

A NEWSLETTER ABOUT THE HOLY SHROUD OF TURIN  
edited by REX MORGAN, Author of several books on the Shroud  
Issue Number 85 OCTOBER 1994



Pope John Paul II receives a gift of an icon from Polish Prime Minister Waldemar Pawlak. The icon bears many of the Shroud features.  
Picture from *The Times* 19 May 1994

## EDITORIAL

I remember forecasting at the time of the C14 capers in 1988 and the peremptory dismissal of the Shroud as a medieval fake by the world media that it would take about five years for interest in the subject to surface again. This seems to be happening with gusto. On the one hand I have been surprised at the number of news items and huge articles being published in some newspapers and on the other it fits my view that a generation in newspaper reporting is about five years. This means that bright young journalists, appropriately wet behind the ears, are discovering the Shroud as if it were something new, as it is to them, and are busy writing it up, whether for or against the possibility of its authenticity.

I happen to think that any publicity is usually good publicity and the Shroud has had virtually none for the past five years. Once again the world media is venturing into its aura and there is plenty of evidence to suggest that they are not quite so cavalier about its being a fake as they were. This has been prompted to a large degree, not by any genuine learned interest in an important subject (how many newspapers are stirred by such lofty ideals these days?) but by a proliferation of new theories, duly sensationalised by their promoters and thus worthy of populist treatment as some kind of hit and run centre page weekend reading gig.

To be given this treatment have been the Craig Bresee theory in USA, the new books by Hoare and Kersten & Gerber, both of which contain some absurd material sure to get headlines, the Leonardo theory put forward by Italian Maria Consolata Corti which has commanded several major newspaper and magazine articles and most recently very large coverage of Lynn Picknett & Clive Prince's Leonardo theory and their new book, *Turin Shroud: In Whose Image?* This one alone gained two double full-page articles on successive days in the London *Daily Mail* in mid-August, not to mention its syndications throughout the world. I can imagine some people reacting very tensely to this but if I am taken to task for mentioning it and therefore increasing their sales then so be it. All this stuff, whether the product of the crackpot or the sane researcher, needs to be read by all serious students of the Shroud.

REX MORGAN

## THE HOLY SHROUD: AUTHENTIC AFTER ALL?

- **Orazio Petrosillo, Rome**

Reprinted from *Inside the Vatican* May 1994

Pope John Paul II believes so, according to the well-known Italian journalist, Orazio Petrosillo. Petrosillo, author of a book on the Shroud, reveals that John Paul told him personally that he believes the Shroud is authentic. The mystery: why are the Pope's advisors so unwilling to contest the 1988 tests which dated the Shroud to between the years 1260 and 1390?

Two months ago, when I presented the Holy Father with the Polish translation of my recent book on the Shroud of Turin, he remarked that this testimony written with Christ's blood should be used for catechesis. Then, to my immense surprise, the Holy Father continued: "Yes, this apostolate of the Shroud is necessary; Our Lord has left us the Shroud along with the Sacraments."

**John Paul II** believes the Shroud of Turin is the authentic burial cloth of Jesus, that the image it so mysteriously bears is the actual image of Jesus of Nazareth at the time of his death. But not everyone in Rome agrees with the Pope — not even everyone in the Vatican.

This explains why, while the Pope is convinced of the authenticity of the Shroud, he has not instructed Vatican officials to undertake any sort of "campaign" to re-open the study of the Shroud.

And so the Shroud languishes in Turin, branded a medieval forgery following the release in October, 1988, of the Carbon-14 dating results, which set the cloth's origin in the period between 1260 and 1390— not Palestine in the first century.

Why has the Pope not acted in this matter? The Pope's inaction stems from his acquiescence in

the advice he has been receiving from those around him.

According to canon law, the Pope is the supreme authority in all matters concerning the Catholic Church. But the Holy Father, as is natural, also consults with his advisors on most issues, and he sometimes accepts and follows their advice *even though he himself holds a different view*.

This has been the case with the Shroud of Turin.

John Paul II has a sincere veneration for the Shroud of Turin. His knowledge of the most recent data, including Carbon-14 tests dating the cloth to the Middle Ages, has not changed his mind regarding the relic's sacred nature.

Not all in the Vatican Curia, however, are similarly convinced. There is a distinct reserve, or caution, when the subject is broached — a desire to avoid the type of clamor and controversy which occurred in 1988, after test results were released from the Oxford, Tucson and Zurich laboratories.

This is not the place to discuss all the reasons why those results are not conclusive (the subject is treated at

## THE HOLY SHROUD: AUTHENTIC AFTER ALL? (cont'd)

length in my book, which is not yet available in English).

The fact is, the Pope's advisors in the Secretariat of State evade the subject of the Shroud as much as possible because the Vatican is still smarting from the "sting" of the test results, the surrounding controversy and the mockery of the Church which followed.

It is not widely known that the Secretariat of State was against granting permission for the Carbon-14 tests. Vatican officials had been warned by experts in both the scientific and religious fields that such tests could never be scientifically conclusive. The American archeologist and Shroud specialist **William Meacham** was one academic who dismissed such results in advance. The US research group STURP (the Shroud of Turin Research Project) also favored a far broader interdisciplinary approach. Thus, the Vatican was not in favor of Carbon-14 tests on the Shroud, aware that the results might be negative and be interpreted as conclusive even though they were not.

The prevailing attitude in the Secretariat was concern for the Shroud as a venerable object of pious devotion, and impatience with those who insisted — at all costs — on radioactively identifying the linen-portrait with the historical Jesus of Nazareth.

It was a Brazilian professor, **Carlos Chagas**, then President of the Pontifical Academy of Sciences, who my research indicates played the chief role in persuading Vatican authorities to consent to a Carbon-14 dating. Chagas was on good terms with the American professor **Harry Gove**, leader of a laboratory team which urged dating the Shroud — with the clear aim of proving its non-authenticity.

The plot thickens.

Gove, along with his Rochester laboratory team, was excluded from the group of authorized examiners. Gove responded by attacking the scientific advisor of the cardinal of Turin, Professor **Luigi Gonella**. Turin's then cardinal archbishop, **Anastasio Ballestrero**, the custodian of the Shroud, was in favor of the scientific testing so vociferously demanded by the academic world.

Ballestrero himself had never been entirely convinced that the Shroud once contained the body of Christ. Even before 1988, he had detached himself from what he considered an excessive devotion to a simple "relic." Apart from his theological objections (there is no scriptural reference to Christ's blood remaining on the linen), Ballestrero had always considered the shroud a type of icon, similar to a great and inspiring piece of religious art.

## THE HOLY SHROUD: AUTHENTIC AFTER ALL? (cont'd)

In consenting to the Carbon-14 dating of the Shroud, Ballestrero apparently gave little thought to the delicate devotional situation. Suppose scientific testing proves that the Shroud did indeed hold a corpse — with the same unmistakable signs which the Gospels relate as the wounds of Jesus Christ? Suppose then that testing shows a date different from that of Christ's death? In that case: either a miracle has occurred (and Ballestrero never seemed inclined to think in those terms) or the Shroud is the criminal fabrication of a pseudo-relic, and certainly not worthy of veneration.

