

# SHROUD NEWS

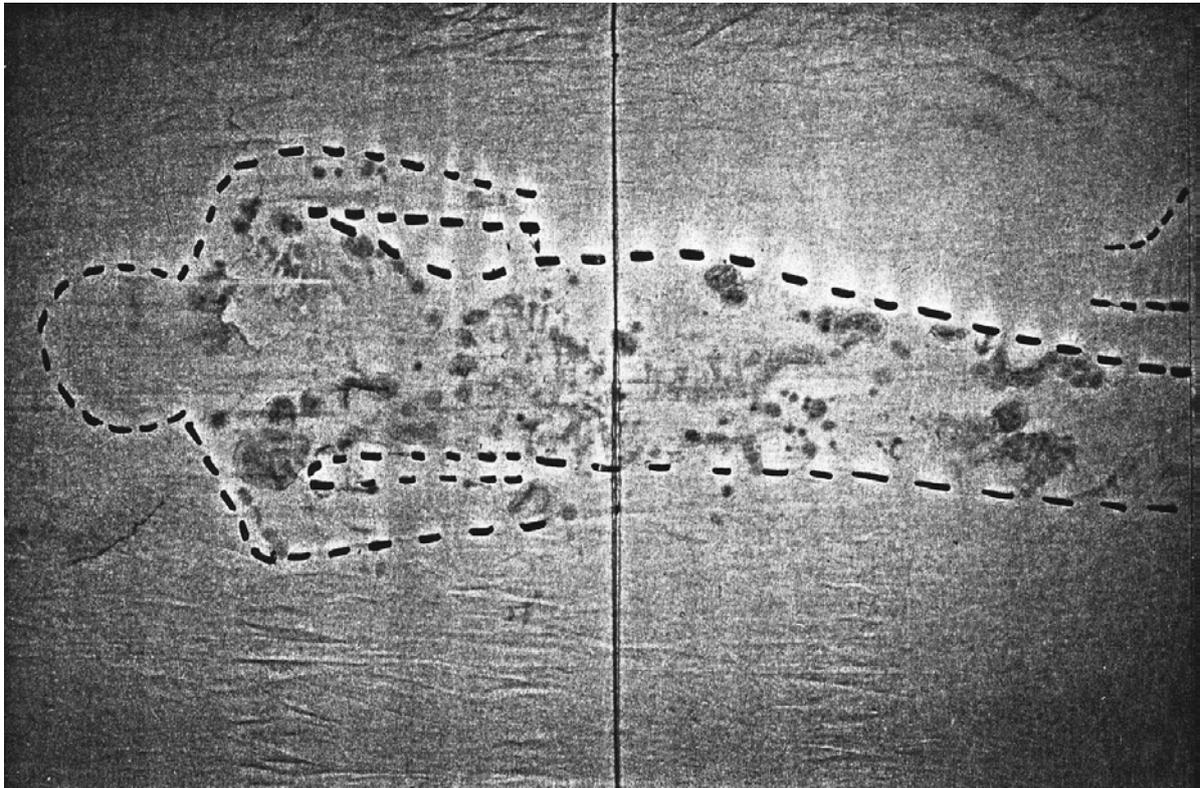
A NEWSLETTER ABOUT THE HOLY SHROUD OF TURIN  
edited by REX MORGAN  
Author of *PERPETUAL MIRACLE* and *SHROUD GUIDE*

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ISSUE No. 35

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THE FIRST PICTURE TO BE PUBLISHED OF THE RESULT OF TEST 4 IN THE ENVIRONMENTAL STUDY OF THE SHROUD IN JERUSALEM, APRIL 1986. THIS TEST PRODUCED AN IMAGE LATER SHOWN IN MICROSCOPIC STUDY TO BE OF SIMILAR CHARACTERISTICS TO THE IMAGE ON THE TURIN SHROUD. IT WAS PRODUCED BY CELLULOSE DEGRADATION OF THE FIBRES - THE RESULT OF A COMBINATION OF BODY HEAT AND ENVIRONMENTAL FACTORS. THIS PHOTO HAS AN OVERLAY TO INDICATE APPROXIMATE POSITION OF BODY. READ THE FULL STORY OF THE EXPEDITION IN THIS ISSUE OF SHROUD NEWS.

### EDITORIAL

This issue contains the promised report on the expedition to Jerusalem for the ENVIRONMENTAL STUDY OF THE SHROUD IN JERUSALEM which took place in April this year. In it you will read how the experiments seem to have been successful in adding to the speculation about the image formation process on the Shroud. We await a full formal report from the group likely to be published in the next few months.

Prior to the trip to Jerusalem I met the new Roman group in Rome and a report of that occasion is contained in this issue. Monsignor Giulio Ricci of Rome, one of the great sindonologists of this century, has written to us to point out that his own group CENTRO ROMANO DI SINDONOLOGIA continues actively. We are also informed that the Vicariate of the Diocese of Rome has accepted the scientific-religious and pastoral address given by Monsignor Ricci in his 40 years work and has conceded the qualification of "specialization" to the students that - after the course of Sindonology -- follow a two year course of Catechesis in their own Dioceses.

We have received several recent translations from Italy's Nereo Masini amongst which is the news that a member of the Turin International Centre, Professor George Tessiore, has produced a booklet about the Shroud in Braille. With the co-operation of the Chiavari-Tigullio Rotary Club this booklet is now available to blind Italians everywhere.

Masini has also favoured us with a translation of part of a new French book on the Shroud (a copy of which we expect to receive at any moment) by ANDRE DUBARLE. This section which I hope to include in the next issue of SHROUD NEWS deals with the interesting debate over the "poker holes" in the Shroud which are variously held to be the result of ordeal by fire, spillage of censer oil, and bloodmarks from nails laid on the sheet.

An article entitled ON THE PHYSICAL DEATH OF JESUS CHRIST was published in the Journal of the American Medical Association in March and put the view that Christ was dead before being removed from the cross. Apparently this article has caused a furore in America resulting in the greatest correspondence the Journal has ever received on any topic. It is interesting to speculate again on why science seems to run scared when Christ is mentioned in the hallowed columns of scientific literature.

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Editorial (contd)

You will have noted a new banner for SHROUD NEWS. This is the work of Fr John Conliss, SVD, of Tajimi, Japan. Fr Conliss, an artist, has worked to produce the original for this new banner of his own volition by hand for some months. We are most grateful to him for his interest and support.

The May/June issue of Collegamento Pro Sindone contains important articles by Zaninotto, Malantruccio and Garello as well as a report of the meeting between members of the group in Rome and Sr Damian's group as they returned from Jerusalem.

Further research by Dr Alan Whanger of Duke University has been the subject of more press attention. I spent a day with the Whangers in April and was brought up to date on their new discoveries and claims concerning the similarity between deities portrayed not only by Jews but also by early depictions of Buddha suggesting that even these were copied from the Shroud image. More about this in another issue of SN.

