

SHROUD GUIDE

A NEWSLETTER ABOUT THE HOLY SHROUD OF TURIN
edited by REX MORGAN
Author of PERPETUAL MIRACLE and SHROUD GUIDE

ISSUE No. 45

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WOODCUT "THE HOLY VERONICA" BY ALBRECHT DURER 1510 FROM THE REX MORGAN COLLECTION OF DURER ETCHINGS

EDITORIAL

The 1988 Shroud Year opens with newly generated controversy about the carbon 14 testing programme announced late in 1986. It appears that the authorities have decided to change the protocol recommended by a special conference of experts and this decision has led to some intemperate and probably unfortunate comments by a couple of the losers, notably Harry Gove and Garman Harbottle of the United States.

Despite the annoyance of these changes and the consequent delay, one assumes, in the testing programme being carried out, it has always been essential for those involved in Shroud research throughout the world to understand the extreme sensitivity of Shroud research in general when it involves handling the Shroud itself and in particular the aspect of carbon dating. The arguments rage back and forth about the accuracy or otherwise of carbon dating at all and, whatever, the result might be, the controversy over the Shroud is bound to continue.

An interesting phenomenon reported in this issue is that of an image being left on his deathbed in England by a cancer patient. There is also an article summarising some of the events which have been brought to pass after the publication of my article last August on the Templecombe panel painting and the suggestion that the Shroud was once in England.

We have devoted a major part of this issue to bring you a series of correspondence relating to the Environmental Study of the Shroud in Jerusalem as this demonstrates the passionate way in which people are moved to write letters to journals about the Shroud and besides reflecting upon this aspect of the human condition the letters also raise some interesting issues concerning the Shroud generally.

Negotiations are continuing to be able to take the Brooks Institute Photographic Exhibition, now owned by the South East Asia Research Centre for the Holy Shroud (SEARCH) to Calgary in Canada later this year and we have just heard that the Exhibit will be amongst the first to be displayed in the Touring Exhibit Gallery of the newly completed Newcastle Regional Museum in Newcastle, NSW, Australia.

REX MORGAN

THE TEMPLECOMBE PANEL PAINTING REX MORGAN

Shroud News readers will recall my article in Number 42 in which I reported my new thesis that the Templecombe panel painting of the head of Christ is, in fact, the lid of a casket and that it very likely contained the Holy Shroud itself at some time in history and, further, that the Shroud might very well have been in England. I had hoped that scholarly comment would ensue and several developments have taken place as a result of my publication.

Shortly after the issue of Shroud News 42, Ian Wilson, the foremost British Shroud author and editor of the British Society for the Turin Shroud's Newsletter republished most of the article "Was the Holy Shroud in England?" for British readers. Wilson describes it as "startling new information" and concludes:

"Many congratulations are due to Rex Morgan for his pioneering tracking down of Molly Drew and Audrey Dymock, particularly as he had to travel from Australia to do so. I am also personally grateful for his valuable correction of some of my information on the Templecombe painting. The details of the date of discovery and 'coalhouse' location I took on trust from Templecombe's vicar of the mid 1970s, but Rex has most commendably shown the importance of finding an actual eyewitness of the time.

"Since reading Rex's account I have myself interviewed Mrs Drew, particularly with a view to her identifying the original colours of particular features on the Templecombe panel. Unfortunately she could not recall these in sufficient detail, hardly surprising after more than forty years, but she did relate certain details not included in Rex's account. I asked, for instance, whether other parts of the painting, such as the missing left-hand 'nib', might have been left in the ceiling. She thought not, but unexpectedly remarked that on discovery the back of the painting had been covered with some form of slatted wood (making the whole ensemble extremely heavy), which had at the time, rightly or wrongly, given rise to the idea that it might have been used as a door. She was also emphatic that a piece of wood towards the top of the panel's right-hand edge, and that I had supposed had been substituted for some former 'keyhole' was already in position at the time of the discovery.

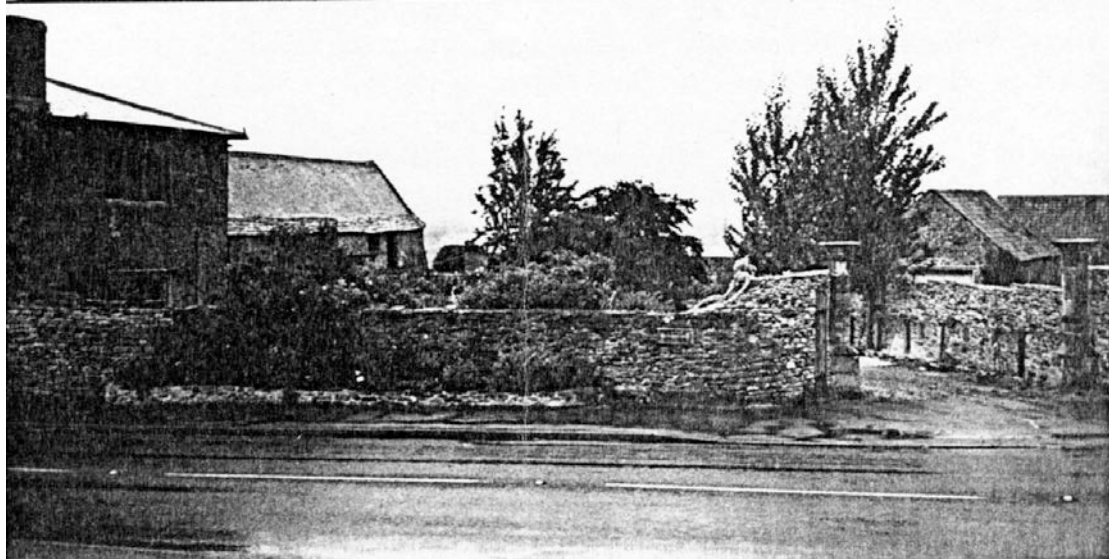
The Templecombe Panel Painting (cont'd)

"I think it is too early to leap to conclusions that the painting was the lid of a chest once used to house the Shroud - although I certainly would not rule this out. But I readily join Rex in the view that Mrs Drew's information impels further intensive study of the Templecombe panel, particularly including the back and sides, together with enquiries relating to the possible preservation of any of the items frustratingly cut away at the time of the initial 'restoration'. It is also extremely valuable to learn that what I had supposed, from the information I was given, to have been no more than a coal-house, could have been Templar in origin. While this in its turn was demolished during the 1950s, arguably some traces, including the mysterious circular stone, might conceivably survive amidst the fill of subsequent further building. Much might also be learned from a proper survey of the surviving Templar remains in the area, before these too disappear forever."