As we have stated above, the Vatican only reluctantly authorized radiocarbon testing on the Shroud of Turin.

"Our consent was obtained only after wringing our necks," one Secretariat prelate commented to me.

And now, six years later, the discomfort and regret still remain, not only because of the later dating, but because of the way the tests were carried out and the conclusions manipulated.

Therefore, an ostrich-like attitude prevails in the Curia regarding the question of further testing.

Although the Vatican would prefer to leave things as they stand — accepting the Shroud of Turin as an object of devotion and rejecting further examination — the Vatican has affirmed its readiness to hear proposals from others for new testing. In August 1990 spokesman Joaquin Navarro-Valls stated: "We will consider any serious and competent operative proposal, without any conditions, except that the Holy Shroud

must not incur damage." Cardinal Giovanni Saldarini, archbishop of Turin and Shroud custodian, seems to favor other tests, although not in the immediate future.

Saldarini's attitude towards the Shroud differs from that of his predecessor in that he is "moderately" convinced of the Shroud's authenticity. In any event, for the present, all further tests have been suspended.

Preservation of the precious relic is the prime concern of both the Secretariat and the cardinal custodian. In terms of scientific research, precedence is now given to finding the most advanced and sure methods for protecting the Shroud from pollution and humidity.

Since the Guarini Chapel which has housed the relic since 1694 is now under restoration, the cloth, enclosed in its wooden case, has been placed behind the cathedral's high altar and protected by bullet-proof glass. Conservation comes first, and in good time — perhaps — will come the authorization for further tests. That's the way the Vatican wants this matter handled.

Meanwhile, John Paul II has not lost his enthusiasm for the Shroud. "Personally, I am very devoted to this relic," Wojtyla asserted in October 1978, only a few days before his election as Pope.

And he has never changed his mind.●

Orazio Petrosillo, Vaticanist for Rome's *Il Messaggero*, has published a book on the Shroud of Turin

## THE HOLY SHROUD: AUTHENTIC AFTER ALL?(cont'd)

**"A BURST OF LIGHT"**

**The Vatican's "Minister of Health," Cardinal Fiorenzo Angelini, judges the medieval dating of the Holy Shroud "not conclusive"**

In 1978, you organized a Seminar on Medicine and Ethics entirely dedicated to the Holy Shroud. What were the conclusions of that conference?

ANGELINI: The Seminar was organized at Rome's National Research Center for the 400th anniversary of the Holy Shroud's arrival in Turin. The goal was to approach the problem of the Shroud in a truly interdisciplinary manner. Studies were carried out in every relevant field: general medicine, legal medicine, biology, chemistry, physics, anthropology, psychology, archeology, history, and, of course, the Scriptures.

The volume which presented the conclusions of that Seminar also reproduced a three-dimensional image of the Shroud. This image was achieved by applying new electronic techniques, used to process photographs taken of the planet Mars from space, refined by the American scientists **Eric Jumper** and **John Jackson** and perfected by the Italian **Giovanni Tamburelli**.

During the Seminar, Don Lynn's theory was also examined: namely, the hypothesis that Christ's bodily imprint on the shroud could have been the result of a light, or energy explosion, lasting only a fraction of a second, causing an unusual photographic impression. For the Shroud, that would have meant the following sequence: life; energy; light; image imprinted on cloth of the Resurrected Christ.



**Today, after carbon-14 tests have dated the Shroud to the Middle Ages, would you still conduct the same type of Seminar?**

ANGELINI: Of course. I feel it is important to continue a fascinating study which illustrates a growing convergence between scientific research and religion, a study which returns to the very origins of our faith, via the centuries-long devotion to the Holy Shroud. As for the "medieval" dating given by the Carbon-14 tests, I limit myself to two observations.

First, the result cannot be considered conclusive, given the immense complexity of the problem, until ulterior verifications and controls are performed. Second, I insist on a completely interdisciplinary scientific approach to determine the Shroud's legitimacy. The hypothesis of the Turin Shroud's inauthenticity remains on much shakier grounds than the hypothesis of its authenticity.

**THE HOLY SHROUD: AUTHENTIC AFTER ALL? (cont'd)**

**In your view, what is the prevailing attitude towards the Turin Shroud today? Is it a silent but eloquent witness to the passion, death and resurrection of Christ? Or only an interesting icon?**

ANGELINI: We cannot say that the Shroud has been "mute," considering the history of piety and devotion surrounding the extraordinary relic. If by "icon" we imply merely an image for devotional purposes, then the term is a gross simplification. Theology and liturgy view icons in a completely different way. To speak of a "prevailing attitude" is to approach the issue from the wrong direction. A relic of such religious and scientific value calls for ever-vigilant and meticulous study. From the first photographs taken by Secondo Pia in 1898 until today, research on the Shroud of Turin has advanced along a path of increasingly eloquent testimony of Our Lord's experience on earth — until His moment of reunification with God the Father in heaven.

**O.P.**



In Rome 1993 ORAZIO PETROSILLO and his co-author  
Emanuela Marinelli with Fr Kim Dreisbach of USA

Positive steps are currently being taken to publish their book *The Shroud - An Enigma* in  
English

## SHROUDS WITHOUT SHREDS OF EVIDENCE

- Books reviewed by James Murray

Reprinted from *The Australian* 29 April 1994

# Shrouds .without shreds of evidence

THERE is sometimes a real problem in taking the latest exposes of the Christian faith seriously. If they offered us exact scholarship, those who hold to traditional beliefs should not seek to inhibit the authors. Honest and critical investigation does not threaten sensible believers. They usually find, their faith confirmed and, as it often relies upon experiential and personal as well as textual evidence, analytical examination of the biblical scriptures should be welcomed.

Of course, the mood of secular society is only too ready to assume that any form of iconoclasm must be right. Tear down the idols of traditional belief. Hold up to ridicule the absurdities of some Christian practice and you can discredit the whole religion.

But it is hard to welcome either of these books, or to take them seriously. Both are conspiracies themselves but, in their claims that the church has been guilty of a continuous cover-up, they hope to attract readers happy to be deluded into thinking that the classical accounts of the life and teaching of Jesus are simply a highly planned fraud.

## **The Jesus Conspiracy**

By Holger Kersten and Elmer R. Gruber. Element, 373pp, \$34.95.

## **Resurrection: Myth or Reality**

By Bishop John Shelby Spong. HarperCollins, 320pp, \$18.95.

Both books rely upon plausibility and an apparent marshalling of "facts" to authenticate their claims. *The Jesus Conspiracy* declares that Jesus did not die on the Cross on Good Friday, and argues from the evidence of the Shroud of Turin. Originally claimed to be Christ's winding sheet on which a ghostly image of a bearded man appears, carbon dating used on two small strips of the cloth in 1988 showed it to be a 14th-century fake.

But the co-authors of *The Jesus Conspiracy* know better. They have uncovered a conspiracy: the church has been busy discrediting the shroud for its own nefarious purposes! According to our two scriptural detectives, the shroud proves that Jesus did not really die but was simply taken to a quiet tomb for a process of healing. It is all



## BOOK REVIEW (cont'd)

reminiscent of Dr Barbara Thiering's assertions in *Jesus The Man*, although Kersten and Gruber do not stretch credibility to quite the same lengths as Jesus being revived in the tomb by the two crucified thieves, running about, apparently, on broken legs, which the Thiering interpretation demands we believe.

