show him in side view and accompanied by other figures. There is no other known contemporary parallel to the unusual idea of showing both front and back of the body on the same cloth joined head-to-head. Both of these features derive from the symbolic and functional aspects of the item, deriving from the artist's conception of what the burial cloth of Christ should look like and the desire to depict the Crucified lying in the Sepulchre before the Resurrection. The image has however a number of other features which set it apart from the normal canon of art of the period. Among these are features which convinced modern viewers that they were not looking at the product of a medieval artist. The most noticeable departures from the normal canon are:

- 1) Christ is naked and not clothed in a loincloth
- 2) He has no halo

Despite what the Scriptures explicitly tell us about the Crucifixion, Medieval sense of decency almost always clothed the Crucified in a loincloth (admittedly sometimes extremely diaphanous). The naked Christ almost never occurs in art. This also applies to scenes of the Baptism of Christ (where admittedly we are not specifically told that Christ

⁷S. Waliszewski, *op. cit.*

was naked when dipped in the Jordan, but the symbolism of Baptism as a homologue of rebirth would seem logically to demand this). On Shroud A, Christ seems to have been shown as totally naked, though it is just possible that an extremely diaphanous loin-cloth may have been present on Shroud A and is not apparent on the negative image. Decency has been preserved however, the hands are folded over the genital region. Nevertheless the normally-proportioned male reader will note after a few moments in front of a mirror that with the hands in such a position parts of the genitals would still be visible (this seems not to have been mentioned by previous modern writers who regard this image as a „photograph” of a dead man). Again therefore convention has been flouted but not to the ultimate extreme.

Apart from the Turin Shroud itself (and the depiction of this same image on the Lirey pilgrim badge), there are very few depictions of the naked Christ from this period, they are not enough to determine the place of origin of the image on Shroud A. The most notable images which show Christ as completely naked are a Hungarian manuscript 1192-1195 now in Budapest which appears in most books on the Shroud. Another is the Baptism scene on the late twelfth century chalice from Trzemeszno in Poland probably made in the 1190s in southern Germany (?). Another class of object may have depicted the naked Christ in the grave more regularly, but few examples survive. We will refer to these *epitaphoi* below. Of especial interest is the 17th century depiction by G.B. Della Rovere showing the formation of the Shroud image which again is reproduced in most of the literature on the Shroud. This shows the Shroud image itself as depicting a naked man, but in the lower part of the scene depicting Christ being wrapped in the Shroud, he is shown in a loin-cloth!

The lack of a halo may of course be due to the fact noted above that the background on Shroud A was photo-opaque. A halo may have been painted over the background, but if so the juxtaposition of the two head images would mean that it would have been a small one. It seems more likely that the image never possessed a halo. This is logical, in the period between Christ's death and his resurrection, he was mortal man, a state symbolised here by the lack of divine attributes.

The symbolism and function of the shroud

We must now consider the effect on the contemporary viewer and the original function of the object we have been discussing. We are told in the reports of the first Lirey exhibitions that the cloth

was presented as (or rather, taken by its viewers to be) the True Shroud brought from the Holy Land. We have seen that the form of the image and its iconography are a result of the deliberate intention to depict the cloth from the Sepulchre on and under which the Body of Christ had lain after the Crucifixion; the cloth which was then left in the Grave when He rose. This would have been one of the few tangible (literally) traces which would have been left by this stage of the Passion. The object was connected with the three days when the Body of Christ lay in the Sepulchre after the Crucifixion and before the Resurrection. It bore the representation of the Saviour who had become Man and died on the Cross and now mortal lay naked and abandoned in the Grave. At this stage of the Passion in particular Christ shared the lot of all mankind, he had met the fate which awaits us all. The viewer knew that this was just a prelude to the rebirth of the Resurrection and this (together with the explicit Scriptural account) is perhaps the context of the nakedness of the image. We may wonder on the basis of this image if this really was as shocking to all Medieval pilgrims viewing the Shroud as we may now think on the basis of the other surviving imagery? Probably however the nakedness of Christ here would have been one of the most offensive features of the iconography of the object to the Church hierarchy.