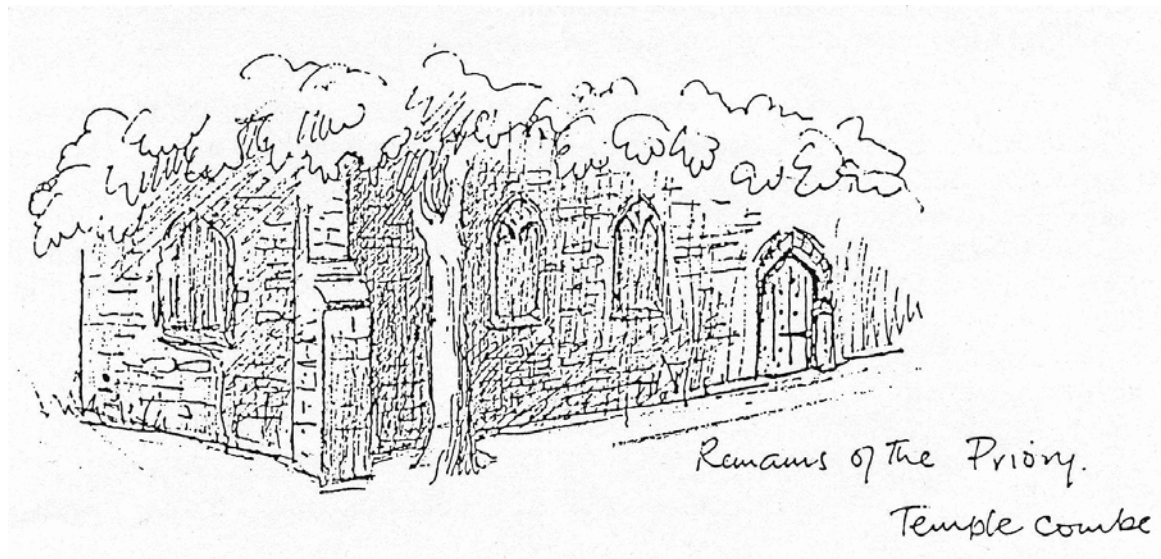
There was a scheduled lecture to the British Society concerning the Templecombe panel to be given by Dr Anna Hulbert who had herself carried out some recent expert cleaning of the panel. This lecture was postponed owing to the "Great Storm" which struck most of Britain in October and was re-scheduled for 29th January 1988. No doubt discussion about my paper will have taken place on this occasion.

We have also learned that the television documentary about the Knights Templar made in and around Templecombe was screened in Britain on 5th January 1988. At the time of the making of this television programme the production company itself commissioned the Research Laboratory for Archaeology and the History of Art at Oxford to carbon date the Templecombe Panel. I was able to report in my initial article the reported findings of this testing although I did not, at that time, have access to the report. I am glad to say that TSW Television South West made a copy of the official report available to me in October 1988. The laboratory radiocarbon dated two samples from the edges of two planks, both of which gave identical dates. After calibration the date range given with 95% confidence was AD 1280 - 1440. The reports states: "The dates are thus entirely compatible with the wood being cut in the period, say AD 1280 and 1310, which might associate the painting with the Templars. We cannot rule out a later date up to around 1440, but there is no doubt that the timber is of early medieval date."

The Templecombe Panel Painting (cont'd)



THE UNPROTECTED PROPERTY AT TEMPLECOMBE, SOMERSET, WHERE THE REMAINS OF THE ORIGINAL TEMPLAR PRECEPTORY ARE EXTANT.



A RECENT DRAWING BY TEMPLECOMBE ARTIST AUDREY DYMCK TAKEN FROM AN EARLIER ILLUSTRATION SHOWS THE TEMPLAR PRECEPTORY AS IT WAS BEFORE BEING PARTIALLY DEMOLISHED IN RECENT TIMES

The Templecombe Panel Painting (cont'd)

A further development in the new evidence was a full two-page spread article by Ian Wilson in the Western Daily Press of 2nd November 1987 in which he published a copy of Molly Drew's photo (first published in Shroud News in August 1987) together with similar photos of Mrs Drew, the Templecombe church and the building to which Mrs Drew's "wood-house" was originally attached and where the panel was discovered by her in 1944. Ian revealed to the British public, through this excellent article, the salient features of my "Was the Holy Shroud in England?" and again poses the question: "...was the Holy Shroud in England, and most particularly in Templecombe, during its missing period?"

Also since the August publication Dr Daniel Scavone, Professor of History at the University of Southern Indiana, USA, and a Shroud researcher, has written:

"I read your Templecombe article with much interest. The case you make is unusually strong. Please note, however, the following items.

1. Geoffroy was imprisoned in 1349 having failed in an assault upon Calais, not in the battle of Crecy.
2. The article which you printed in the April, 1987 issue of SHROUD NEWS gives evidence that Geoffroy planned to build the Lirey church in 1343 without reference to the Shroud. Also, the extant foundation documents at Lirey make no mention (among its relics) of the Shroud. Moreover Dorothy Crispino adduced good circumstantial (but documentary) evidence about "Why Did Geoffroy de Charny Change His Mind?" in SHROUD SPECTRUM Vol I No 1. Therefore we know that Geoffroy I did not build the church for the purpose of housing the Shroud, as you write. "

Further comment has been received from Revd Albert R. Dreisbach, Jr., Executive Director of the Atlanta International Center as follows:

- "1. The dimensions of the box/casket/'grail' are sufficient to have housed the full Shroud in folded form.
2. Geoffrey de Charny's 'silence on the manner of his

The Templecombe Panel Painting (cont'd)

acquisition of the Shroud may well stem from his having acquired it from his English 'brother' Templars - i.e. the bonds of the latter exceeding those of warring nationalism. Thus, if the English Templars had agreed to hide the Shroud across the Channel prior to the raids by Philip the Fair on the Paris Temple, a code of honor may have required them to return it to the French when circumstances permitted. Geoffrey, son of a 'Templar hero' slain at the battle of Poitiers, would be a logical choice by the English Templars to be entrusted with returning the precious relic to France.

3. #2 above may be the real reason behind why "Geoffrey changed his mind" regarding the purpose of the Church which he had built at Lirey. Thus he would have a 'double' rationale in keeping silent about his acquisition of the precious relic: A) it had been the property of the suppressed Templars; B) it had been given sanctuary by France's hated enemy, England. (Note: if any pollen evidence remains on the backside of the lid, future analysis might be able to determine whether it once contained the original or merely a copy.)

4. Logic would suggest that the box was made in England, not France. Not only is the wood English oak, but whatever cloth (i.e. original or copy) was smuggled out of France, it would have been much easier to secrete in a flexible form than in a large box which would quickly draw attention were it intercepted by unfriendly forces en route. (Note: Somewhere in the back of my mind is a memory that at one time the Shroud was spirited out of town by a nun wearing it like a wraparound skirt under her habit).

5. With absolutely no knowledge of Templar rituals, the 'mysterious circular stone' - another one already known to be in a church in the West Country - would be most easily explained if it were the symbol of the stone rolled away at the Empty Tomb on that first Easter Morn. The fact that it has a hole in the center, rather than being an aperture through which food could be passed to a priest in hiding, may simply reflect the manner in which the circular form was achieved by a stonemason (i.e. some kind of stone lathe' to which the original rough cut was attached by a shaft - thus the hole-for grinding it until it achieved its desired form. With the development of Passion Week rituals which employed carvings of the Corpus Christi which were placed in ritual 'tombs' on Good Friday

The Templecombe Panel Painting (cont'd)

and then removed to reveal an Empty Tomb on Easter, it would not surprise me if the Templars who believed they had the actual burial cloth of Christ did not modify some of the extant ritual observances to graphically convey the 'emptiness' of the original Tomb whose flattened cloths were seen by some (Cf. Cyril of Jerusalem and Cyril of Alexandria) as a proof and silent witness to His Glorious Resurrection. "

Audrey Dymock of Templecombe has said, amongst other significant comments on the whole matter of Templecombe and the Templar connection, "Your very concise picture of the possible shape of the chest or box at Templecombe is of great interest to other people here." Mrs Dymock has also, since our August discussion, renewed her crusade for proper recognition by British authorities of the many Templar buildings in the district. Of particular interest is the preceptory itself, which certainly housed the panel painting and could even have housed the Shroud, which is being allowed to disintegrate. It is not under heritage protection and only the basis of the walls and traces of window spaces now remain.