It is expected that a major article on the work of Nitowski and Kohlbeck will appear in the July/August issue of Biblical Archaeology Review whose editor visited the ESSJ team when we were in Jerusalem.

On the local scene Helen Ferris of Sydney has translated an important article by Don Luigi Fossati from the Italian on carbon dating and we hope to include this shortly.

Also on the local scene we are glad to say that the Brooks Photographic Exhibition, now safely back from its visit to Hong Kong and Macau, will be going to Cairns in Northern Queensland for a week's showing at the Pacific International Hotel in the first week of August. This has been made possible by the generous major sponsorship of the owners of the Pacific International and the encouragement of Cairns artist John West, whose name and work has appeared in earlier issues of SHROUD NEWS. Plans are also in hand for the exhibit to go to Perth, WA, coincident with the finals of the Americas Cup yacht race at the end of January 1987.

REX MORGAN

### VISIT TO ROME

On my way to join the ESSJ expedition in Jerusalem in April I had the pleasure of meeting with the PRO COLLEGAMENTO SINDONE, the newly formed Rome Shroud group. Headed by Professor Emanuela Marinelli the group meets frequently, produces an extensive bimonthly newsletter, many of its members give lecture programmes and, through Professor Masini, is leading the rest of us with immediate translations of Italian articles and papers into English for wider dissemination.

Present at the special meeting called in my honour were several leading Italian sindonologists including Professor Malantrucco, Father Marcozzi and Fr Dr Heinrich Pfeiffer who had returned specially from Germany for the meeting. Fr Pfeiffer is one of the world's leading experts on iconography and we had a very useful discussion about the work of Thomas Heaphy, the subject of my most recent Shroud-related book.

I was able to describe to the Group some of my Shroud work and commented specifically on the Lier Shroud copy and the immediately past Symposium and Photographic Exhibition in Hong Kong and Macau. I forecast in some detail the proposals for the work in Jerusalem and touched upon Sister Damian's theories together with comments about recent developments in other parts of the world of which I was aware. On this occasion I made the first public reference to the possibility of an international Shroud Conference which I am planning to organise in Australia in the not too distant future.

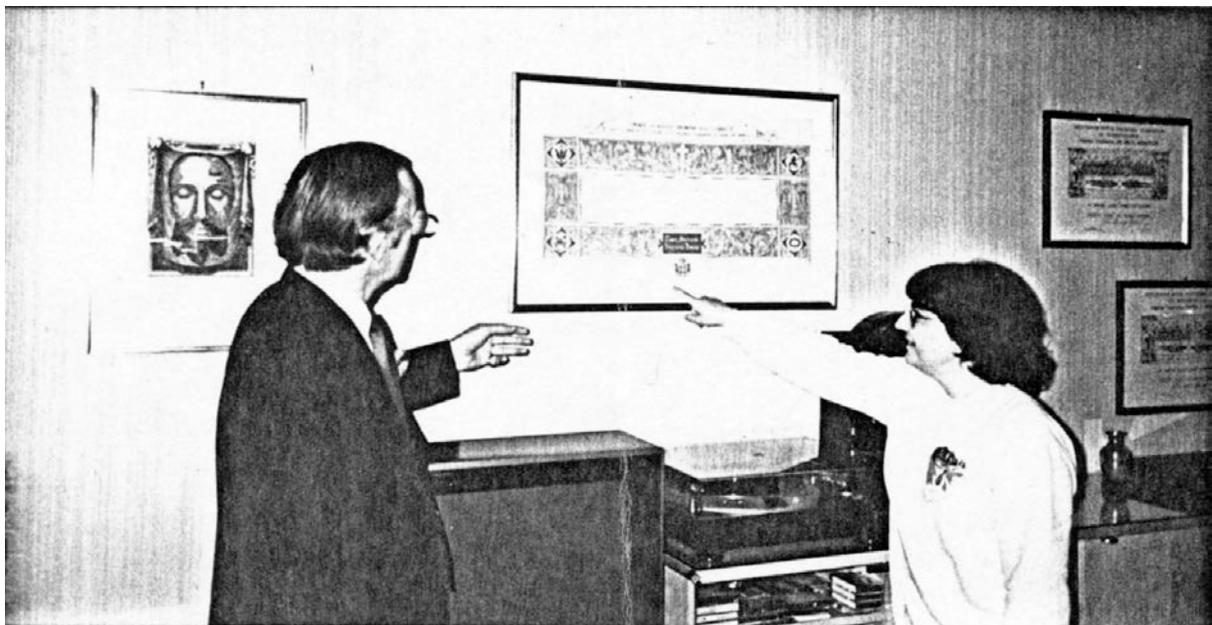
The group continued with animated questioning and discussion on a wide variety of topics. Fr Pfeiffer discussed his current research on the significance of the Manoppello Sacred Face and the journey of the Shroud into Germany in the middle ages. Fr Marcozzi spoke of aspects of C14 dating and some research on the incidence of AB blood group amongst Sephardic Jews.

The opportunity was also given to me to inspect Professor Marinelli's extensive private Shroud library of books, articles, documents, videos and other material which I found to be very interesting. Dr Nereo Masini continues to send translations which will be used from time to time in SHROUD NEWS.

REX MORGAN



At the Pro Collegamento Sindone meeting 6th April 1986 in Rome.  
L to R: Professor Emanuela Marinelli-Paollicci; Dr Nereo Masini; Rex Morgan (answering a question); Fr Dr Heinrich Pfeiffer, SJ



Professor Emanuela Marinelli-Paollicci shows Rex Morgan some of her Shroud-related memorabilia at her home in Rome, April 1986  
[Photos:Maurizio Paollicci]

### THE JERUSALEM TOMB EXPEDITION 1986

A NARRATIVE REPORT ON THE ENVIRONMENTAL STUDY OF THE SHROUD IN JERUSALEM by REX MORGAN (OFFICIAL OBSERVER)