*The Jesus Conspiracy* is nevertheless good reading and gains some momentum in what it claims is the long history of the Shroud of Turin. The remarkable vicissitudes, through which it went in the gospel according to Kersten and Gruber, makes it a magic relic indeed. Its final resting place in Turin must have come as quite a relief. But according to our intrepid investigators, the carbon dating was unreliable and proved nothing.

Yet their evidence for a church conspiracy relies on many sources that respectable scholarship has entirely rejected. The Vatican is the villain of the piece, with covert operations to ensure that the truth about the shroud was not revealed, and so the "fact" that Jesus did not die on the cross remained obscured: it did not want the resurrection undermined.

But for all their plausible analysis of the Gospel accounts, there is a constant attempt to baffle with science, and apocryphal books are given the same dignity as those accepted in the canon of Holy Scripture. Yet anyone who reads the Gnostic Gospels, for example, will be struck by lack of cohesion. The New Testament as we have it, except perhaps for the Book of Revelation, has a dramatic authenticity, an immediacy that is impressive.

One of our theological detectives, Holger Kersten, has already gained prominence and large royalties from a book entitled *Jesus Lived in India*. *The Jesus Conspiracy* gives a similar impression of careful research and adds a billowing bibliography, yet behind the facade of quasi-scholarship lies an agenda of confusion.

But Bishop John Shelby Spong, who also asserts that Jesus did not really die, in his burgeoning book list (13 populist debunkings of most of the Christian faith) regurgitates a good deal of the more critical scholarship of the past few decades. Now he offers to expunge from Christian faith every shred of the supernatural, the miraculous and the unusual: It seems hardly a bishop's vocation.

HIS contentions are ingenious and his assertions arrogant. He states categorically that "there was no visit of the women to the empty tomb ... because there was no tomb", yet in the Church of the Holy Sepulchre in Jerusalem, even if the proposed site of Jesus's burial place is certainly doubtful, adjacent there are even earlier tombs, and Spong's confidence is breathtaking.

The evidence for his other declarations is as fragile: "The body of Jesus was, in all probability, placed in an unmarked common grave used for criminals, covered and forgotten." How does he know? Tradition is not so easily dismissed nor the written memories of the original witnesses. But Spong presses on regardless: entirely dismissive of the Gospel accounts, asking that his interpretations be accepted in place of the church's creeds. His conclusion is that "these are legends, all; sacred legends, I might add, but legends, nonetheless".

I suppose it would not be so irritating to read his book if it were not for the bishop's dismissive style. If he were to proffer his opinions as just that, he would be raising issues close to the hearts of all believers. But this latest work furthers a continuing campaign to degrade Christianity, to the same level as the old folk religions and to ignore its claims to historicity, authenticity and revelation.

We live in times of political correctness and there is now a body of liberal Christian activism that would be more honest if it admitted to an unadorned rationalism about religion which it shares with atheists. But such honesty might not sell books. Alleged conspiracies are a better deal.

## THE JESUS CONSPIRACY

- Anne de Courcy, London

**This article is reproduced from the Sydney *Telegraph Mirror* 13 August 1994. It has also appeared in newspapers worldwide with various titles**

**Six years after scientists declared the Turin Shroud a fake, sensational findings suggest that it really is Christ's gravecloth. If true, the new theories could rewrite the story of the Resurrection and raise profound questions in the Church worldwide. ANNE DE COURCY reports**

**THE** Turin Shroud has been a constant source of controversy since its appearance in a tiny French village in the 1350s. Could this 4.4m by 1.1m length of ancient linen, imprinted with the face and figure of a crucified man, really be the gravecloth in which Jesus was wrapped when he was taken down from the Cross? Or is it nothing more than a clever medieval fake?

Carbon dating in October 1988 appeared to settle the matter conclusively, when three of the world's most technically sophisticated laboratories declared categorically that the shroud was no older than the 14th century.

Now, the controversy seems set to reopen. Two startling new books declare not only that the shroud is genuine — that it is the one used to wrap the body of Jesus in AD33 — but also that a "Jesus conspiracy" could mean we will have to rethink the Resurrection.

So what about the seemingly incontestable fact of the carbon dating?

First, quite simply, the carbon dating was wrong, believe both Cambridge-educated scientist Rodney Hoare, author of *The Turin Shroud Is Genuine*, and German writers Holger Kersten and Elmar Gruber. Kersten is a religious and theological historian, Gruber a scientist.

Gruber and Kersten's amazing theory, elaborated in their book *The Jesus Conspiracy* (Element Books, \$34.95), is a sensational one: they believe a fraud has taken

"The dating by the laboratories was impeccable," said Gruber. "But the samples they dated do not stem from the shroud." The centimetre-square samples were distributed in conditions of the utmost secrecy, he claims, and the samples switched before they left the Vatican.

The obvious question is: why should the Vatican wish to prove the shroud a fake? He replies that the image on the shroud was imprinted by the body of a living man who could be none other than Jesus. "If the Vatican had to admit this, they would be destroying the claim that Jesus rose from the dead and thus the whole myth of the Resurrection."

Hoare agrees with both premises, though reaching them by a different route. All three labs were bound to get wrong results, he says, because — unlike most relics — the shroud has had constant exposure and handling. '

Hoare said: "The part of the shroud they took the samples from has had countless fingerprints, the candlelight by which it was viewed for hundreds of years would have given it other pollutants, and the fire in which it suffered damage in 1532 would have affected it, too.

"All this would alter the carbon date, making it appear more recent than it actually is."

Kersten and Gruber claim the shroud was brought from Jerusalem to eastern Turkey, where it was rediscovered in the sixth century. In 944 it was captured by Byzantines and taken to Constantinople, where it was seized by the Crusaders in 1204.

What is undisputed is its history from the 1350s (a time when relic counterfeiting was known to be rife). Its first documented appearance was in France, in the ownership of Geoffroy de Charny of Lirey. His granddaughter Marguerite gave it to Louis, Duke of Savoy, in 1453. A 100 years later it was damaged by fire; then, in 1578, the reigning Duke of Savoy took it to Turin, where he installed it in the

## THE JESUS CONSPIRACY (cont'd)

Royal Palace where it was brought out for veneration from time to time.

On one of these occasions, in 1898, it was photographed for the first time. The result was dramatic. Suddenly, the faint ochre marks on the battered cloth leapt into life. Now, with highlights and shadows reversed, a positive image replaced the faint negative one that was all anyone had seen so far — and full-length back and front views of a naked, crucified man could clearly be seen.

And there the matter seemed to rest, until two (agnostic) scientists presented a paper to the French Academy stating that they believed the marks on the shroud to be a mixture of blood, sweat and embalming fluid and concluding, "the man of the shroud is Christ". Thereafter, interest was constant'.

In 1931 the shroud was photographed again, and this time even more details showed up. From then on, its original became a matter of fierce argument, with scientists, archaeologists and other experts lining up on either aide.

