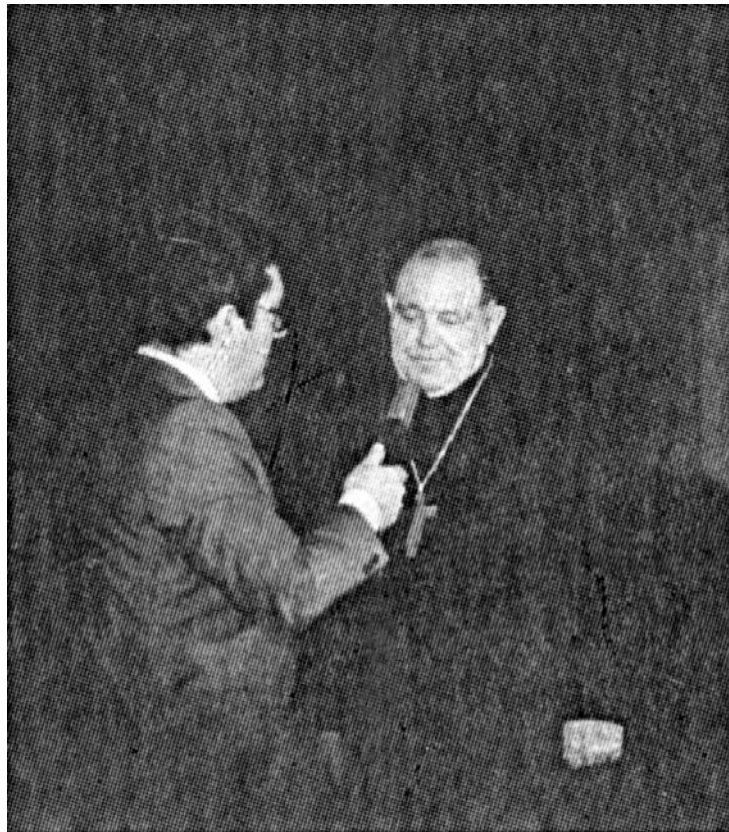


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A NEWSLETTER ABOUT THE HOLY SHROUD OF TURIN
edited by REX MORGAN
Author of PERPETUAL MIRACLE and SHROUD GUIDE



THE ARCHBISHOP OF TURIN, ITALY, CARDINAL ANASTASIO BALLESTRERO BEING INTERVIEWED IN AUGUST 1978 WHEN THE SHROUD WAS EXHIBITED AND SUBSEQUENTLY EXAMINED BY A TEAM OF SCIENTISTS. IN 1988, TEN YEARS LATER, THE WORLD EXPECTS THE CARDINAL TO ANNOUNCE THE RESULTS OF THE CARBON DATING OF THE SHROUD OF TURIN

EDITORIAL

The attention of the world is concentrated on the carbon dating of the Shroud which is going on at the moment. Whilst I have my personal reservations about the ultimate importance of this test, it cannot be denied that, whatever the result, the quest for knowledge and information about this extraordinarily mystifying object will continue apace. Accordingly I have devoted a large part of this issue to an article I have compiled from some recent sources bringing together some of the carbon 14 details as they stand at present.

An interesting activity in the next few weeks will be the showing of the Brooks Institute Shroud Photographic Exhibit, now owned by the Australia-based South East Asia Research Centre for the Holy Shroud (SEARCH), for the first time in Canada. The exhibit is packed and on its way to Calgary in Alberta where it will be a special attraction in the cultural section of the Calgary Stampede and Exhibition. I understand that the Calgary Exhibition attracts more than a million visitors and that by the end of May this year the organisers had already pre-sold over 100,000 entry tickets. One cannot anticipate how many will visit the pavilion to see our Shroud photographic exhibit but no doubt the number will be very large. It opens on 8th July 1988 and closes on 17th July.

When the exhibition finally left the Newcastle Regional Museum a few days after that Museum had been officially opened by Her Majesty the Queen, well over 30,000 people had been to see it. This was regarded as remarkable by the officials at Newcastle and by everyone else and must be seen as a reflection of the now widespread interest in the subject of the Shroud.