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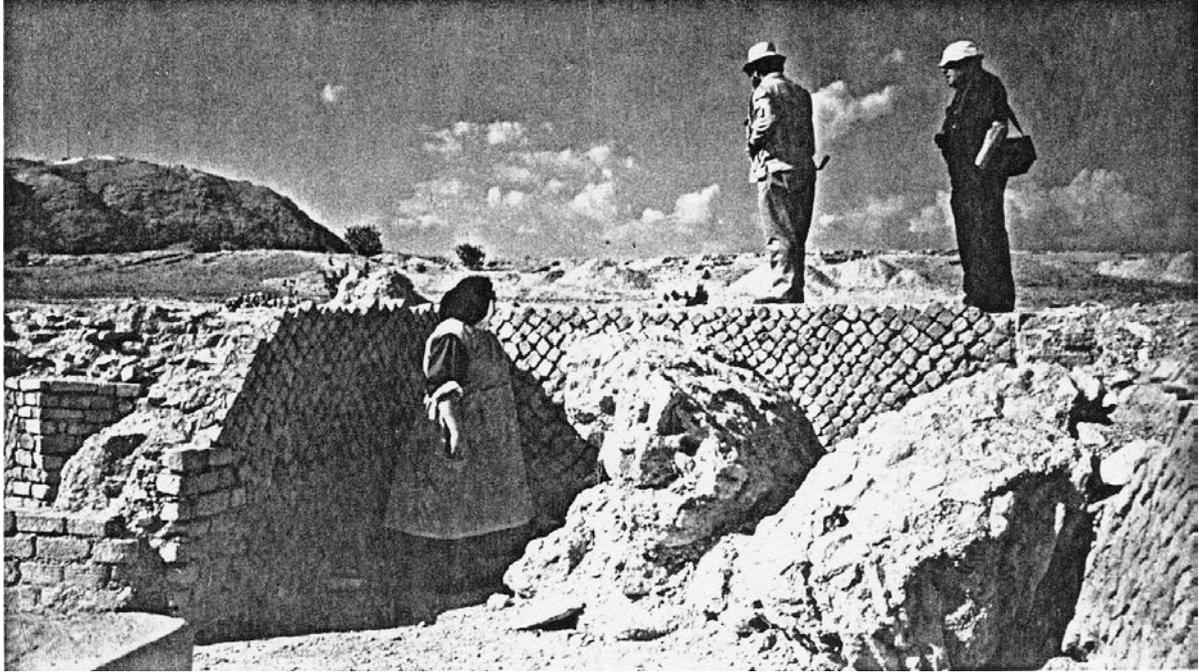
READERS SHOULD NOTE THAT THIS REPORT IS PURELY A NARRATIVE AND DOES NOT REPRESENT ANY OFFICIAL VIEW OF THE EXPEDITION TEAM. FORMAL SCIENTIFIC REPORTS ARE YET TO BE PUBLISHED.

#### Background to the Expedition

One of the world's leading Middle Eastern Archaeologists, American Dr Eugenia Nitowski, who has excavated more rolling-stone tombs in Israel and Jordan than any other person in the field, and has published many treatises and papers on this and allied subjects, was the leader of the ENVIRONMENTAL STUDY OF THE SHROUD IN JERUSALEM. During 1984 Nitowski gained worldwide publicity with her work in collaboration with Dr Joseph Kohlbeck on the possible effect of environmental conditions on a cloth such as the Shroud of Turin with relation to the image formation process - the major aspect of all Shroud study and the answer to which has still to be found. Kohlbeck is Manager of the Research and Development Applied Chemistry Laboratory of Hercules Corporation at Bacchus, Utah. He is regarded as one of the top few optical crystallographers in the USA and the results of his microphotographic work on a number of the samples taken from the Shroud in 1978 by Dr Ray Rogers have shed new light on the substances evident on the Shroud fibres.

Eugenia Nitowski is a graduate of four universities in Religion, Ancient History and Archaeology and has worked as Curator of an archaeological museum with wide experience in conservation, photography, reconstruction and restoration and allied skills. She has also had extensive field experience in Israel and Jordan on numerous archaeological expeditions and in Middle Eastern museums. Dr Nitowski is now Sister Damian of the Cross, a Discalced Carmelite nun and lives at the Carmelite Monastery in Salt Lake City, Utah.

Convinced that experimentation should be done with a cloth similar to the Shroud in a tomb in the same rock-face as that of Christ, Sr Damian set about gathering a group to plan and prepare a series of such experiments. Calling on a number of experts in various fields she set up the protocol for the tests which would be done.



Israel 1986: Sr Damian with Dr Jim Strange and Rodger Apple inspecting excavations of King Herod's Temple site.

Below: one of the numerous ritual baths on the site.



## The Jerusalem Tomb Expedition 1986 (contd)

### Aim of the Expedition

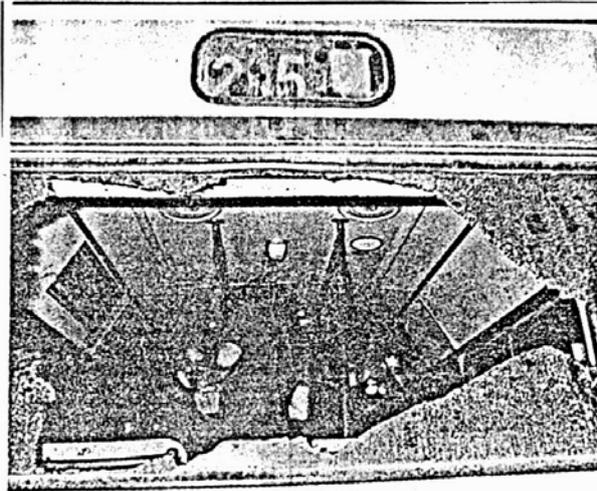
The basic purpose of the expedition was to simulate the circumstances in which the body of Christ, according to historical sources, was transported into a tomb complex in the Jerusalem limestone cliffs used for burial and, with appropriate preparations and precautions, to wrap a body in a piece of linen and observe the results after leaving the experiment in the tomb for pre-determined lengths of time. The main object was to observe what stains or image marks might appear on the cloth samples. Secondary experiments were to take samples of limestone from various tomb sites traditionally associated with the burial of Christ as well as from other tomb sites in Israel for comparison purposes. These would be compared with the chemical structure of limestone particles removed from the Shroud of Turin during 1978.

### Members of the Team

Sr Damian gathered around her various experts and observers to form the final team to Jerusalem. Some who had planned to be involved were unable or unwilling to be in the final analysis for personal or other reasons. The team consisted of Sr Damian (leader); Sr Mary Joseph, OCD, (Nurse and Medical Advisor); Mr Carl Nitowski (video camera operator); Lynn Johnson (stills photographer); Harold Nelson (Secretary and Records keeper); Dr James Strange (Archeologist - University of South Florida); Dr Donald Wimmer (Archaeologist - Seton Hall University); Rodger Apple (Official Observer - Albany Center Turin Shroud); Constance Apple (Official Observer - Albany Center Turin Shroud); Rex Morgan (Official Observer - Editor SHROUD NEWS, Board of Directors ASSIST).

### Political problems

Any visit to the Middle East has an element of risk and danger associated with it and these risks were made no less by a current wave of anti-American attitude by a small section of the Israeli population's ultra-orthodox Jews who are objecting to the building in Jerusalem at the present time of a Mormon University. There had been some publicity about demonstrations by these people and some incidents involving verbal and physical attacks on apparently American citizens in Jerusalem. We had been warned of these matters and due care was to be taken. Additionally, as the team members were gathering in Jerusalem, the terrorist bomb explosion on the



Bomb experts check the No. 25 bus to Jerusalem's Neve Ya'acov suburb after a petrol bomb attack yesterday. (Rahamim Israeli)

## 10 hurt as petrol bomb hits bus bound for Neve Ya'acov

By JOEL GREENBERG

Ten people were injured, one of them seriously, when a petrol bomb was last night thrown through the back window of a packed Egged bus bound for the north Jerusalem suburb of Neve Ya'acov.