Connected with this subject is yet another reference reported in the BSTS Newsletter for January 1988 in which a member of the British Society and textile expert Shroud researcher, John Tyrer, reports several interesting artefacts correlating Shroud and Templars. He publishes a photograph of a stone head kept in Denny Abbey near Cambridge which closely resembles the face on the Shroud. The Abbey was founded about 1159 by a Benedictine community and about 1170 was transferred to the Knights Templar who used the buildings as a preceptory or commandery. They were there until their suppression in 1312, after which the Abbey became a house of the Poor Clares [another Shroud coincidence]. The stone head was found relatively recently during archaeological work in the grounds. Tyrer also records another stone head on a roof boss in the porch of the church at Wighton, North Norfolk which has a remarkable resemblance to the Shroud face.

I also note that Ian Wilson is to give a lecture entitled "The Turin Shroud and the Templecombe Panel Painting" at the Templecombe Women's Institute on 18th February 1988. It was Wilson who first, in 1978, traced the connection between the Shroud and the Templecombe panel and it is gratifying to see the enormous renewed interest in it since the publication of my August discoveries.

SHROUD-LIKE IMPRINT LEFT BY DEAD MAN IN ENGLAND

We have two sources of information about an imprint said to be very similar to that on the Shroud of Turin. According to the British Society for the Turin Shroud's Newsletter of January 1988 which reports a BBC Radio 4 programme and the Manchester Evening News of 15th January 1988 a man who died at hospital near Liverpool left a body image on the mattress cover of his bed which had passed through his pyjamas, under sheet and pillow. It is reported that the cancer patient exhibited calm courage when he approached death after a long and painful illness. The Manchester report dates the death as 1987 and the BSTS report as 1981. [it was in 1981]

It is thought that an examination of this case could shed further light on the mystery of the Turin Shroud image.

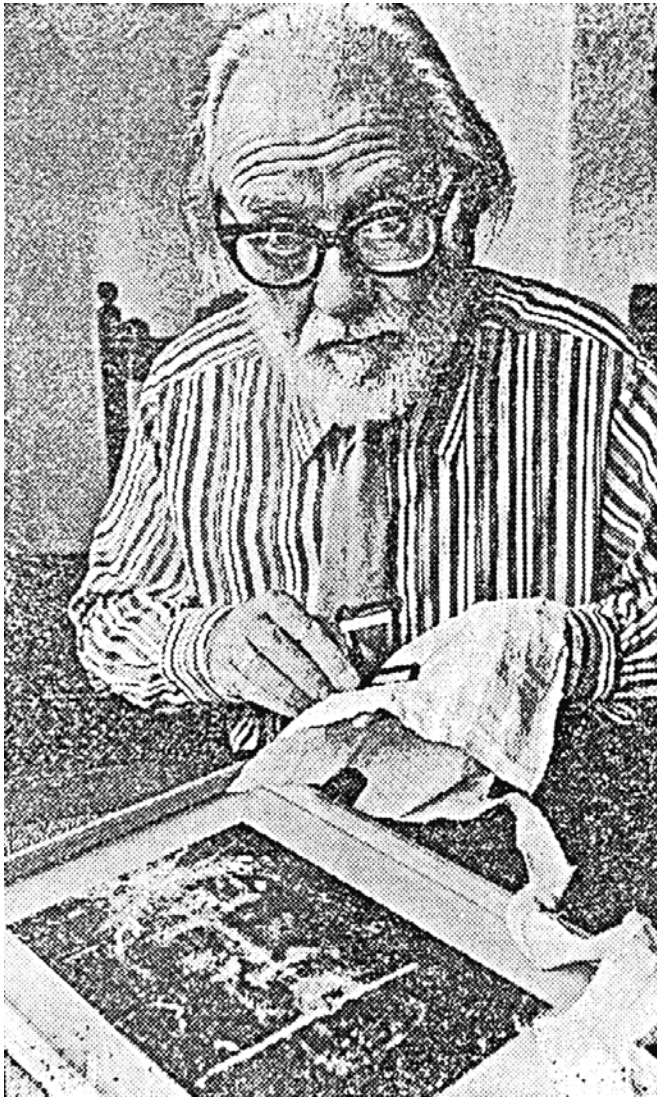
John Tyrer, textile expert, said:

"This could pose more questions than it answers. It would suggest that this is perhaps not such a rare phenomenon as is believed, but will certainly help in proving some of the scientific theories about the Turin Shroud. As for the supernatural aspect, well I think this could rock the boat."

Commenting on the carbon-14 testing of the Turin Shroud in which Tyrer will be involved, he said:

"It will cost thousands of pounds to set up and will take ages to satisfy everyone that the piece of cloth is genuine so the cash has to be raised as soon as we are told we can go ahead. Once this has been done we'll know whether the shroud dates from the first century - as I believe it does - in which case it would seem not unlikely that the image is Christ. If we find it originated from a later date then it must be a clever fake. Whatever the result I think the Pope is sticking his neck out on this one. Unless, of course, he already knows the truth."

We note also that indefatigable Shroud expert, Ian Wilson, will have written a special feature on the Liverpool image with colour photographs to be published in the Sunday Observer Colour Magazine on 31st January 1988.



JOHN TYRER, BRITISH TEXTILE EXPERT WHO WILL BE INVOLVED WITH THE CARBON 14 TESTING OF THE HOLY SHROUD. TYRER IS A PROMINENT MEMBER OF THE BRITISH SOCIETY FOR THE TURIN SHROUD AND COMMENTS OPPOSITE ON THE CASE OF A RECENT SHROUD LIKE IMAGE LEFT ON THE DEATHBED OF A HOSPITAL PATIENT.

[Pic: Manchester Evening News]

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NEW GROUP IN OREGON, USA

Below is the address for the new Shroud interest group founded by Dr Michelina Le Margie, an art historian. She has planned an exhibit and study centre open to the public. It is a non-profit organisation and seeks support.

Imago Christo, A Shroud Interest Group, Inc.
1023 Michigan
Bandon-By-the-Sea
Oregon, 97411, U.S.A.

THE CURRENT CARBON DATING CONTROVERSY

Newspapers all over the world have recently carried stories about developments in the planned C14 dating of the Shroud itself. As SHROUD NEWS readers have been informed a conference in Turin in 1986 agreed to date samples of the cloth before Easter 1988. Recently the authorities have decided to reduce from seven to three the number of laboratories to be involved and this has evoked sharp criticism from at least two of the potential testers, Dr Harry Gove and Dr Garman Harbottle of USA. Once the media get a whiff of something they can sensationalise even the most modest provincial newspaper runs the story. Here is the text of UPI's release:

NEW YORK 15th January 1988:

Spokesmen for two laboratories barred by Roman Catholic authorities from carbon-14 testing of the Holy Shroud of Turin called Friday for dropping the age authentication process altogether if seven labs do not participate as originally planned.

Professor Harry Gove of the Physics Department at the University of Rochester and Garman Harbottle of the Chemistry Department at Brookhaven National Laboratory in Upton said the church decision to have only three labs perform the test will jeopardize the accuracy of the results.

Speaking at a Columbia University news conference, they also said the church had scaled down other precautions planned to ensure the credibility of the test.