We cannot know how it was explained to the pilgrim, believing that he was viewing the Shroud, that the cloth they were shown bore the image of Christ, an image moreover which is almost three-dimensional in its depiction and represents the dead Christ still lying in the Grave. How does this fit the interpretation given above? To our mind, surely far more effective would be to show an empty piece of white cloth with a few blood- and sweat-stains (in fact looking precisely like the present appearance of the Shroud of Turin). Modern conceptions however should not be applicable to the Medieval mind, where in terms of objects of cult the emphasis was usually on luxurious ostentation and rather obvious symbolism rather than stark simplicity. Perhaps it was expected that the Shroud of Christ would indeed bear some miraculous and clearly visible imprint of His Body. The early Byzantine accounts of the appearance of the Shroud (or Shrouds?) in Constantinople since the tenth century fail to mention a body-image until the beginning of the thirteenth century, when such an item was in the imperial collection (see below). In the light of stories about this relic which we may expect were reaching the West after the Crusades, a plain linen cloth is unlikely to have been acceptable as the burial cloth of Christ. It is less likely that at the early stage of the Shroud's career

the presence of a plain linen cloth behind the painted textile would have seemed significant to the observer. In the atmosphere of the Reformation however, the viewer would perhaps expect the Holy Shroud to have looked quite differently from what Shroud A presented. This was perhaps the cognitive context of the „discovery” of Shroud B.

It seems clear from the written sources that after 1418 when the Shroud was evacuated from Lirey that it was kept in a reliquary and only taken out for public exhibitions relatively few times. It therefore seems unlikely that the photodegradation of Shroud B occurred after 1418. We may however attempt to determine how the relic had been displayed previously to this at Lirey (1356-7 and 1389-1418). It is likely that here the item was displayed in a somewhat theatrical manner, and highly visibly, while at the same time restricting close access. In this Lirey probably would not differ from other shrines containing important relics. With such an item there would perhaps be the option of displaying the relic in a setting recalling the Holy Sepulchre (which had fallen in 1244 and was unavailable for pilgrimage), or it could be displayed mounted vertically or horizontally over an altar on full view.

The present state of the object, if we interpret it correctly, allows us in fact to suggest the way in which this object was displayed and used. The key here is the way that the textile backing-cloth was damaged by light (presumably sunlight). It is clear from this that the object was displayed exposed for a lengthy period of time to a strong direct light source. This would seem to rule out one possibility that this was a cloth exposed only for a few days each year at Easter. At least for part of its life the composite object was exposed to long-term photodegradation. It was clearly displayed in an exposed position (and not in a shadowy aisle for example), probably over the main altar. We cannot know what amount of this damage occurred while it was displayed at Lirey and to what degree the object was further damaged during its wanderings after 1418. What is clear however is that after the separation of Shrouds A and B, the latter cannot have been exhibited for periods as lengthy as those which formed its image, because otherwise photodegradation of the background would destroy the effect of the image (such a change however seems presently to be occurring as deterioration of the image quality is visible since the time of the first photographs). Unfortunately we do not know when or where the separation of the two cloths occurred.

A further clue to the original method of display is afforded by the intensity of the image. The image of the front of the body is clearer than that of the back.

Assuming, as is likely, that both appeared at similar intensities on Shroud A, this means that the front image received more light than that of the back. The most likely explanation for this is that the cloth was mounted vertically, with the front image at the bottom, where it was exposed to more sunlight from side windows than the back image nearer the rafters. Perhaps less likely is that the Shroud was displayed lying flat horizontally on the floor, one end in a shaded part of the church.

Two written sources often quoted in books on the Shroud⁸ give some clues as to the significance of this object. In 1201 Nicolaj Mesarites, custodian of the collection of relics in the Pharos chapel in Byzantium stated that the imperial collection included the „sindon with grave cloths” from Christ’s Tomb. The sindon was said to be of a cheap material which had escaped destruction up until then because they had „wrapped the mysterious naked dead body of Christ”. Two years later a Crusader (Robert de Clari) tells us that in the Blachernae Church at Constantinople in August 1203 there was the „sindone in which Our Lord was wrapped and is raised vertical each Friday in such a manner as to make visible the figure of Our Lord”. This suggests that this purported burial cloth bore a painted image (which is not noted in the account of 1201, it is not clear whether or not these two objects were the same). After the Sack of Constantinople the next year, the burial cloth bearing the image of Christ, along with many other relics disappears „and none of the Franks nor Greeks knew what happened to it”. Soon some of the relics plundered from Constantinople or copies of them began appearing in churches and monasteries all over western Europe. The results of the radiocarbon analyses seem to rule out that the Shroud B was part of the relic seen in the Blachernae Church in 1203. It seems however more likely (bearing in mind the iconography) that the Lirey Shroud was manufactured in the West a century or so later as a copy of the missing Byzantine relic. This copy was however an „improved” version, the Byzantine sindon had been of linen or similar material, we have already deduced evidence that the Lirey Shroud A was probably of silk.