The No. 25 bus was attacked at about 7.15 p.m. shortly after it pulled away from a bus stop in the Arab suburb of Shuafat. The bomb shattered the back window and exploded inside setting fleeing passengers alight.

A spokeswoman at Hadassah Hospital on Mt. Scopus said that Rachel Shvili, 40, had serious burns and that Uri Binyamin, 23, and Sinai Binyamin, 26, had suffered moderate burns. Other passengers were treated for shock, smoke inhalation and cuts caused by broken glass.

Police detained 17 people near the scene of the attack.

Passengers said they had heard the explosion and seen the flash of flame in the back of the bus shortly after a

group of passengers got off at Shuafat.

There was a fire in the bus, people were screaming. I broke open the doors and everyone got off as quickly as possible," said Levy, the bus driver. "Three passengers came out in flames. We rolled them over on the ground and smothered the flames with our sweaters," said Ehud Abres, a soldier.

An hour after the incident, traffic was back to normal along the Jerusalem-Ramallah road.

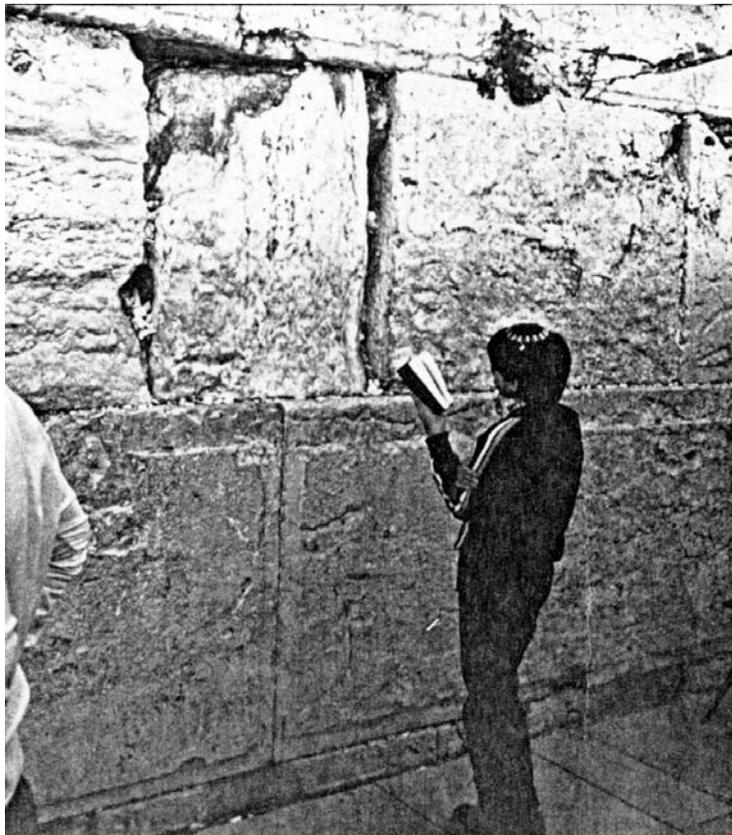
Earlier, a bomb had been discovered and dismantled by police sappers at a bus stop near French Hill, some few hundred metres to the south on the same road.

Yesterday morning, bombs went off in Afula and Haifa, with a soldier lightly injured in the Afula blast. Both charges were placed near the sites of previous terror bombs.

In an announcement from Tunis, the PLO last night said it had been responsible for the Afula blast.

*Jerusalem Post 9-4-86  
The first night I was here.*

(Jerusalem Post 9-4-86. The first night I was here).



Above:  
An encouraging cutting from my log book

Left:  
At the Wailing Wall, Jerusalem on a Bar Mitzvah day

The Jerusalem Tomb Expedition 1986 (contd)

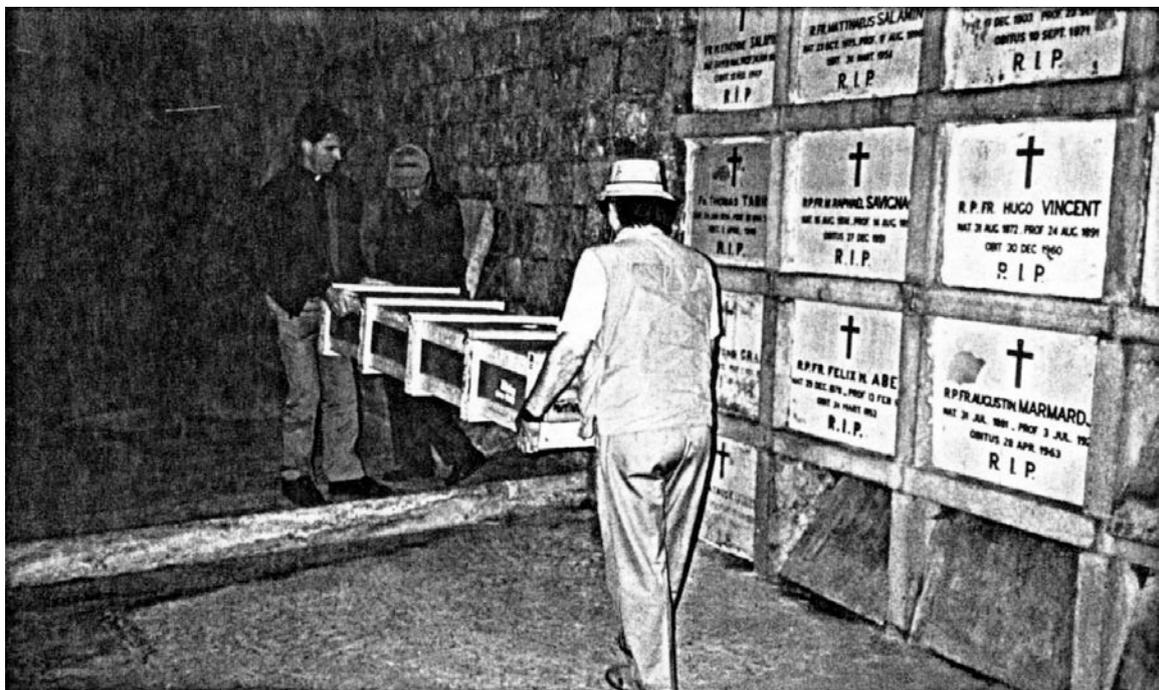
TWA plane between Cairo and Athens had sharpened the tension in the area. In fact I was in Athens airport the following day and was able to see the TWA plane with the gaping hole in its fuselage as it stood, heavily guarded and isolated on the Athens tarmac. On the first night I was in Jerusalem itself my companions and I heard an explosion as we were dining (in an excellent Arab restaurant) and were to read next day that it had been a terrorist attack on an Israeli local bus a hundred yards or so from where we sat. It was decided that the nature of our work would not be advertised in case of any reprisals concerning the Shroud from the ultraorthodox.