Cardinal Anastasio Ballestrero, Archbishop of Turin, Italy, said last October that three laboratories at the University of Arizona, Oxford University in England, and in Zurich, Switzerland, had been named to conduct the carbon-14 testing of the sacred relic kept at the Turin Cathedral.

The original protocol on carbon-14 testing agreed to at a church-sponsored conference held in Turin in 1986 called for seven laboratories to take part in the dating process.

An international team of scientists extensively examined the 14 by 3½-foot piece of linen in 1978 and determined that the image of a crucified man that appears on its surface was not imprinted or painted, but may have been caused by a sudden burst of radiant energy. Carbon-14 tests were not made at that time, but Pope John Paul II has since given permission for removal of a small piece of the shroud for the tests. Harbottle said this piece might be taken from under patches applied to the shroud after it was damaged by fire in the Middle Ages.

Current Carbon Dating Controversy (cont'd)

"This is obviously only going to be done once, so the intention is to produce a date that is above suspicion, that will convince everybody, that will last for all time," Harbottle said, "But you can't convince everyone on shaky evidence.

"To get an unambiguous result you have to use more than three laboratories, or the chance of a non-statistical error can creep in. Tests by seven laboratories would eliminate this possibility and would only take a piece of the shroud about the size of two postage stamps."

Harbottle said that non-statistical errors are much larger than ordinary statistical errors, and the only way that they can be recognised is by having enough labs to establish a result in agreement. "If one lab does the dating, and is in error, you will never know it. If two labs disagree, how do you know which one to choose? But if six agree and one disagrees, you can surely recognise the maverick data and throw it out."

Gove said that with seven laboratories involved, "We could date the shroud with a possibility of error of 100 years plus or minus." He and Harbottle agreed that testing by three laboratories probably would only be able to provide a dating that is accurate within 250 years. They said the labs should be able to complete the testing in a week or two.

The original protocol called for the British Museum to encode and distribute the six shroud samples, none of them from the image area of the Shroud, and one dummy sample and to collect and process the results.

Ballestrero has eliminated the independent textile expert who was to remove the Shroud sample and barred laboratory representatives from witnessing removal of the sample. He has also eliminated involvement of laboratory representatives in the final data analysis.

Harbottle and Gove said a meeting had been called later this month in England by Dr E.T. Hall of Oxford's archaeological research laboratory for further discussion of the scientists' opposition to carbon-14 testing by just three labs.

The two blamed the decisions to scale back the tests on Luigi Gonella, a physicist at the Turin Polytechnic and technical consultant to the Turin bishopric.

"I question Gonella's qualifications to give advice to the archbishop in spades," said Harbottle. "Gonella is simply the wrong man," added Gove.

ENVIRONMENTAL STUDY OF THE SHROUD IN JERUSALEM

In April 1986 a team performed a series of experiments in a tomb in Jerusalem to determine whether there was any significance in the environmental characteristics which might have produced the Shroud image. The leader of the group, Sister Damian of the Cross (formerly rolling-stone tomb expert and archaeologist Dr Eugenia Nitowski), had published information about the protocol of the testing programme and in August 1986 Biblical Archaeology Review published an article by Nitowski and Joseph Kohlbeck describing the background to their hypotheses and some preliminary testing.

By the time the article was published the Jerusalem experiments had taken place with what the group has claimed is the successful production of image patterns similar to those on the Shroud.

The article of August 1986 produced a great deal of correspondence in BAR and we reproduce it in the next few pages as it demonstrates the intense interest any serious discussion of the Shroud seems to generate. The letters range from the intelligent to the ridiculous, a feature of all Shroud discussion.

Shroud News readers will find references to the work of ESSJ in Numbers 27, 29, 31 and 41 as well as the major article by Rex Morgan (who was part of the Jerusalem team) in Number 35.



ENTRANCE TO ONE OF
THE BURIAL CHAMBERS
IN THE JERUSALEM TOMB
COMPLEX USED FOR THE
SERIES OF TESTS CARRIED
OUT IN APRIL 1986 BY THE
ENVIRONMENTAL STUDY
OF THE SHROUD IN
JERUSALEM (ESSJ)

[Pic: Rex Morgan]

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

TO THE EDITOR

Congratulations for your courageous publication of "New Evidence May Explain Image on Shroud of Turin—Chemical Texts Link Shroud to Jerusalem" (July/August 1986)! Undoubtedly, the article will generate scientific controversy.

Harold B. Nelson
Chairman
Corpus Christi Holy Shroud Memorial
Corpus Christi, Texas

TO THE EDITOR

For 600 years, distinguished investigators have studied the Shroud of Turin with increasingly myopic vision until, in the July/August issue, there is mentioned a dimension of a micron-1/25,000 of an inch!

These distinguished groups of investigators should back off about five feet and consider:

1. Would the near shoulder-length hair remain rigidly framing the face as a body was turned this way and that as laid out supinely for enshrouding? No!
2. Would the heads of the two images meet at a point? No! (The artist forgot skulls also have a dimension from front to back)
3. The shadowed features of the face indicate light coming from the front upper right, perhaps the aura from a lopsided halo?

The cloth—do not call it a shroud—never was imprinted by anyone's dead body.

Roy S. Farmer
Los Angeles, California

TO THE EDITOR

I read the article on the Shroud of Turin in your July/August issue and it reminded me that I have an old feather. My grandfather said it was from an old goose he dispatched.

I offer the feather to any religiously oriented group for scientific study. It may be able to prove that it is really from the wing of the Angel Gabriel.

Ernest G. Allen
Tarrytown, New York

TO THE EDITOR

I read the article on the Shroud of Turin with great interest, having followed the reports on the research of this fascinating object for many years.

Two very important aspects of the shroud image should be taken into consideration in understanding the images' formation by any natural mechanism. Granting that the body was placed in the shroud as shown in the picture on page 26, any image formed by a natural process would have a continuous representation of the head showing the face, forehead, crown of the head, back of the head and neck without any break if the shroud were in continuous contact with the body. As can be seen from the figure on pages 18-19, the front and the back of the head are shown but not bridged by the top of the head.

Secondly, if the shroud were wrapped around the body, as shown in the figure on page 21, the image would be distorted by the many folds and creases that would be caused by the changes in the effective cross section of the body in going from the head to the feet. An image formed on a wrapped shroud should have many distortions when unwrapped and laid flat.

If, on the other hand, the cloth of the shroud were perfectly flat above and below the body at the time of the image formation, there would not be distortion by folds, but the image would be mostly out of focus. The parts of the shroud in contact with the body would produce images in focus, but any point not in contact would radiate its heat spherically. The further the part of the body was from the shroud the larger and weaker the sphere heat would be when it contacted the shroud. The spheres of radiating energy for adjoining points of the body would overlap and produce an image out of focus—the degree of blurring would be greater the further the shroud was from the body. Blurring of this type would also occur where the shroud was wrapped around the body since there would be places where the shroud would not be in contact with the low areas of the body, e.g., around the eyes.

Environmental Study of the Shroud (Correspondence from BAR) (contd)

The claim of image formation by body heat by Kohlbeck and Nitowski needs to be studied more critically. It is very likely that an image would form with heat, moisture and limestone, but their claim that the front image is better developed than the back image because the front would stay warmer longer than the back, is only roughly proven by the shroud image. The parts of the body with small mass would cool quickly and would be expected to be more poorly developed than the chest and particularly the abdomen. The image nose and arms of the shroud are nonetheless as dark, or darker than the main body mass.