In 1978 a team of American scientists, who had been allowed a small strip of the linen, claimed the marks on the cloth were "strongly suggestive of actual blood" with two of the chemists declaring they had found no evidence of any dyes, strains or paint pigments.

It had to be the very cloth cast aside by Jesus when he miraculously rose from the dead, said the enthusiastic — after all, it was well established that traces of pollen in the linen were from Palestinian flax and that some of the pigment was human blood.

Not so, said the sceptical: even if it turned out to date from AD33, what proof was there that it had wrapped Jesus? Even the Catholic Church said merely that it was an object "likely to prompt profitable prayer" rather than an undoubted relic.

**CARBON** dating seemed the only way to settle the argument. Three laboratories — in Oxford, Zurich and Arizona — were sent samples, along with "blind" samples of cloth prepared by the British Museum. The date that emerged from all their computers would show when the flax that made the linen had been harvested.

It was a nail-biting wait. Most experts believed the shroud would turn out to be older than the fifth century — if only because crucifixion was banned during the reign of the Emperor Constantine, who died in AD337, and no later forger could have known details as accurate as those on the shroud.

Nails, for example, were clearly shown as hammered through the wrists of the figure on shroud — the only way a body could be supported on a cross, we now know — whereas every early representation of the Crucifixion showed them through the palms.

But when, on October 13 1988, the results emerged, all three labs were in agreement — the shroud was no older. than the 14th century. Or as their statement more guardedly put it: "there is a 95 per cent probability that the flax was harvested between 1260 - 1390". And that seemed to be that — until now.

First step for Hoare, chairman of the British Society for the Turin Shroud, was to establish that the image on it was not created by a paintbrush. "It is a negative image that holds three-dimensional information of a type no painting can produce," he said.

Or, as Gruber puts it: "How could a medieval artist have produced a negative image? No-one knew what one was until photography was invented."

What this image shows is quite clear: a naked man of 1.76m tall and about 79kg in weight. The fact that it was a living rather than a dead body is shown by the absence of any sign of rigor mortis [sic] and the even distribution of the markings, indicating a functioning circulatory system. Experts at England's East Midlands Forensic Laboratory pointed out: "Taking into account all the facts, the body which lay in the linen was still alive."

Said Hoare: "We can tell the man has been scourged, and has nail wounds through the wrists and feet, and that there are a series of small wounds on the head. These show the crown of thorns — always depicted by early painters as a circlet — was in fact a cap.

"He has a spear wound in the side from which emerged a pleural effusion — water mixed with blood. When 'victims are beaten on the chest, as with scourging, water gathers in the bottom of the lungs. So when the spear was thrust into his body, water came out as well as blood.

## THE JESUS CONSPIRACY (cont'd)

"Comparison with the Gospel account, particularly the crown of thorns, which according to records was unique to Jesus, and the lancing of the chest, which is reported in only two more contemporary cases, shows it must have been Jesus." Nor were the legs of the man in the image broken, as was customary.

Hoare believes the man taken from the Cross was in what we would now call a coma. "Scientists have pointed out that he would have been dead by the standards of the time — his breathing virtually invisible, temperature low and the lance wound in the chest, which is where life was then thought to be situated, as good as a death certificate."

Hoare believes that when Jesus was taken down from the Cross by Joseph of Arimathea and Nicodemus on the Friday evening, the burial ritual was interrupted by the Sabbath, when no work was possible. They left him in the tomb, returning on Sunday evening. "They would then have discovered that Jesus was warmer than a dead body should be. They would have taken him away to see what was happening, keeping him in the shroud for warmth, leaving the graveclothes on a shell to mislead St John into thinking there' had been a supernatural resurrection. He could have remained in one of their homes for three weeks before going north to re-inspire his disciples."

Gruber goes further, believing that Jesus's survival was pre-planned by Joseph. "First, all sources say he was on the Cross for only a few hours — usually people hung there for days.

Then it is, very strange. that on the , Cross, where people die of asphyxiation, Christ had the breath to be able to make a loud cry and say, 'It is over', reportedly instants before death."

Christ's cry came immediately after receiving the sponge of vinegar.

Gruber and Kersten believe that some narcotic, anaesthetic substance — probably the easily-obtainable opium — was mingled with the vinegar, causing almost immediate loss of consciousness to someone already in terrible suffering. Once taken down and hidden, he could be nursed back to strength.

Look at it like this and much of what the Gospels say makes new sense, says Kersten, a teacher of religion.

When Mary Magdalene does not immediately recognise the gardener as Jesus, it is understandable as his injuries would have caused his face to swell and the aloe-myrrh solution with which his body had been treated prior to "burial" would have turned his skin a darkish brown.

These "discoveries" are certain to reopen one of the longest running and most fascinating debates, of modern times. But one thing is for certain: it's a mystery that will never be completely solved in this life.

**‘Samples of  
the shroud  
sent for  
tests were  
switched  
around by  
the Vatican’**

**REPRINTED FROM *RADIOCARBON*, Vol 31, No 3, 1989**

## PROGRESS IN RADIOCARBON DATING THE SHROUD OF TURIN

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**ABSTRACT.** An account is presented of the current status of the project to radiocarbon date the cloth of the shroud of Turin. The procedures dictated by the Turin ecclesiastical authorities to accomplish this are discussed. It will be concluded that the original protocol, as agreed to by all parties at the Turin Workshop in 1986, suggested a preferable procedure. However, if the three laboratories, who accepted the task of dating the shroud, obtain the same age for the shroud and the three control samples within a standard deviation or two completely independently, most knowledgeable scientists will probably accept the results.

## INTRODUCTION

In May 1977, Purser et al (1977) and Bennett et al (1977) showed, at the University of Rochester, that by exploiting the instability of the  $N^-$  ion and the elimination of molecular interferences,  $^{14}C$  could be detected at natural abundances and that the background was very, small. As a result of a popular account in *Time* magazine (1977) of this new accelerator mass spectrometry (AMS) technique for carbon dating, the author received a letter from the General Secretary of the British Turin Shroud Society, the Rev H D Sox (pers commun, June 24, 1977) asking whether it could be applied to establish the age of the cloth comprising the Turin shroud. This led to a complex chain of events, one of which was a workshop held in Turin, Italy on September 29 through October 1, 1986, which produced a protocol for carrying out such a measurement (Gove, 1987). This protocol was subsequently rejected by Turin ecclesiastical authorities. The seven laboratories proposed in the protocol to carry out the measurements were reduced to three and other changes were made. An outline of the new procedures dictated by Turin and finally agreed to by the three chosen laboratories and the British Museum in its coordinating role was provided by the member of that institution who would be directly involved (Tite, 1988). Comments on these were provided by the author (Gove, 1988).

A discussion of the reasons one might wish to apply this AMS technique to the Turin Shroud, which clearly is of minimal interest scientifically, have been presented (Gove, 1987). Briefly, they reflect the enormous interest the general public has in this remarkable artifact, the fact that it demands the use of very small samples, the increasing intellectual interest among scholars in the shroud (Dale, 1987), and the stringent test it would provide for the credibility of small-sample dating by AMS.