Arrival in Israel

Members of the team arrived at different times and my first night was spent in Tel Aviv. It was my first visit to Israel and having been in other parts of the Middle East it was almost a culture shock to find Tel Aviv a thriving totally modern and efficient capital city much like any in the Western world. I had a very strong impression, throughout my stay in Israel, of the immensely patriotic hard work which this nation has performed to establish and develop the State of Israel. The country is so beautiful and so fertile that it is no wonder that everyone in the general area wants to own it. The climate is superb, especially on the Mediterranean coast and yet it is a country steeped with more ancient history and fascination than most. I found the Israeli people particularly hospitable wherever I went. Members of the team were staying in various accommodations such as the Ritz Hotel (in the Arab quarter), the St George's (Anglican) College; the Albright Institute; the École Biblique and the King David Hotel. The Ritz Hotel (a generous description) became the headquarters for the team. My only concession to the international situation was to stay in the excellent and Israeli-owned King David Hotel rather than the Jerusalem Hilton which arguably could have been a terrorist target. Incidentally I was quite amazed at the wholesale cancellation of American and other tourism at the time. I believe that the chances of dying from the common cold or being run over in the street of one's home town are infinitely greater than being on a plane which blows up or gunned down at an airport terminal. Meeting members of the team was a most pleasant experience. I had already met Sister Damian the year before in Salt Lake and she and her cheerful companion Sr Mary Joseph were the mainstays of the group. Our first exchanges centred around the



Sr Damian emerges from an ancient tomb at Beth Shearim where limestone samples were taken for comparison tests



In the presence of other distinguished archaeologists Lynn Johnson, Harold Nelson and Dr Jim Strange place the crate containing ESSJ's mannikin ready for preparation

### The Jerusalem Tomb Expedition 1986 (contd)

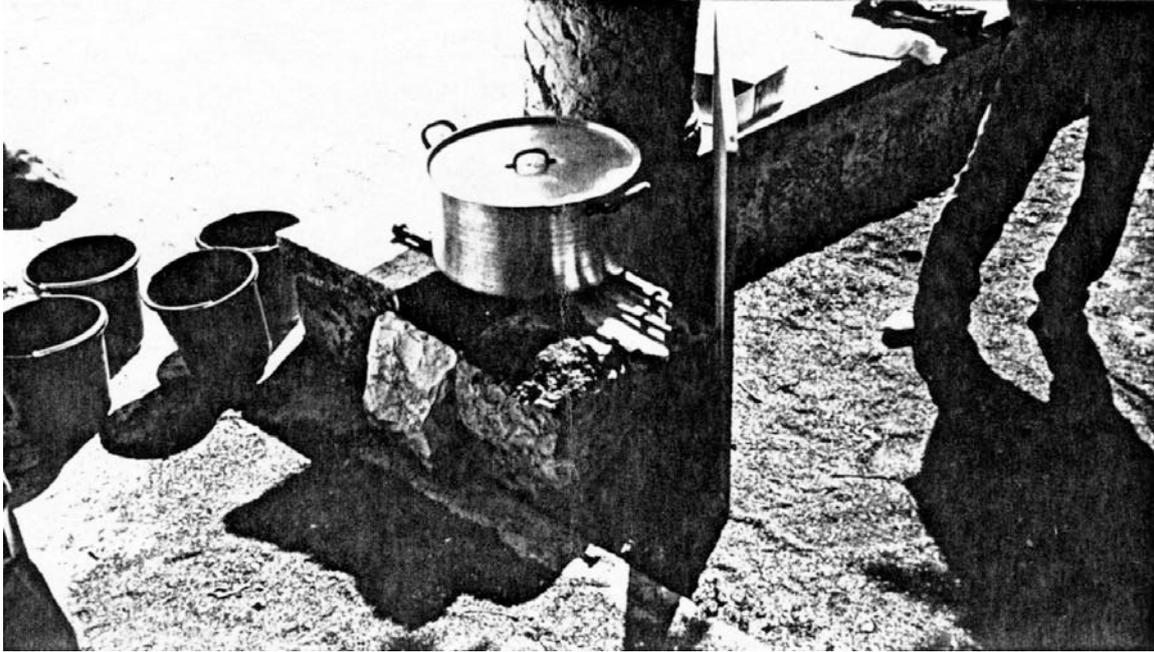
problems they had encountered with customs authorities bringing in crates of equipment for the tests not the least of which was the one containing a fullsize specially made mannikin to take the place of a real cadaver in the experiments. It took several days to clear the crates and the first experiments were delayed as a result. Carl Nitowski, the video operator, turned out to be a delightful ex-sailor and miner who had a fund of anecdotes to tell us. Rodger and Connie Apple, observers from the Albany Center, were a source of continual good cheer. Rodger Apple has been a Shroud enthusiast for 40 years, considerably more than anyone else in the team. Lynn Johnson is a professional photographer engaged to cover with black and white stills. Harold Nelson, the team's secretary and recorder, is a quiet Texan who went about his task meticulously and with a self-effacing modesty which belied his great capacities. In the early part of the test programme Dr Jim Strange, an eminent American archaeologist was invaluable with his vast local knowledge and the respect shown him by Israelis all over the country enabled him to sort out many problems. He is also fluent in many Middle Eastern languages and led us to many historical sites. Dr Don Wimmer arrived from the Jordanian Archaeological Conference in Tübingen, Germany where, coincidentally, he had met my son Richard who was also involved in a presentation at the same conference. Thus this interesting group, to be companions for many days, set about their allotted tasks.

### Archaeological sites

Owing to the delay in clearance of equipment we were able to spend a day or so visiting various important archaeological sites in different parts of Israel. Driven in our minibus by the indefatigable Jim Strange we visited such places as Herod's temple, Beth Shearim, Galilee, Nazareth, Qumran and the Dead Sea and were treated to firsthand tours of the various sites currently being excavated. We were also able to enter a number of tombs for the purpose of taking limestone samples and to observe the practices of tomb burial contemporary with that of Christ. These visits were an unexpected bonus on top of the usual tours of the old city of Jerusalem and all the better-known sites in the Holy City and beyond in the bible land.