While natural mechanisms were very likely used to form the shroud image, it seems very unlikely the image was made without intelligent help and direction; moreover, the more we find out about the shroud, the less likely it becomes that any human agency could make the image on the shroud even today, let alone centuries ago. Intelligent help other than human seems more likely, but highly mind boggling.

David G. Stoffey
Salinas, California

TO THE EDITOR

Is the image on the shroud on the "inside" of the cloth next to the body? I can understand how limestone dust could be on the "outside" of the cloth, but not on the "inside," between the cloth and the body.

Larry Schanz
Dexter, Oregon

TO THE EDITOR

In reading the article on the Shroud of Turin, I was dismayed to find a citation from "research" done on concentration camp victims in Dachau. What occurred at Dachau was not medical research but sadism, torture and murder. It sickens me to think that anyone would use this material to prove a scientific point. To me it makes a mockery of the suffering of those who perished in the camps.

Suzanne Keusch
Teaneck, New Jersey

Eugenia Nitowski replies:

It grieves me to learn that anyone would consider my reference to Dachau as capitalizing on a great atrocity. Unfortunately, the text of my paragraph, to which Ms. Keusch refers, is all too brief, leaving a harshness to what has been listed, rather than the compassion originally shown by Dr. Pierre Barbet, a French physician who was citing eyewitness accounts of two former prisoners among those who had been condemned to such a death.

Crucifixion is from the distant past; Dachau, on the other hand, is a living memory. My intention was to recall the death of one innocent in an attempt to explain that of another. My own choice would have been to use words of a more compassionate and sublime comparison, but that was not acceptable as either good science or proper objectivity. I apologize for the coldness of science, but I do not apologize for an attempt to compare the deaths of martyrs to the death of One to whom I have dedicated my life. If the past, recent or distant, teaches us nothing—we, not it, become the mockery.

TO THE EDITOR

I would like to take the time to tell you I thoroughly enjoyed the article, "New Evidence May Explain Image on Shroud of Turin." I still have doubts as to the shroud being a genuine first-century burial shroud, especially that of the Lord. This is not a letter of criticism but one of sincere inquiry from a lay person.

Concerning the limestone dust: would not the shroud have had to have a uniform coating of limestone dust to have received such a uniform image upon it? Nitowski states (p. 23), "One other point is critical for our purposes—these tombs were cut into soft, moist limestone outcroppings." Would not a folded piece of linen being brushed against moist limestone receive the limestone in concentrated spots rather than a uniform coating?

A dry tomb could have produced a uniform coating on the shroud as the dust filtered down, but this would have taken many days, possibly weeks, to occur. A wet tomb could have deposited a uniform coating by percolation of the groundwater, but this process would probably have taken years.

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

The Gospel writers all state that Jesus' body was completely covered by the burial clothes; Matthew (27:59), Mark (15:46) and Luke (23:53) use the word "wrapped" while John (19:40) uses "wound." Now if the body was wrapped, would not an image of a panoramic nature have been produced instead of the two views as shown on the Shroud of Turin? In other words, not only the face and back of the head would have produced an image but the sides of the head would have produced one as well. The sides of the arms and legs would have produced an image as readily as their fronts and backs did. Also, the four views would have blended very smoothly from one to the other and not as a draftsman would draw four distinct views. Had the burial clothes been wound around and around the body, as a doctor would apply a bandage, would not a very segmental, panoramic image be displayed? Both of these methods (it would seem) would leave gaps in the image due to folds in the linen clothes.

I enjoy every issue of BAR, most issues more than once.

Robert M. Leverette
Macon, Georgia

TO THE EDITOR

The trouble with your "Shroud of Turin" article is the first sentence: "The skeptics have been unable to explain how the image on the shroud of Turin was created."

At least one skeptic, by using a hot-cloth pressing, has been able to reproduce his own images on cloth. Does this make the image that of Jesus of Nazareth? Or does it give the lie to the opening sentence of the article?

In one of those boxes attached to the article, there is proof beyond the method that the shroud is a fraud: the testimony of a bishop that he knew the artist who had done it!

Christianity, when it stoops to fraud to "prove" itself true, becomes fraudulent itself.

Lybrand P. Smith
Torrance California

TO THE EDITOR

I have just finished reading Kohlbeck and Nitowski's article On the Shroud of Turin. It is extremely interesting and well written. I can understand how the image may have been formed in the manner they present. However, there is one question that kept occurring to me. As interesting as the shroud is, wouldn't it be more intriguing to speculate on the body responsible for the image in the first place? What happened to it? Every scholar who has studied the shroud has no difficulty identifying the picture as that of a crucified man; but I have never seen any article relating to the body or the man himself. In other words, we have the burial shroud of a crucified man that everyone under the sun is trying to explain in a natural manner. But we have no body discovered in any tomb anywhere to match with the shroud.

Perhaps we should remember although there are two sites claiming to be the burial place of Jesus and we have a cloth reputed to be His burial shroud, all of them are empty.

I don't always agree with the opinions expressed in BAR, but that is my privilege. It is an excellent magazine and I look forward to each issue. As a former archaeology major and now "armchair" archaeologist, I depend on your magazine to keep me current on archaeological happenings in my major field of interest, the Holy Land. Keep up the good work.

Nita Wilkinson
Houston, Texas

TO THE EDITOR

What an interesting explanation of the image on the Shroud of Turin is presented by Kohlbeck and Nitowski in the July/August BAR! And the supplementary essays (signed W.M.—Assistant Editor Wendy Miller, I presume) summarize well the history of the shroud and of the 1978 study by the Shroud of Turin Research Project (STURP).

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

It was surprising, however, to find no reference to the most complete and authoritative account of that study, STURP member John H. Heller's book *Report on the Shroud of Turin* (Boston: Houghton Mifflin, 1984, 221 pp. plus scientific bibliography).

Dr Heller, some of whose chemical tests of the shroud are cited in your article's footnotes, produced an unusually readable account of the project and of its exhaustive tests and conclusions. To appreciate fully Kohlbeck and Nitowski's findings, in my opinion familiarity with Heller's book is essential.

George A. Vondermuhll, Jr.
Bloomfield, Connecticut

How the Image on the Shroud of Turin Was Formed

TO THE EDITOR

The article titled "New Evidence May Explain Image on Shroud of Turin" does nothing to support the argument that the shroud is genuine.

The authors reveal their own bias when discussing the back of the shroud on page 28 they say, "This difference has received little in-depth discussion and is usually not even mentioned, except by those whose aim is to prove the shroud a forgery." It may never have occurred to them that the aim of scholars such as Robert A. Wild and Raymond E. Brown may be to find out the TRUTH.

Contrary to the opening statements, nothing in the article points to a first-century date. The earliest historical mention of the shroud is in 1357. There is no reason to assume a date much earlier than that for its manufacture.

On page 26 is an illustration of a 16th-century painting by Giulio Clovio. The caption says, "... the scene shows how Jesus' body would have been wrapped to create the head-to-head image on the Shroud of Turin." Closer examination would reveal that the painting shows why the head-to-head image would be impossible. If the image was produced by being wrapped around a man then it

would have an exploded view of the person showing the front, back, sides and the top of the head. The image we have on the shroud is a back and frontal view of a man, the same as we would expect in a painting. The authors may continue wrapping up medical manikins, but they know that they will never recreate the image that way.