## COMPARISON OF DATING PROCEDURES

It is generally known by now that the three AMS laboratories, namely those at the Universities of Arizona and Oxford and the ETH at Zurich, are presently engaged in establishing the age of the linen cloth that comprises the main body of the Turin shroud on which is imprinted the image of a

## PROGRESS IN RADIOCARBON DATING THE SHROUD OF TURIN (cont'd)

crucified man. At the invitation of Professors Donahue and Damon, co-directors of the Arizona AMS facility, the author was present at the first measurement of the shroud on Friday, May 6, 1988 at 9:50 AM at the University of Arizona. Their measurements are now completed and have been submitted to the British Museum. The measurements at the ETH Zurich are well along and should be completed very soon. The AMS facility at the University of Oxford has not yet begun the measurements. The only deadline for announcing the final results that has been given is the end of the year, but it is likely they will be available before the date on which the present Cardinal of Turin officially retires as Archbishop of that diocese sometime in October.

As one who played a leading role in developing the AMS technique that permits precious artifacts like the shroud to be "non destructively" dated, as the chief spokesman and coordinator for dating the shroud, and as head of one laboratory rejected by Turin from participating in the enterprise, it seems appropriate for the author to make few comments on various aspects of the affair. It seems gratuitous to remark that all three laboratories chosen by Turin are as qualified to date the shroud as were the four that were eliminated. If all three laboratories arrive at the same date for the shroud and the control samples within a standard deviation or two and if there has been no collusion between them, as surely there will not be, then as far as the present author is concerned, the result will be credible. Whether the public at large will find it similarly credible because of some or all of the points to be discussed below is, perhaps, less certain.

The Vatican empowered the Archbishop of Turin to make all decisions concerning the shroud. He and his advisors were thus presented with the alternative of accepting the Turin Workshop protocol or of inventing a new one. They chose the latter and for that deserve to be criticized. In what follows, this criticism is directed to the appropriate Turin ecclesiastic authorities and not to the people connected with the three laboratories who are presently engaged in dating the shroud. The heads of these laboratories made a vigorous representation to the Archbishop of Turin (Donahue, pers commun, Nov 5, 1987) to persuade him to reverse his decision to abrogate the Turin protocol (Gove, 1987) but to no avail. Although the author did hope the three laboratories would then decline the Archbishop's dictum, they reluctantly decided to proceed with the measurement. Whether that was a wise decision or not is yet to be tested.

First among the points to be considered is the fact that the Pontifical Academy of Sciences, after organizing and chairing the workshop in Turin which arrived at an exemplary protocol for dating the shroud (Gove, 1987), was prevented by Turin from playing any further role in the dating enterprise. The Pontifical Academy of Sciences is the only scientific body connected with the Roman Catholic Church that has any international standing. Its elimination from participation by Turin was inexplicable. It did, however, have the effect of making the dating of the shroud more of a hometown effort. Other changes in the Turin Workshop protocol reinforce that parochial approach as further described.

Second, the internationally renowned textile expert from the Abegg-Stiftung, Bern, Switzerland selected by the Pontifical Academy of Sciences

## PROGRESS IN RADIOCARBON DATING THE SHROUD OF TURIN (cont'd)

to be present at the Turin workshop and accepted by the workshop to supervise removal of suitable samples from the shroud for dating was rejected by Turin in favor of individuals handpicked by them. Again, no reason was given. The sample was removed on April 21, 1988 by Professor Giovanni Riggi, a Turin microanalyst, and at least one of the textile people was also from Turin; the other was from France. However, despite the previous statement by Archbishop Anastasio Cardinal Ballestrero (pers commun, Oct 10,-1987), "The instructions from the Holy See do not deem it necessary for representatives of the measurement laboratories to attend the sample-taking operations," fortunately, the sampling process ultimately followed the protocol recommended by the Turin Workshop. Present also at the cutting were the representative of the British Museum, the Cardinal of Turin, his science advisor and a handful of other people. The President of the Pontifical Academy of Sciences, despite his being invited by the Cardinal to be present as his guest, was notably absent. The entire sample-taking procedure was privately videotaped under the direction of Professor Riggi. The piece of cloth removed was cut from the main body of the shroud at the hem close to where the sample was removed for examination by Professor Gilbert Raes in 1973. Three equal pieces were cut from this sample by the representative of the British Museum, weighed, wrapped in aluminum foil and sealed in numbered stainless steel containers all in view of the laboratory representatives and immediately handed to them. Two of the control samples supplied by the Museum were similarly treated. A third control sample was supplied by a radiocarbon laboratory in France. The fact that all three laboratories received a sample from essentially the same place on the shroud, and all will use essentially the same cloth cleaning procedures, means that any contamination that is not removed by such cleaning methods will equally affect all three measurements making them in agreement but wrong. Although this is unlikely, it could provide a rationale for discrediting whatever result is obtained by those who disagree with it.

Third, as made clear by Tite (1988) and from the above, no attempt is being made to carry out a "blind" dating of the shroud as recommended in the Turin Workshop Protocol (Gove, 1987), since neither the shroud sample nor the two control samples supplied by the Museum were unravelled. The shroud weave is readily identifiable. More surprisingly, the ages of the three control samples were given in the English-language edition of *L'Osservatore Romano* (1988). The ascribed ages of the control samples should be accepted circumspectly, however.

Fourth, the use of both decay counting using very small proportional counters and accelerator mass spectrometry (AMS) was changed to AMS only. The two methods are distinct and independent. One of the small counter laboratories that was eliminated (Harwell) has more carbon dating experience than the other six of the original seven put together. Rumors that Turin was having second thoughts about the lack of wisdom of this decision, whether true or not, unfortunately did not result in it being reversed. Including Harwell would have indeed been a wise move if for no other reason than to demonstrate once more to the skeptics that AMS and decay counting give the same result.

### PROGRESS IN RADIOCARBON DATING THE SHROUD OF TURIN (cont'd)

Fifth, and most important of all, reducing the number of laboratories independently making the measurement from 7 to 3 eliminates the possibility of detecting an "outlier" result from one of the laboratories. Such an outlier result occurred in the interlaboratory comparisons organized by the British Museum several years ago and reported at the 12th International Radiocarbon Conference held in Trondheim in 1985 (Burleigh, Leese & Tite, 1986). If such an outlier result is obtained by any one of the three laboratories this time, the final result will be worthless. No explanation has ever been advanced by the Turin authorities for this decision.

Sixth, as made clear by Tite (1988), the final data analysis will be carried out in the manner recommended in the Turin protocol (Gove, 1987) with the important exception that the Pontifical Academy of Sciences will no longer be involved. Thus, the only independent person involved in the decision as to how the final numbers translate into an age for the shroud will be the representative of the British Museum. The other organization involved will be the Institute of Metrology "G Colonnetti" in Turin, another member of the home team. This, of course, will keep the enterprise even more "In the family." However, it should be noted that representatives of the three laboratories must also approve the manner in which the final numbers translate into an age for the shroud.