### The Main Test Site

There are several contenders today for the actual tomb in which Christ was buried. The most widely accepted is the tomb of Joseph



ESSJ team's makeshift water boiling arrangements in the the École Biblique, Jerusalem



The bones of many centuries lie in one of the repositories in the tomb chambers in which we worked in April 1986

### The Jerusalem Tomb Expedition 1986 (contd)

of Arimathea inside the Church of the Holy Sepulchre but was unsuitable for the test programme on account of its inadequate size to house the team, the difficulty of gaining permission to use it and the constant flow of hundreds and thousands of pilgrims visiting it. Another possible site for the tomb of Christ is the Garden Tomb, or Gordon's Tomb, which is also much visited and subject to much environmental change from structural damage to surrounding areas. Thus the test site chosen was a tomb complex almost adjacent to the Garden Tomb and situated under the present garden of the French École Biblique in the same compound as the Dominican Monastery of St Etienne. The cave tomb complex was excavated in the late 19th century by Roland de Vaux, excavator of Qumran and Tirzah, together with Raphael Savignac of Arabian and Negev fame and Felix Abel, the founder of modern geographical study of the Holy Land. Incidentally all three are buried in the modern mausoleum adjacent to the ancient tomb complex of which we write. The compound is situated at the place identified by Gordon as Golgotha and today one gains entry through the wall in Nablus Road.

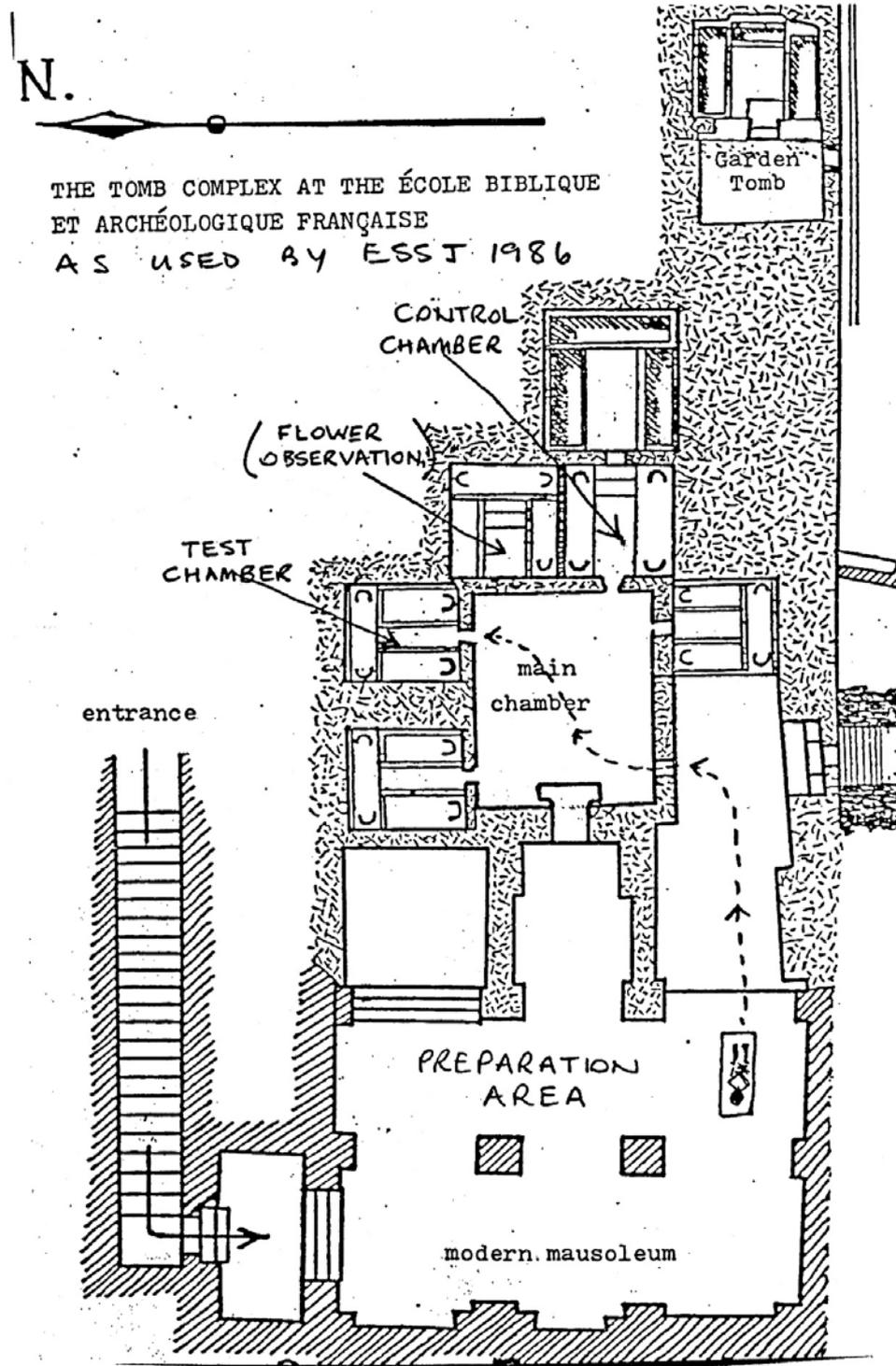
There is a particularly interesting article published in Biblical Archaeology Review of March/April 1986 in which archaeologists Gabriel Barkay and Amos Kloner discuss their claim that this tomb complex was used as early as 800 BC.

One walks through the main courtyard and into the walled garden beyond the Church to a stone step entrance into the modern underground forecourt of the tomb complex. Here one finds a chapel and a series of tombs of modern times. Beyond, in the limestone cliff, one enters the main chamber of the tombs from which five low doorways lead into burial preparation chambers. Four of these contain three benches with headrests and the fifth contains only two as it leads to a sixth sarcophagi chamber. In several of the chambers there are large bone repositories cut under the benches where great quantities of remains are evident today dating back throughout the ages to the earliest burials performed in the complex. It should be explained that burials took place by depositing the enshrouded body on one of the benches and the remains were ultimately removed for the burial of later generations.

Here, then, was in ideal site for the Sr Damian observations to take place. Environmentally identical to whatever actual tomb was used for the burial of Christ; plenty of room (relatively) for the team

THE TOMB COMPLEX AT THE ÉCOLE BIBLIQUE  
ET ARCHÉOLOGIQUE FRANÇAISE

AS USED BY ESSJ 1986



### The Jerusalem Tomb Expedition 1986 (contd)

to work; no public access and several tomb chambers from which to select the experiment chamber, a control chamber and, as it turned out, another in which I was able to conduct some observations on the rate of deterioration of flowers for Dr Alan Whanger of the USA.