The authors produced good evidence showing that the shroud probably came from the area of Jerusalem, and this is supported by Max Frei's claim of having found pollen spores native to Palestine on the shroud. However, this does not support its authenticity. The 14th century was rife with religious forgeries brought back from the Holy Land by European pilgrims. This could have been one of them.

On page 25, in speaking about the red particles found on some shroud fibers Kohlbeck says, "Those particles that had previously measured one or two microns in diameter now appeared to have nuclei." Two microns is about the thickness of a cell's membrane, much too small for a nucleus or any other organelle. We do not know what Kohlbeck saw. The conclusion that the particles were "organic rather than inorganic" means little because organic material is often used in paints for coloration.

On page 26 the authors described a very interesting experiment:

"We made a paste of the Jerusalem limestone with distilled water and then applied this paste to new linen fibers, slightly rubbing the paste into the fibers. The slightly alkaline limestone (aragonite) attacked the outer skin of the fibers, producing a yellowish color very similar to the color of image fibers of the shroud."

Without knowing it, Kohlbeck and Nitowski may have discovered exactly how the image was made; here is my explanation:

In the fourteenth century a group of forgers in Jerusalem created a positive image using a limestone paste for coloring, highlighting by applying heavier coats over desired

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

areas. This positive image would have little durability and would quickly flake and peel off (however it would last long enough to sell the cloth to an unsuspecting Christian), leaving a negative image as a result of mercerization. Where the paste was thickest the discoloration would, be greatest. The "blood stains" were put • on using a more permanent paint that may have had an organic substance added for color.

At age seven I once attended a birthday party where a professional magician performed. The magician took off his hat and showed everyone that the top was solid by knocking on it. He then put the hat on his table and proceeded to pull out several objects including a live rabbit. At that age, I really believed that the rabbit came out of the hat. But not knowing did not make it magic, and if there are questions about the shroud which scientists cannot answer, that does not make it genuine. The burden of proof is upon those who claim that it is the burial shroud of Jesus Christ, and they have shown nothing to support that claim.

Richard A. Weatherwax
North Hollywood, California

Eugenia Nitowski replies:

It was not the purpose of our article to list all the evidence for or against the authenticity of the Shroud of Turin either as a burial cloth or, more specifically, as that of Jesus Christ. Such a feat would require volumes. Rather, we have attempted to approach the topic from the standpoint of the original tomb environment and explore the role that environment may have played with regard to image formation and evidence of origin. Date is outside the scope of the procedures we used.

To say that anyone approaches a topic with total objectivity is not only ludicrous but naive. It is the ideal that researchers be open to new evidence and proceed in the direction that evidence dictates and not cling tenaciously to previously conceived theories. The authenticity of an object, like the Shroud of Turin cannot be judged by one point alone, but is decided in each person's mind by the weight of evidence.

Many broad statements are made pro and con about what has or has not been proved, but many of those statements will not bear scrutiny, for example, the d'Arcis memorandum. Neither the artist, his name nor any other information was ever produced. Bishop Louis Raguier, d'Arcis's successor, maintained the shroud's authenticity in three official documents. The issues involved are not simple.

There are several levels of calcium contamination on the shroud. While the greater calcium concentration is found on that side not in contact with the body, contamination also exists on the inside as well. It is not known how either the cloth or the body were handled from the cross to the tomb where such contamination could have been acquired.

The frontal and dorsal images on the shroud provide valuable clues as to the condition of the body at burial, because those images are not perfect. For example, the frontal image is taller than the dorsal, one hip on the frontal image is larger than the other, the fingers seem to be too long, and very little neck is visible. The cloth was wrapped around a body which was in rigor mortis from the cross, as we showed in the drawing on page 21, a shape in which the head is bent down onto the chest, almost eliminating the neck, the legs are bent causing the stretching of the cloth over the knees to give a taller frontal image. The wrapping and folding of the cloth around the body is responsible for distortions and dropping-out effects, as can be seen with the lengthened fingers of the image due to the tucking of the cloth under the hands. The gap between the frontal and dorsal head images is caused by folding the cloth at that point (the heads do not meet at a point as was mistakenly claimed in one letter above). The illustration on page 26 showing the wrapping of the body was not chosen by us, but rather by the publisher. We show a tying of the body in the cloth which, in many places, holds the cloth in close contact with the body. The tying around the neck area along with the head bent downward onto the chest causes the hair to fall forward and remain in that position. No doubt the considerable amount of blood shown in the hair on the shroud would cause a matting and stiffening of the hair as well.

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

The Kohlbeck and Nitowski paper ("New Evidence May Explain Image on Shroud of Turin," July/August 1986) demands comment. The matters they addressed may have already produced a correspondence flood from other distressed physicians; and perhaps an objection or two from a physicist or physiologist.

You have a fine, well edited journal which I enjoy along with *Bible Review*. Please accept objections to authors who get carried away and, I believe, need to be drawn up short. The message is, "Don't write unless you know the subject intimately and have something original to contribute."

Richard S. Malone, M.D.
San Antonio, Texas

The Kohlbeck-Nitowski theory on the Shroud of Turin requires an incredibly dusty body or shroud. Random smears of limestone resulting from manoeuvring in a confined space would not account for an image of most parts of the body.

A more important aspect, it seems to me, is briefly mentioned in the boxed editorial comments on pages 22 and 26—that is, the question of distortion, or lack of it, of the image.

Let us assume that a lasting image can, somehow, be transferred by a body to cloth.

What sort of image would one expect from a three-dimensional body when the shroud is pulled out flat, as it is, for inspection and photography?

Surely not a "visage arrestingly lifelike and *undistorted*" as noted in the box on page 26 and shown by the photograph on page 18.

The artist's picture on page 26 shows how such a shroud would surely be handled.

Over 30 or more hours, limp cloth would sag from the bridge of the nose, down the sides of the

nostrils, across the front of the cheeks and down the sides of the face.

When the cloth was pulled out flat again, any image would show considerable side-to-side distortion.

A cloth draped over my very ordinary face measures, when spread flat, over 13 inches (34 cm) from ear-tip to ear-tip. My nose, an undistinguished feature, becomes over three inches (8 cm) wide.

The limper the cloth the more the lateral distortion of the frontal image. A less flexible cloth would show marks of high points, such as the bridge of the nose and cheek bones, with vague marks or blank spaces where the cloth hung suspended.

The back of the body resting on the half-shroud spread out on a fairly flat surface would make a quite different impression. There would be roughly oval shapes where the back of the head, the shoulder blades, the buttocks, thighs, calves and heels had touched. They would be separated by more-or-less blank areas depending on how much the neck and the small of the back were arched.

The production of 'authentic' relics is an ancient trade with skills, probably basically simple, still sufficient to bamboozle the technologists.

John Carder
Western Australia

Concerning the "New Evidence" about the Turin shroud, if the authors are writing about red particles which are organic, then they appear to be referring to red blood corpuscles (RBC).

Thus if they continue their argument that they "now appeared to have nuclei," let me point out that RBC do not have nuclei!

Neil Rosenstein, M.D.
Elizabeth, New Jersey

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

The putative mechanism formulated in BAR (July/August 1986) for explaining the formation of the image on the Turin Shroud is really quite untenable, relying as it does on a completely erroneous statement of the chemical behavior of linen.

First, mercerization requires a treatment with *highly concentrated* alkali; it just does not occur in "a slightly alkaline solution" at a pH below 8.5. Second; mercerization occurs at *low* temperatures near freezing point: The conversion would be stopped by heat, 'certainly not "speeded up." Third, the "acid-alkaline reaction" of acetic acid solution (or acidic sweat or blood) with limestone would necessarily neutralize its already meager alkalinity, thereby leaving no reagent at all for a putative mercerization. Thus, the "explanation" is unfortunately merely a sham. I wonder who was the textile chemist consulted by the authors.