### CONSERVATION OF THE SHROUD

What further steps should be taken as soon as the age of the shroud is determined, assuming the present set of measurements provides a credible result? If the age of the shroud comfortably and credibly encompasses the date of Christ's crucifixion (which itself is somewhat uncertain), then no further scientific tests should be performed on the shroud unless authorized by a high-level scientific commission appointed preferably by the President of the Pontifical Academy of Sciences. In particular, any further "scientific" measurements of the kind carried out in 1978 by self-appointed religious zealots should be studiously eschewed as, of course, they should have been all along. If the age clearly excludes the possibility that it was Christ's shroud, it should then be thoroughly examined by art experts. For example, Anthony Harris (1988) suggested that the shroud was "painted" by Leonardo da Vinci toward the end of the 15th century on linen of unknown vintage originating in the region of Palestine. Only highly qualified art and textile experts might be able to illuminate this question.

Whatever the age of the shroud, it is arguably a very precious artifact; however, its custodial treatment both in France and in Turin since its existence was first revealed ca AD 1353 scarcely testifies to that. After it successfully weathered, with scarcely any damage to the image, a fire in 1532 in the chapel in Chambery, France, where it was stored in a silver cask, the Poor Clare nuns patched it and added a backing cloth. In 1535 it was transported to Turin. It presently rests in a wooden casket ornamented with silver within an iron chest behind an iron grill in the Royal Chapel of the Cathedral of John the Baptist in Turin. It lies in this casket covered with a red silk cloth and rolled around a wooden cylinder. No humidity or temperature control exists in the Chapel and little or no other conservation measures are in



## PROGRESS IN RADIOCARBON DATING THE SHROUD OF TURIN (cont'd)

effect. It is a tribute to the sturdiness of linen that it has so well survived even its historical age.

What is even more surprising than the casual way in which the shroud is stored in Turin is the even more casual way in which a piece of the main body of the shroud was removed in 1973 for examination by a textile expert in Belgium. The whereabouts of this piece, almost as large as the one recently removed for carbon dating, were so poorly monitored, that although it was allegedly returned to Turin, it was considered too suspect to ever be used for carbon dating. Another example of the remarkable way in which the "Pontifical Custodian of the Shroud of Turin" carries out his duties are the tests which were permitted in 1978. Among other things, they involved bathing the shroud in potentially damaging electromagnetic radiation of various frequencies including ultra-violet and X-rays. It is clear from the shroud's custodial history that one of the first orders of business after the age of the cloth is established should be to seek the advice of expert conservators to ensure the shroud is preserved for the future.

## CONCLUSIONS

The radiocarbon dating of the Turin shroud which the author had envisaged as a convincing test of the power and efficacy of AMS for carbon dating small samples of precious artifacts turned out to be a complex and, in some respects, a rather divisive enterprise. It may be that, although there are many questions that science can answer, there are some that it need not and, indeed, probably should not tackle. Be that as it may, whatever age the shroud turns out to be, the result will be contentious in some quarters, in part because of the inadequacies of the procedures being followed. There is a reasonable chance, however, that the three laboratories will independently produce concordant results and, in this circumstance, at least the scientific community is likely to find the dates credible.<sup>1</sup>

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<sup>1</sup>Note added in proof: The date of the shroud announced by Turin and reported in the Oct 14, 1988 edition of the *New York Times* was AD 1260-1390 at a 95% confidence level.

## FROM THE OXFORD UNIVERSITY RESEARCH NEWSPAPER

**A publication which would not perhaps reach a wide general public readership is *Campaign News*, a beautifully produced broadsheet journal canvassing funds for research at Oxford University. It is highly laudable to read that Oxford has raised a staggering sum in excess of £300 million in its current fundraising programme but sad to see that it is still relentless in riding home on the back of the Shroud to do so by claiming radiocarbon dating proof that the Shroud was "woven in the Middle Ages" and Professor Hall claiming again that through his work the Piltdown skull and the Turin Shroud had been "exposed as forgeries". And giving the British Society for the Turin Shroud the credit for two of the photographs of the Shroud!! Here are some extracts taken from the major article, "Archaeological Science" in *Campaign News*, Issue 16, July 1994.**

One of the most significant developments in archaeology during the past thirty to forty years has been the increasingly collaboration between archaeologists and scientists. Scientific dating methods, such as radiocarbon and thermoluminescence dating, have for the first time provided the archaeologist with a chronological framework, and the application of geophysical prospection methods has helped to locate and establish the partial plan of archaeological sites prior to excavation.

Since 1955 the Oxford Research Laboratory for Archaeology and the History of Art has been at the forefront of these new, developments. The Laboratory was the brainchild of the physicist Viscount Cherwell (formerly F A Lindemann); Christopher Hawkes, Oxford Professor of European Archaeology; and Edward (later Professor) Hall, the Laboratory's first Director, who effectively established Archaeological Science as a new discipline.

'One of their purposes in setting up the Research Laboratory was to act as a bridge between the Natural Sciences and the Humanities,' explained Professor Mike Tite, the current Director of the Laboratory and a leading expert on the dating of ancient ceramics. 'In particular, it was appreciated that techniques and ideas being developed in physics and chemistry could have a fruitful application in helping to solve questions arising in archaeology and in museum studies.'

In the 1950's the Oxford Laboratory was the first facility to develop and apply X-ray fluorescence analysis to artefacts thus enabling the chemical analysis of objects with minimal damage. And in the 1950s, the Laboratory was the first to develop thermoluminescence dating as an effective technique for the dating and authentication of ceramics. Today the Laboratory remains in the forefront of new research, for example in its work on DNA

## FROM THE OXFORD UNIVERSITY RESEARCH NEWSPAPER (cont'd)

survival in archaeological material.

Under the direction of Professor Tite, the fourteen-strong academic team at the Oxford Laboratory is involved in developing a number of scientific techniques. These include geophysical prospection, dating techniques, artefact analysis, and analysis of human remains.