### The tests

The time of April was chosen for the tests in order to simulate as closely as possible the time of year when the crucifixion and burial of Christ took place. It was considered that this time would most closely approximate the climatic conditions of moisture and temperature in which to conduct the tests. The principal test was to attempt to produce some kind of image on the cloths used. During the preceding year Sr Damian had conducted experiments in the cellar of her monastery and had concluded that the environmental conditions were probably a key factor in the images she had produced thus far combined with the extreme body heat of a severely abused cadaver. Here I quote from her excellent protocol notes:

"A body suffering the trauma of crucifixion would experience a change in perspiration and blood chemistry -- both becoming acidic. At death, lactic acid is released causing not only an acidic condition in the skin, but also rigor mortis. (NB: while rigor mortis remains, the body retains its acidity. When rigor mortis leaves, the body becomes an alkaline and decomposition begins). Of the burial spices used during the initial interment of Christ's body, myrrh is a mild acid, while the acidity of aloes is dependent upon how green or fresh the powder is at the time of use (NB: aloes turns amber or brown with age, heat, and exposure to air). It is the combination of these acids in reaction with the alkaline environment of the tomb which breaks down the surface of the flax fibres allowing the heat expended by a newly dead body (in this case about 115°F) to produce a mild scorch in the cellulose. It is also the same heat which accelerates the reaction between the acids and the alkaline. This scorch is similar to that condition of the image fibres found on the Shroud."

In each of the tests performed the mannikin was filled with hot water so that at the time of emplacement its temperature would be 115°F and the body surface was smeared with various solutions of sweat, blood, aloes and myrrh to approximate as closely as possible what actually happened to the body of Christ 2000 years ago.



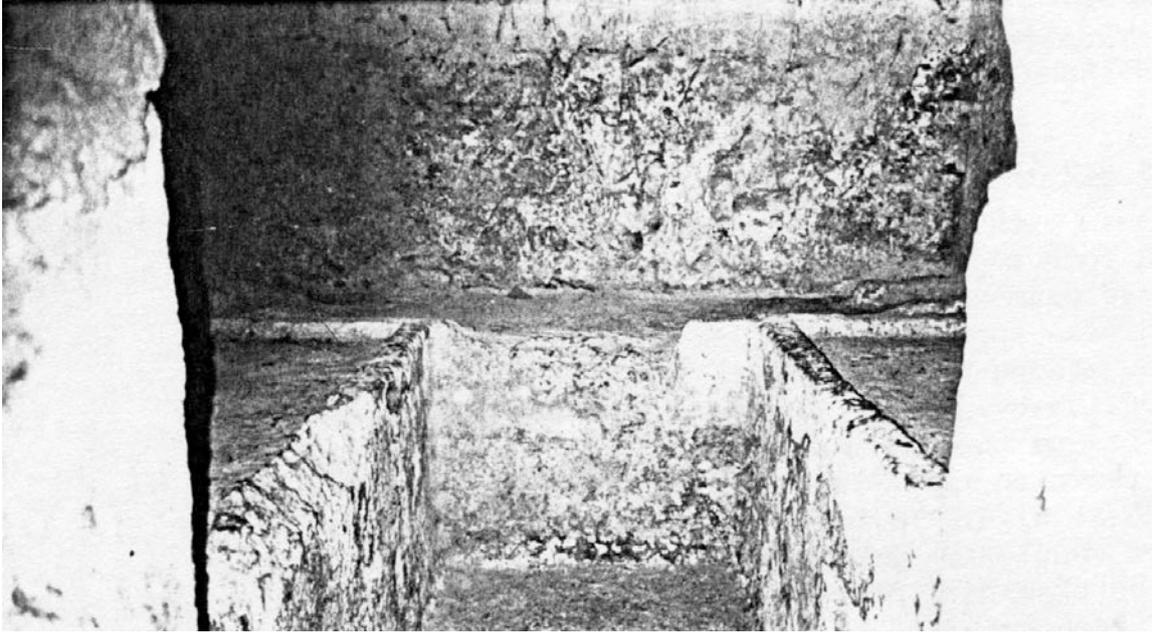
Working in the tomb complex at École Biblique, Jerusalem to fill the mannikin with hot water prior to final preparation for emplacement in the linen cloth. L to R: Lynn Johnson (with camera); Carl Nitowski, Sr Damian, Sr Mary Joseph, Dr Jim Strange

### The Jerusalem Tomb Expedition 1986 (contd)

Additional tests and observations carried out included the placing of a Pontius Pilate lepton over the eye of the mannikin to observe whether this caused an image. This would be a practical test of the great work of the late Fr Frank Filas to which numerous references have been made in SHROUD NEWS over the years. Also samples of the five different kinds of cloths used for the main tests were to be tested for reactions with limestone, for environmental reactions with blood, for the effects of atmospheric conditions together with the monitoring of various limestone samples from a number of sites.

### Actual procedures

The task of providing hot water in the garden of a monastery complex and in an underground tomb was overcome by members of the team setting up a "cooking point" near the tomb complex entrance. Sr Damian had obtained a pressure stove and large cooking pot and each day members of the team assisted to carry water and watch the pot as it slowly reached the desired water temperature. These were occasions for much Shroud talk and banter but, inevitably, the water did what was expected and we ran, reminiscent of the sorcerer's apprentice, up and down the tomb steps and into the chamber where the mannikin had been laid out and prepared. With speedy but careful pourings through funnels into the many ducts in the mannikin's body, followed by application by Sr Damian of the solutions required for the day's experiment, the body was ready. Continuous temperature-readings were taken until the required 115°F was reached and then we carried the body through the ante-chamber and into the tomb itself. It was an interesting side-observation that this must have been a particularly difficult task for those who did it with Christ 2000 years ago without the benefit of a plywood pallet and artificial flashlamps. We found the weight of the body (similar to that of a real cadaver) and the difficulty of stooping through low doorway entrances quite an ordeal. How much greater was it for the disciples. The body was then placed on the prepared linen inside the tomb and wrapped by the sisters, tied and left after various readings had been continuously taken throughout the procedure in which we all wore surgical gloves to prevent contamination of the cloth or prepared body. Constant monitoring of all procedures by the observers ensured that the experts were doing exactly what had been proposed and in a most scientific manner. Readers can imagine the occasionally bizarre scene: nuns, a plastic body, water buckets,



The tomb chamber used for the main experiments in the École Biblique complex, Jerusalem, April 1986



The sisters working in the tomb

### The Jerusalem Tomb Expedition 1986 (contd)

thermometers and other devices, cameras, tape recorders, Coke cans and thousand year heaps of bones.