Dr. I. Irving Ziderman
Israel Fiber Institute
Ministry of Industry and Trade
Jerusalem, Israel

The article, "New Evidence May Explain the Image on the Shroud of Turin," by Joseph Kohlbeck and Eugenia Nitowski introduces an interesting concept that requires comment.

The validity of the hypothesis presented by Kohlbeck and Nitowski depends on a high skin temperature from heat stroke and the presence of an acidified sweat for the calcium carbonate to exert its effect in the mercerization process.

First of all, exhaustive studies in my laboratory revealed that the crucified died of traumatic and hypovolemic shock beginning with the brutal scourging and increasing in intensity with each subsequent event, such as the crowning of thorns, nailing the feet and hands, suffering on the cross, etc. (F. T. Zugibe, "Death by Crucifixion," *Canadian Society of Forensic Science* 17 11984],

pp. 1-13). One of the main signs of shock is a reduction in temperature characterized by "cool, pale, moist skin."

Their hypothesis is also untenable because the skin in heat stroke is not sweaty but extremely dry and hot with an absence of sweating because there is a dysfunction in the heat-regulating mechanism. The authors attempt to support their theory a priori by quoting from Barbet's book regarding observations made at Dachau concentration camp, "This sweat was especially abundant, indeed to an extraordinary extent, during the last few minutes before death"; and by quoting from my crucifixion studies where I indicated that a "marked sweating reaction became manifest in most individuals" (*The Cross and the Shroud* [Garnerville, NY: Angelus Books, 1982], p. 108). This was entirely true, but temperatures taken during the sweating episodes on numerous volunteers varied between 96-99° C. Neither of these quotes, however, support their hypothesis of heat stroke since this condition is manifested by high fevers and cessation of sweating with a dry skin.'

Another fact that militates against their hypothesis is the fact that heat stroke is characterized by a loss of consciousness.' According to Biblical accounts, Jesus never lost consciousness to the end: "Jesus, crying with a loud voice said, 'Father, into thy hands I commend my spirit!' And having said this he breathed his last" (Luke 23:46).

A caution of utmost importance is that heat stroke must not be confused with heat exhaustion which is due to marked dehydration, and is characterized by normal or slightly elevated temperatures, weakness, profuse sweating and intense thirst. It is of interest that the features exhibited during the crucifixion of Jesus appear to fit more appropriately into heat exhaustion. The feature of thirst was strikingly manifested by Jesus at the end of his ordeal when he said, "I thirst" (John 19:28). They immediately gave him vinegar to drink, after which he died.

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

Another point that needs clarification regards the terms postmortem caloricity or postmortem fever. I have been a full-time forensic pathologist-medical examiner for many years, yet I am totally unaware of these terms. I checked all of the forensic texts in my library, initiated a 20-year computer search and consulted with several of my colleagues, all to no avail.** Moreover, of the thousands of cases we investigate, we regularly do internal temperatures; yet I have never observed or even heard of a single case where the skin temperature was elevated 5 or 6 degrees above that maintained at death, as indicated by the authors. It is a known fact in forensic pathology that the decedent's exterior (skin) reaches environmental temperature much more rapidly than does his interior. Also, the smaller the body mass, the cooler the environmental temperature and the less clothes wrapping the body, the more rapid the cooling time.*

Frederick T. Zugibe, M.D.
Garnerville, New York

* References available on request.

** The only paper where a study of elevated temperatures was conducted postmortem was one by Hutchins in *Human Pathology* 16 (1985), p. 560, where all the temperatures were taken rectally. He found an initial postmortem increase in temperature measured rectally probably due to increased bacterial metabolism without any heat dispersal mechanism but he did not measure skin temperatures. We have also confirmed this but in all the cases of elevated rectal postmortem temperatures that I have investigated, in no instance was the skin temperature elevated. If the deceased with an elevated rectal temperature was found in a cool area, the skin was also cool despite the elevated internal temperature.

As a casual observer of the Shroud of Turin saga, I found Kohlbeck and Nitowski's article interesting. At least three things are suspect, however.

1. The article states that "the human body is 98% water." Most average-build living adults I know are about 50-60% water.

2. The idea of "postmortem fever" is suggested as adding to the purported heat-induced changes in the shroud. This is a new concept to me. Having studied and practiced medical pathology for 13 years, I have never encountered that term. A computer search of pathology and autopsy literature failed to find reference to it. I would like to know more about it, if it exists.

The idea that areas of the body that "retained heat the longest, namely the chest and back," form a denser image is a curious premise. If that is true, then why does the shroud have such prominent images of the beard, mustache, eyebrows and long scalp hair? Hair is not a heat reservoir.

3. Red particles from the "lance-wound" area were stated to be "organic rather than inorganic" based on color changes and appearance of "nuclei" after heating and storing in oil. Today, chemists do more than store things in oil to identify their chemical nature. The rationale for the conclusion that the material is organic is unclear. Further, normal red blood cells in a human adult have no nuclei.

If red blood cells can survive the desert heat in the autolyzing intestinal tissues of a working class body in an Egyptian mortuary,* then surely the shroud's relatively drier extracorporeal environment would preserve them all the better. Medical microbiologists, for example, routinely use heat and desiccation as a fixative (preservative) when examining organisms microscopically. The particles depicted in BAR show none of the uniformity that would be expected in heated, desiccated red blood cells.

Normal red blood cells are about 8 microns across. Heating and drying would remove water from the interstices of the cells, but would probably not reduce them to 13-25% of their former diameter, like the

* Nicholas B. Millet et al., "ROM I: Mummification for the common people," in *Mummies, Disease and Ancient Cultures*, ed. Aiden and Eve Cockburn (Cambridge University Press, 1980).

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

one- or two-micron particles on the shroud fibers:

The authors should be commended for using cautious phrasing. Evidently, even more caution is in order when offering interpretations of the shroud.

R. E. Cook
Boring, Oregon

Eugenia Nitowski replies:

During my study of the effects of death on the body I have been surprised at the different ways in which forensic pathologists and morticians view those changes. These differences are due, probably, to the way in which each discipline must treat the body to gain information from it. The forensic pathologist is concerned with cause and time of death, while the mortician immediately involves himself with stabilizing the body for the sake of preservation. The term postmortem calorificity or postmortem fever is a common one among morticians and is well documented in the standard textbook by Clarence G. Strub, LE., and L G. Frederick, LE., LF.D., The Principles and Practice of Embalming (4th ed., Dallas, 1967). Forensic pathologists seem to have no term for this condition, but it is noted by Francis Camps et al. in Gradwohl's Legal Medicine (Chicago, 1976), and has recently been discussed by Grover M. Hutchins, M.D., of the Johns Hopkins Department of Pathology in "Body Temperature Is Elevated in the Early Postmortem Period," Human Pathology 16/6 (1985), pp. 560-561, where he recognizes the same cause of this condition as do the morticians.