In the Eastern Church is a class of liturgical textiles known as *epitaphoi*. These were used in the rites associated with Good Friday and Easter Saturday. This brings to mind the Friday exhibitions of the True Shroud in Blachernae on the eve of the Crusaders’ conquest. A very close parallel to the Shroud image is the *epitaphios* of Milutin Uroš of the beginning of the 14th century, now in Belgrade.

⁸I. Wilson, *op. cit.*; S. Waliszewski, *op. cit.*, pp. 25-31.

It shows Christ lying in the tomb in a similar pose to the Shroud, right hand crossed at the wrist over the left (but pierced through the palm). He lies on a field decorated with flowers and angels, but his genital area is covered by a piece of cloth from his navel to his knees, not however a loincloth, but looking like a carefully-placed handkerchief. Perhaps the ultimate inspiration of the Shroud image derives from the Eastern Church.

Altering perceptions

We have seen that the Shroud A image was the result of a totally new perception of Christ in Medieval art, He was shown in a way which flouted all conventions, naked, probably with no halo, with the wounds of the Passion shown in a way different from the usual canon. The double image is a total innovation. Nevertheless the Shroud belongs firmly in the mystical tradition of the Late Medieval world. The probable use of silk as the medium is totally in keeping with prevailing models of ecclesiastical ostentation. The manner in which the Shroud was displayed seems to reflect the institutionalisation of Medieval religious life. It is not clear to what extent the object was originally treated as a relic of Christ, or an icon of it (serving to focus contemplation and prayer). No matter how it was presented by its custodians, the Bishop's reaction suggests that among the popular masses who flocked to see it were those who regarded it as an actual relic of the Resurrection.

We may be seeing in action the results of what seems to have been a common process in Medieval Europe. In the Medieval Church a number of items may have been presented to public view as representations of the Nails of the Crucifixion, the Thorny Crown, the Blood of Christ etc. They would have been intended as foci for prayer and contemplation. In the same way in most Polish Churches each Easter is shown a representation of Christ's body in the Sepulchre (and surviving Medieval Easter sepulchres can still be seen in some English rural churches). These are also intended to serve as foci for contemplation and prayer. It can be observed however that in some cases these representations are even now treated (especially by rural populations) with almost exactly the same reverence as would be accorded the original. This problem was of course the basis of the whole Iconoclast controversy. In the situation of the Medieval world, boundaries of credulity may have been different among the general public, eager for sensation and believing in the unbounded authority of the Church. One can see that conditions could

fairly easily arise for the distortion in the public mind of what started as a representation (made in all innocence by a craftsman or artist working honestly under ecclesiastical patronage) into the conviction that the item the Church possessed was in fact one of the actual Nails from the Cross, a piece of the True Cross etc. This seems to have happened time after time right across Europe, to judge from the remarkable numbers of Nails and pieces of the Cross in existence. One may cynically note that the Church would not always have been willing to fight such a popular conviction if it was found to be bringing-in the crowds (indeed how many in the ecclesiastical hierarchy would be directly aware of the mistaken views held by the rural peasant? Was it in the interest of those lower in the hierarchy who had the actual contact with the people to inform the bishops of this?). This is another example of changes in perception.

The discovery of Shroud B and the apparent rejection of the Shroud A image is symptomatic of changes which were taking place in the religious attitudes at the close of the Medieval period. Shroud B was a simple linen cloth as described in the Scriptures, and the less explicit image of the amorphous stains of the Passion (requiring individual contemplation and interpretation) were more in line with new more personal approaches to religion. The image itself was however difficult to see as such, to the unaided eye (even with the best will in the world) it was (and is) difficult to see here the Image of Christ. What mattered in this phase was the mere fact that this was „The Shroud which had been around His body”.

Our age has been characterised by an increased emphasis on the use of positivist reasoning and the value of technological advance. The discovery in 1898 that the image was a negative (as an unexpected result of using the new technical process of photography) introduced a new phase in the perception of this object. It was inconceivable that a medieval „forger” (as the artist of this relic was usually referred-to) would have thought of producing a negative image (- for which there was no possible need half a millennium before the eventual discovery of photography), experimental work and scientific analysis showed that the image on Shroud B was not painted. To many, for these reasons, science seemed to uphold their Faith (and in some cases apparent “scientific proof of the genuineness of the Turin Shroud” stimulated faith).

We may even detect a fourth phase; by radiocarbon dating science has claimed to have disproved the expected first century date for Shroud B. For some in this so-called „New Age”, science itself has been compromised by this miraculous image.