### The Results

It was with great anticipation that we gathered in the darkness of the tomb to remove the first experimental cloth at the allotted time. Close examination revealed interesting puddling of solutions which had been spread on the body in the dorsal area not unlike the blood-flow stains across the small of the back on the Shroud image. These were, however, of no consequence to the image formation. At certain points on the cloth we believed we could discern image marks similar to those on the Shroud. These were no more than visual observations made at night and subsequent examination in daylight led us to no more conclusive tenets about their nature. All of it would have to be examined later under the microscope after the sealed containers had been returned to the USA. For Tests 2 and 3 very similar results obtained, some less good than others. After ten days in Israel I was obliged to leave for other commitments and so I did not see the results of Test 4. It was not until later that I received from Sr Damian the exciting news that Test 4 results had stood up to microscopical examination. In her preliminary notes on this result she says:

"On April 18, 1986, ESSJ and Official Observers began Test 4. The mannikin's temperature was raised to 117°F and an artificial sweat solution with a pH of 6.63 which was raised to a pH of 5.70 when myrrh, aloes and blood were added, was applied to the body. A copper coin from the reign of Pontius Pilate was placed over the right eye. The body was then placed in the tomb in white herringbone-weave linen (Hamilton Adams - Flaxweed 84, Oyster colour from Belgium). Because of the severe dryness of the tomb due to an unusually hot, dry April, a pure water spray was added to the test chamber to bring the relative humidity up from 75% to 80%. Steam or vapor was observed rising from the body, even before the extra moisture was added.

"On April 19, after a period of 27 hours 25 minutes in the tomb, the mannikin was unwrapped showing on the cloth what appeared to be image and blood stains with a darkened area over the eye where the coin had been placed. Because a dark solution of artificial sweat had been sprayed on the mannikin, caution was taken in the identification of



The body enshrouded in the tomb



Rodger Apple and Rex Morgan bring one of the test cloths from the tomb complex for daylight observation

The Jerusalem Tomb Expedition 1986 (contd)

image until the cloth could be checked under the microscope. On the evening of May 1, fibers from various areas of Test Cloth 4 were pulled and examined microscopically which revealed that image has indeed been obtained."

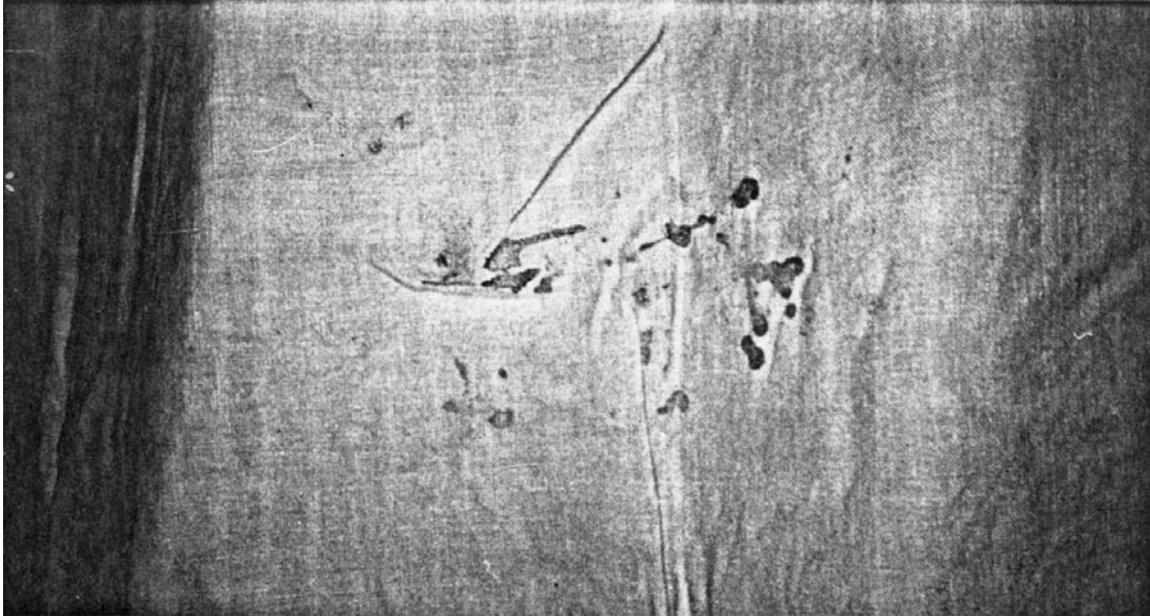
Sr Damian adds in a note that the cellulose has undergone change similar to that of the Shroud and it is not a coating of blood, myrrh and aloes.

There are other positive results from the programme such as the matching of calcium samples from the Jerusalem area with those particles on the extant Shroud. All other samples are different. It has also been determined that all tomb samples taken from all over Israel have myrrh and aloes present in the wall contaminants.

We look forward to Sr Damian's formal report which will detail every aspect of the testing programme for other scholars and scientists to assess. What it means is that the heat of the body and the total environmental conditions appear to have been factors in the production of image areas on the Shroud. No-one has ever attempted this on-site experimentation before and whether or not the programme is accepted as conclusive, Shroud scholars should be grateful to Sr Damian for her considerable work in this area which, it might be pointed out, is done despite her continuing ill-health.

I left Israel in conditions of extreme security in the midst of the US raid on Gaddafi and flew with TWA (although few others did!). For me it had been a singular experience and a privilege, whatever the result, to work with such a varied and interesting team of people. As Harold Nelson had pointed out we were part of a re-enactment of the entombment of Christ on the one hand and part of an important series of experiments in sindonology which may well have far-reaching and doubtless controversial implications. And even if these results turn out to be acceptable as the image formation process of the Shroud of Turin the quest for more and more information about the numerous other mysteries it poses will be far from over. It will be argued that there is still another factor somewhere to account for the perfection of the Shroud image and all its other properties which have still not been duplicated in any experimental reproduction.

REX MORGAN



The puddling effect of bloodstains on the mid dorsal area on one of the test cloths, Jerusalem, April 1986



Sister Damian makes daylight visual inspection of marks on one of the test cloths

### SHROUD NEWS

SHROUD NEWS began in 1980 when Rex Morgan, author of PERPETUAL MIRACLE-SECRETS OF THE HOLY SHROUD OF TURIN 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 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. 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".

Morgan is a frequent overseas traveller 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 since met with numerous Shroud researchers in many countries. His quest for information about the Shroud has become, as he describes it, a "passionate hobby" and he has since written the best-selling SHROUD GUIDE (December 1983) and is working on another major book about the Shroud. He is currently Honorary Director of the Brooks Institute Photographic Exhibition on the Shroud which is touring Australia, New Zealand and parts of the Far East. Morgan has been appointed to the Board of Directors of the USA based Association of Scientists and Scholars International for the Shroud of Turin (ASSIST).

Our list of SHROUD NEWS subscribers continues to increase. We request a subscription in Australia of \$6 for six issues posted. SHROUD NEWS comes out approximately 6 times per year. USA subscription for 6 issues is \$US 6 (posted surface mail) or \$US 12 (posted airmail). Postage to other countries varies. All back issues are available at \$1 (US or AUS) each plus postage charges.

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All information and opinion published in this newsletter is given in good faith. It is edited (and mainly written) by Rex Morgan and published by

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