### **Geophysical Prospection**

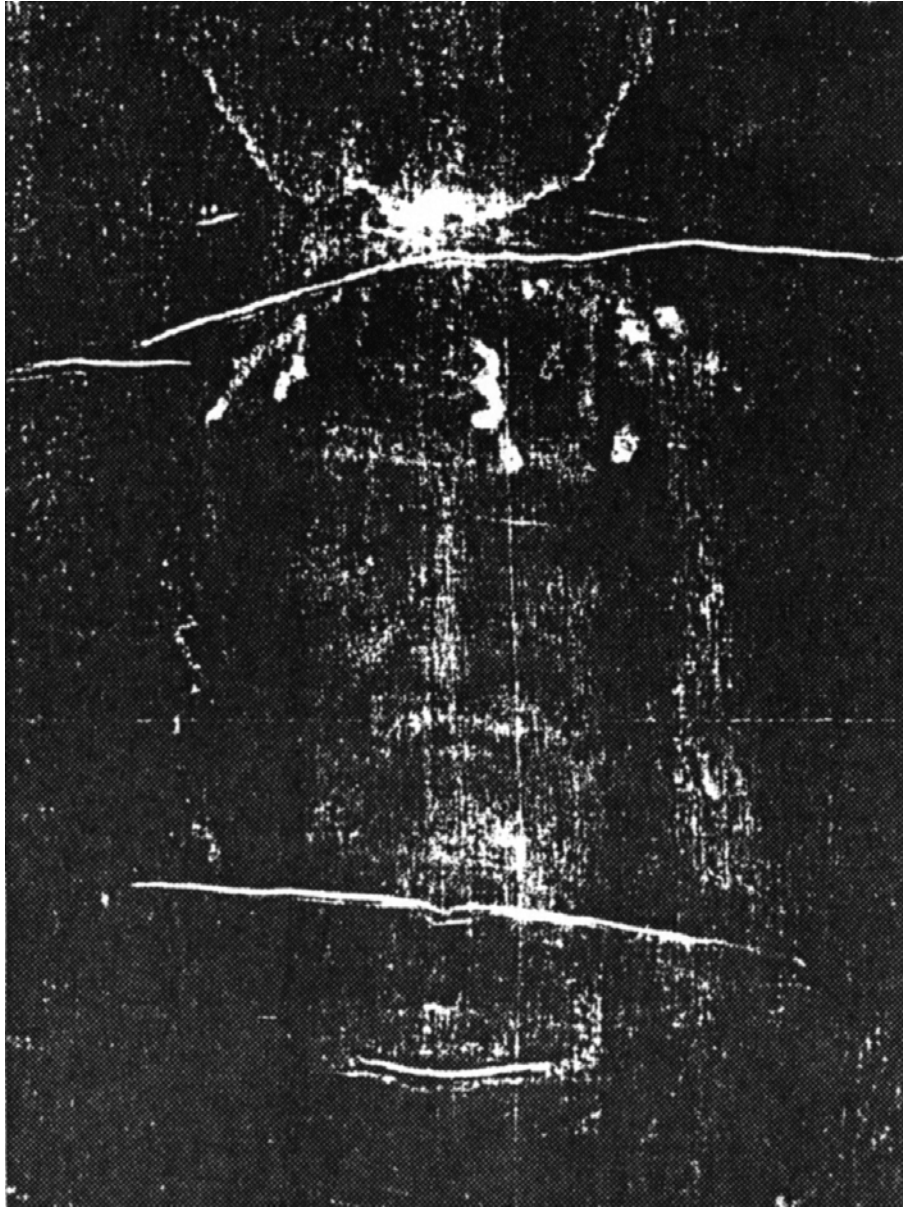
The introduction of 'developer funding' over the last decade has profoundly affected British - archaeology. New legislation has meant that planning applications to develop a site which a developer submits to local and/or national government must now include a site evaluation. The evaluation is concerned with the environmental impact of development on the flora, fauna and archaeological remains of the site. A critical part of the evaluation process involves prospection and the location of buried features. Among other activities, the Oxford Laboratory is investigating the use of Ground Probing Radar (GPR). By passing an electromagnetic wave through the ground, GPR allows for the 'remote sensing' of features beneath the ground by recording the waves reflected back.

### **Dating Techniques**

Until forty years ago, prehistorians had to rely on their estimates of rates of cultural change, or of processes of decay and burial, for knowledge of the date of an archaeological event. However, largely due to the invention of radiocarbon dating, this picture has changed.

Radiocarbon dating is a technique which determines the age of organic materials (wood, bone, charcoal and cloth) by measuring the extent of the decay of the radioactive carbon isotope Carbon 14. The Laboratory's facility focuses around an Accelerator Mass Spectrometer (AMS) which has the advantage of being able to analyse extremely small samples, for example a single seed, and can also take small samples from unique and valuable objects without significant damage. 'The Oxford Laboratory has the only AMS facility in the country for radio carbon dating,' explained Professor Tite. 'To date we have used this machine for analysing fabric from the Turin Shroud (dated c.AD 1350), bone and skin from the Bronze Age "Ice Man" (dated c.3,300 BC), and food remains from the earliest known pottery from South America which was discovered recently in the Amazon Basin and dated to 6,000-5,000 BC, thereby pushing back the limit beyond the previous "earliest" pottery known from the Andes.'

FROM THE OXFORD UNIVERSITY RESEARCH NEWSPAPER (cont'd)



**Radiocarbon dating at Oxford was used to prove that the Turin Shroud, revered for centuries as Christ's burial cloth, had been woven in the Middle Ages between 1260 and 1390 AD.**

## FROM THE OXFORD UNIVERSITY RESEARCH NEWSPAPER (cont'd)

Radiocarbon dating, however, does have its limitations — in age range, in material, in accuracy and in cost, and other methods have been, or are being devised to date those periods or materials where radiocarbon dating fails, or to provide an independent check where radiocarbon dating is questionable. Of particular importance in this respect has been luminescence dating, which significantly extends the time span and range of materials which can be dated. This technique was developed in the first instance for dating pottery. The firing process, when one makes pottery, removes all the accumulated effect of previous irradiation during geological time, thereby setting the thermoluminescence clock at zero. The main use of this method is for dating burnt flints and sediments from Palaeolithic sites,' explained Professor Tite. With these materials, we can go beyond the 50,000 years limit of radiocarbon dating and thus provide a chronology for the emergence (evolution) of modern man.'

### **Artefact Analysis**

This, the third major aspect of the Laboratory's work, investigates what raw materials were used in the manufacture of artefacts; where they came from; how they were processed; and how artefacts were made and used. Although other materials such as metal, stone and glass are investigated, the main emphasis in the Laboratory is the integrated - investigation of pottery involving chemical analysis, optical

microscopy and scanning electron microscopy. The Laboratory has for instance been able to trace the introduction of distinctive stonepaste bodies and tin-°pacified glazes in Islamic ceramics.

### **Analysis of Human DNA**

The Laboratory is developing groundbreaking techniques to extract and sequence DNA from human bones. Recent advances now enable the laboratory to amplify the very small amounts of DNA surviving in ancient bone, skin and hair. 'Bone is particularly important because it is ubiquitous on archaeological sites,' explained Professor Tite.

'However, the problem is whether the DNA present is indigenous and original to the bone being analysed or whether it comes from subsequent contamination acquired in the journey of the bone from the ground to the laboratory. By analysing skeletons from cemeteries or Neolithic chambered tombs, this technique might eventually determine kinship and family relationships.'

### **Funding Requirements**

Shortly before his retirement in 1989, Professor Edward Hall raised £1 million so that his post would be funded in perpetuity. In so doing, Professor Hall secured the future of Archaeological Science at Oxford. Whilst this has guaranteed the continuation of the Laboratory's

## FROM THE OXFORD UNIVERSITY RESEARCH NEWSPAPER (cont'd)

work, further funding is now required to enable Oxford to realize its full potential both in the development of new techniques and in the application of existing ones to the solution of archaeological problems.

A sum of £4 million is required to:

- provide new laboratory facilities and equipment so that Oxford can develop new techniques, including geophysical prospection, dating, artefact studies, dietary studies, DNA analysis, and apply existing techniques on newly discovered aspects of archaeology;
- create new teaching space for the new undergraduate degree in Archaeology and Art, postgraduate training and postdoctoral visitors to the Laboratory;
- establish permanent funds to attract new post-doctoral researchers who will develop the new generation of scientific techniques.