Many people reject the new dating evidence for reasons which have more basis in emotion than reason. Many books and articles have already been written attacking the methodology of the dating and accusing its authors of ill-will (and worse). The exhibition of the Shroud in 1998 after its escape from another fire a year earlier attracted millions of believers. Those who still believe in the authenticity of the Shroud as the Burial Cloth of Christ wish to explain the supposed „miraculous image”. Those who always believed that it was (and those whose original hopes have been disappointed and now believe it to be) a „Medieval forgery” have ceased to regard it as an object worthy of serious scientific discovery. Yet perhaps the Turin Shroud still has much to tell us if examined in a manner different from before.

A final point may be made, that the interpretation of this object shows very clearly the way that our perceptions are affected by what we want to see. If the above hypotheses about the nature of formation of the image are accepted, then one important question remains, why was this seemingly obvious hypothesis not suggested several decades ago? The evidence presented here is not new, what seems to have happened that even level-headed scientists have allowed their judgements to be affected by the apparent air of mystery which surrounds the Shroud.

Conclusion

In conclusion therefore, we have advanced a series of hypotheses which explain most of the known physical features of the Shroud image, and which thus do not require a „miraculous” explanation. The Turin Shroud is shown to have been part of a Medieval composite textile object, the other part of which was the intended „relic”. At some stage in the Late Medieval period due to changing perceptions, the roles were switched, when it was discovered that Shroud B had a „miraculous image” on it where it had touched the body image of the painted silken shroud. The Turin Shroud is therefore not only a Medieval (and not Early Christian) object, but is only a secondary part of a more elaborate whole. The stains on it are an accidental effect and not intentionally produced. As such however they are the only surviving evidence of a lost Medieval masterpiece.

The arguments presented in this paper require evaluation and prompt a further series of examinations of aspects of this stained and bloodied cloth. Some of the topics for further consideration include:

1) Is anything visible on the cloth inconsistent with the model presented above? Can the body

stains be explained by photodegradation? What is the chemical nature of the blood stains? (Now we have good grounds for believing that this is not the Blood of Christ, we can take a larger sample than has previously been examined). Can any traces still be identified of the original sewing of Shroud A to the Turin cloth?

2) Most of the research on the written sources has been done by people endeavouring to demonstrate that it is possible for the Turin Relic to be the True Shroud, and has been spread over a large geographical and chronological area. The sources should be re-examined concentrating on the suggested time of origin of the object (early fourteenth century) and concentrating on the suggested place of origin (France or south-western Europe).

3) Medieval art-historians should be brought into the discussion, to identify the source of the iconography and techniques of Shroud A. Perhaps other works of the artist may be recognisable. Whoever he was, he was certainly very skilled in observation of human anatomy and proportions. One region where there was a very clear interaction between eastern and western churches in the period from the twelfth to fourteenth century was the Adriatic coast, Serbia, Hungary, Croatia and Venice. Perhaps Shroud A was manufactured here and taken to Lirey (or perhaps the painter who confessed to the Bishop of Troyes was from Serbia or the Hungarian Empire or a Venetian?).

4) The history of the other „True Shrouds” of Medieval Europe should be examined, is there any evidence that one of them is the hypothetical missing Shroud A.?

5) We should examine the origin of the artist’s detailed and anatomically-correct knowledge of the effects of crucifixion. There is virtually no doubt that the artist had seen a crucified body and based his icon of Christ on what he saw. Where and when would such a crucified victim be available in fourteenth century Europe?

6) For whom was Shroud A painted? Was it commissioned privately by the family who founded Lirey? Or was it originally painted for another patron and later acquired by de Charney family? One possible candidate might be some secret heretical (male?) sect for whom the shocking innovations of the imagery were acceptable.

7) The state of the preserved image is a matter for concern, it can be seen to have been fading over the past six decades. It seems that the only way to prevent these stains from disappearing totally is to limit drastically the exposure of the Shroud to light, best of all by ceasing public expositions of the original.

8) Finally, the new interpretation of the Shroud raises important ethical questions. If we accept that the above interpretation is correct (the most likely), then we as scientists must abandon once and for all the view that this is the burial cloth of Christ and regard it as the surviving traces of a remarkable icon. All the facts point to this conclusion. Does this mean however that we have the right to actively challenge

the faith of those for whom this piece of cloth has always been one of the holiest relics in Christendom, a tangible contact across the centuries to the Resurrection? How are we as scientists to react to the recent post-C14 books demonstrating that „science” is wrong and this cloth really does bear an image formed by a miracle associated with the central event at the roots of European culture?