Heatstroke, on the other hand, is comprehensively discussed in the article we quoted by S. Shibolet et al., "Heatstroke: Its Clinical Picture and Mechanism in 36 Cases," Quarterly Journal of Medicine, New Series 36, No. 144 (October, 1967), pp. 525-547, where it is stated that their ten-year study is an attempt to "highlight the fallacy of some preconceived ideas regarding its mechanism" and especially in the case of profuse sweating which they found in all cases except one. They state,

"this point is of great diagnostic importance, for dry skirt is commonly regarded as one of the cardinal features of heatstroke and the presence of sweating has led to misdiagnosis of typical cases." Body temperatures were found to exceed 42° C (108° F) at the moment of collapse. This seemed to support Barbet's observations and did not disagree with Zugibe, since his volunteers were never brought to the limit, because no experiment in the laboratory could be taken to that extreme.

The use of the figure "98% water" was an amount gained from general sources and was used only to illustrate that water would be the medium which held temperature most like that of a human body.

The phrase about areas of the body that "retained heat the longest, namely the chest and back," was clearly written as having reference to the manikin. In the human body, hair is not a heat reservoir. But the head is, unless it belongs to a three-foot-tall manikin which because of size and structural support will not retain heat.

The fibers containing red particles from the lance wound area were not stored in oil to identify their chemical nature. As stated, the samples were mounted in two different kinds of immersion media for the sake of obtaining greater clarity in photography. The samples were then simply put away until further use was required. Later examination showed the red particles had turned black with a yellow exudate. An inorganic substance, claimed by some in this instance to be iron oxide, would not exhibit such a change; an organic substance would however.

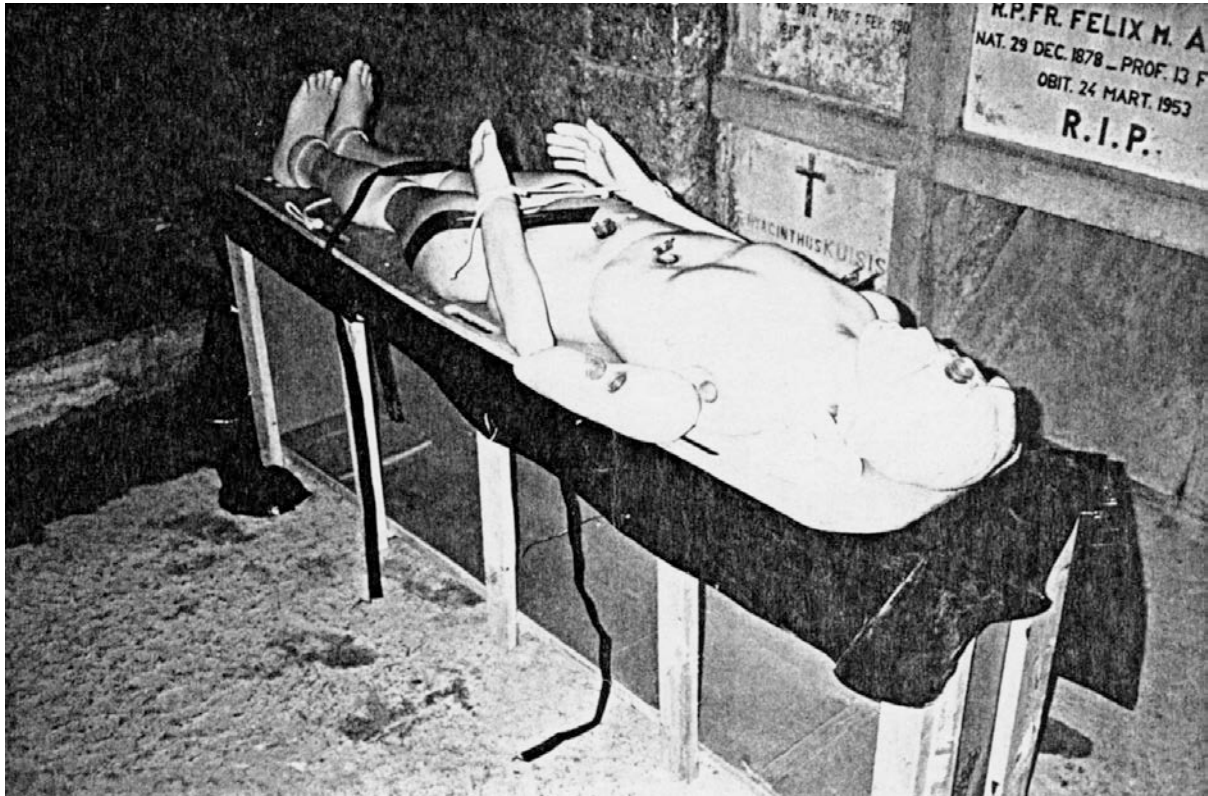
*While heat and desiccation may be used in the laboratory as a fixative, dehydration as viewed in the red particles, in the fibers themselves and other materials found on the shroud does not follow standard uniformity due both to the age of the cloth and the deteriorative process.*The cathedral fire of*

* Blood cells exhibiting irregularity in size have been reported in 2,000-year-old mummies by Michael R. Zimmerman, "Blood Cells Preserved in a Mummy 2000 Years Old," *Science*, 180 (April 1973), pp. 303-304.

Environmental Study of the Shroud (Correspondence from BAR) (cont'd)

1532 would have a further effect, since the silver of the case holding the shroud reached the molten state. Further, we said

that the particles "appeared to have - nuclei," a simple comparison to describe what was viewed in the microscope.



THE SPECIALLY MADE MANNIKIN WHICH WAS USED DURING THE SERIES OF EXPERIMENTS CONDUCTED IN JERUSALEM IN APRIL 1986 BY THE ENVIRONMENTAL STUDY OF THE SHROUD IN JERUSALEM TEAM (ESSJ). THE MANNIKIN HAS BEEN POSITIONED READY FOR FILLING WITH HOT WATER BEFORE BEING PLACED INSIDE THE INNER TOMB.

[Pic: Rex Morgan]

SHROUD NEWS began in 1980 when Rex Morgan, author of three books on the subject of the Holy Shroud (PERPETUAL MIRACLE -SECRETS OF THE HOLY SHROUD OF TURIN, SHROUD GUIDE and THE HOLY SHROUD AND THE EARLIEST PAINTINGS OF CHRIST) started putting together a few notes about current developments in sindonology (the study of the Shroud of Turin) for a small circle of interested people in his home country of Australia. He didn't expect it to go beyond a few issues.

The bulletin now reaches subscribers all over the world and because of its relatively simple method of production it can be written and produced and the information disseminated more quickly than most news-sheets of a similar kind or the more prestigious journals. It contains information, news, articles and illustrations gathered from sources of Shroud study worldwide through Rex Morgan's extensive personal connections with what has been described as the "Shroud Crowd".

Rex Morgan is a frequent traveller overseas and thus has the opportunity to keep abreast of latest developments in Shroud study and research. He was present at the world media preview of the Shroud itself in August 1978 in Turin, Italy and has met with numerous Shroud researchers in many countries. His quest for information about the Shroud has become, as he describes it, a "passionate hobby". He brought the world-famous Photographic Exhibition created by Brooks Institute, California, to Australia, New Zealand, Hong Kong and Macau and during its tour it attracted more than half a million visitors. The exhibit has now been given to the non-profit making organisation, The South East Asia Research Centre for the Holy Shroud (SEARCH) of which Morgan is President. He is also a member of the Board of Directors of the USA based Association of Scientists and Scholars International for the Shroud of Turin (ASSIST) and was a member of the scientific team which conducted environmental experiments in a Jerusalem tomb in 1986 (The Environmental Study of the Shroud in Jerusalem).

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