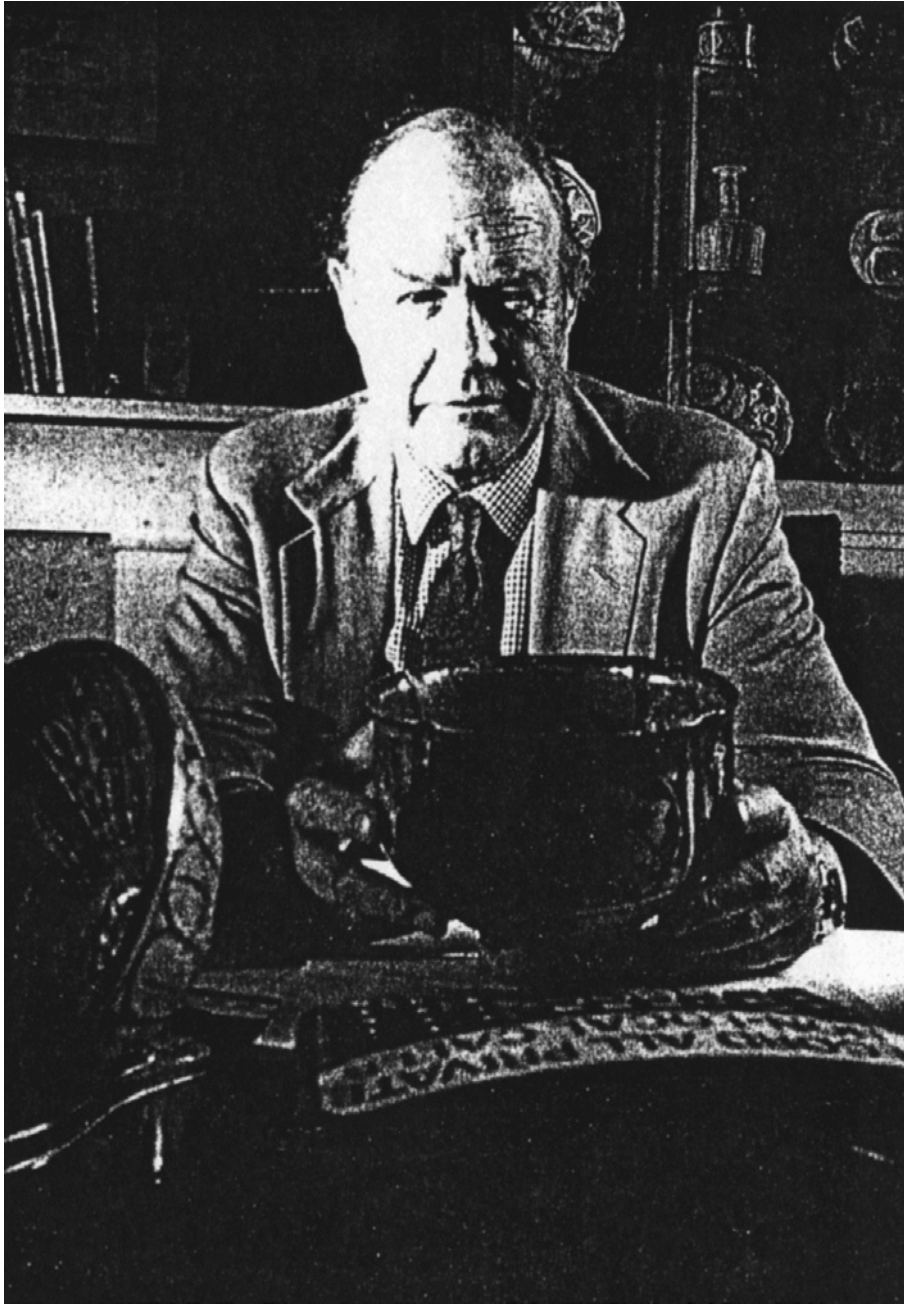
'In conclusion,' says Professor Tite, 'I look to a future in which the view, or vision, expressed by Professor T Douglas Price in 1989 as President of the Society for Archaeological Sciences could become a reality: "The major discoveries in archaeology in future will be made in the laboratory, not in the field".'

For further information on the Archaeological Science project please contact Mr Robin Brunner-Ellis, Campaign Executive, at the Campaign Office, tel: 0865 278468 (direct line).

*In September 1991 the body' of a young man, believed to be several thousand years old, perfectly preserved under sheets of glacial ice was discovered by hikers high on the Italian-Austrian border. Of primary importance was the fact that the corpse was in perfect condition — a Bronze Age man, naturally mummified by the weather conditions and complete with clothing and artefacts. 'Archaeology, as a rule, knows only of the grave and the artefacts left by the family, explained Professor Tite. 'What is interesting here is this was a man carrying his own possessions, and everything is perfectly preserved thanks to the ice — we even know what he had had to eat that day"*

*With help from the, Laboratory's Carbon Dating Unit, which analysed a few grams of skin and bone, it was revealed that the corpse was in the region of 4,000 years old.*

FROM THE OXFORD UNIVERSITY RESEARCH NEWSPAPER (cont'd)



**Professor Edward Hall, the first director of the Oxford Laboratory for Archaeology and the History of Art. It was through his research that the Piltdown skull and the Turin Shroud were exposed as forgeries.**

*Shroud News* began in 1980 when Rex Morgan, author of three books on the subject of the Holy Shroud (*Perpetual Miracle*, *Shroud Guide* and *The Holy Shroud and the Earliest Paintings of Christ*) and editor of several others, began sending a few notes about current developments in the study of the Shroud of Turin (Sindonology) for a small circle of interested people in his home country of Australia. He didn't expect it to go beyond a few issues.

Today, the bulletin, now highly acclaimed, reaches subscribers all over the world and is written, produced and disseminated more quickly than any other Shroud publication in the English language. It contains information, news, articles and illustrations gathered from sources of Shroud study worldwide through Rex Morgan's extensive network of personal connections with what has been described as the "Shroud Crowd".

Rex Morgan is a frequent traveller overseas which gives him the opportunity to keep abreast of latest developments in Shroud study and research at first hand. He was present at the world media preview of the Shroud itself in August 1978 in Turin, Italy and has met and knows numerous Shroud researchers in many countries. His quest for Shroud information became, as he described it, "a passionate hobby". He took the world famous Photographic Exhibition created by Brooks Institute, California, to Australia, New Zealand, Hong Kong, Macau, and Canada and during those tours it attracted more than 600,000 visitors. The exhibition was subsequently donated by Brooks 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 Board member of the US 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 (ESSJ). He has made a number of original contributions to Shroud research has presented major papers at international Shroud conferences has written numerous articles and has given hundreds of broadcasts and telecasts on the subject in many countries.

The list of *Shroud News* subscribers continues to increase internationally and it has been described many times as one of the best available. *Shroud News* comes out six times a year. Its production is obviously privately subsidised as we request a subscription in Australia of only \$6 for six issues posted. The USA subscription is \$12 (posted airmail - there is no longer any surface mail from Australia). Postage to other countries varies. ALL back issues are available for \$1 (US or Aust) each plus postage. The famous 50th issue is \$3 plus post. Customers should note that as it costs us \$8 to negotiate each foreign cheque we request all payments be made in currency banknotes of your country or charge to Visa, Master or Amex cards.

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THE RUNCIMAN PRESS, POB 86, MANLY, 2095, NSW, Australia  
(24 hour Fax No: 61 - 2 - 982 9956)