On my way to Canada at the end of the month I expect to be making contact with some of our Shroud connections in other countries and I shall look forward to reporting matters of interest in the August issue. I understand that a number of people from the Hunter Valley area who visited the Newcastle exhibition are new subscribers to SHROUD NEWS so I welcome them to the worldwide circle of readers.

REX MORGAN

CARBON DATING THE SHROUD - A 1988 RESUMÉ by REX MORGAN

This article is a compilation drawing heavily on several recent sources. The compiler makes full acknowledgement to Bill McLellan (St Louis Post Despatch); Nicholas Schoon (The Independent -Britain); Guido Paglia (La Stampa -Turin) and translator Dr Ottolenghi; UPI release - Vatican City; Fr Adam Otterbein's Holy Shroud Guild Newsletter; and to the several Shroud researchers in USA, Britain and Italy who supplied information.

The degree of importance

Now that June 1988 is here we know that what is considered by many people to be the most important test of all on the Shroud of Turin, carbon dating, is actually taking place in the USA, Great Britain and Switzerland.

The degree of importance of the carbon dating is, of course, a highly arguable proposition. Some would say that carbon dating is so inaccurate that it will make no difference to the Shroud problem whatever results are obtained. Others argue that much depends on what part of the cloth the sample is taken from as it will have been affected by burning, by water, by pollution of various kinds and cannot be accurately dated for these reasons. Others argue that if the results suggest a date for the cloth of near the first century this will not obviate the possibility of a forger having created the image on the cloth at any later date so we shall be no nearer to the solution of the authenticity/fraudulence debate.

It is generally agreed that if science does date the cloth to about the time of Christ there are, indeed, very many people who will accept it (wrongly) as proof positive of the authenticity of the cloth. Yet another argument is that if the cloth were dated around the Middle Ages this result would raise even more questions than it answers for how, then, does one explain the numerous artistic and historical references, which abound in the Shroud literature, to the cloth bearing its image from earliest times. Further, how does one explain that a mediaeval forger could have produced such an image without any form of pigment, in negative, invisible at arm's length, with three-dimensional properties, showing anatomical details

Carbon Dating the Shroud - 1988 Resume (cont'd)

and factors unknown until the twentieth century and containing pollens which show that the cloth appears to have been everywhere history suggests that the Shroud of Christ has been since the Crucifixion. If the date comes out at about 2,000 years old the skeptics will stick to the later forgery argument on an old piece of cloth; if it comes out anywhere else those who argue for authenticity will claim the scientists got it wrong. So whatever the result the discussion will not rest. But there is no doubt that the results will be of great interest.

World Media Attention

Amongst the large number of news reports and feature articles which have appeared all over the world since the announcement, neatly two years ago, of the decision to date the cloth and then the news that the samples had actually been taken this year, there have been typically ho-hum reports by a world media which has suddenly realised that perhaps it ought to have taken the study of the Shroud more seriously than many elements of it have, and there have also been some very serious and sensible articles produced along with the realisation by the carrion crows of the cynical press that here is a story that the public probably want to read after all and better to get on the bandwagon late than not at all.

SHROUD NEWS has received much information of all these kinds over the past few months and some of them make very interesting reading. But let us recapitulate briefly the carbon 14 story as it relates to the Shroud.

What is Carbon Decay?

The first method of carbon 14 dating was invented by American Dr Willard Libby in 1947 and his work was later rewarded with a Nobel Prize in 1960. Libby enunciated the principle that cosmic rays, consisting of highly energised, subatomic particles, are continuously raining down from outer space and colliding with the atoms of the Earth's atmosphere. Some of these collisions set off a chain of further collisions and miniature atomic reactions in which particles are dislodged from atomic nuclei and new particles are added. In one of these chains of events, an atom of nitrogen, which is the gas

Carbon Dating the Shroud - A 1988 Resume (cont'd)

constituting most of the Earth's atmosphere, will lose a proton and gain a neutron. The resulting atom is no longer nitrogen but a slightly heavier version of carbon known as carbon 14.

These cosmic ray collisions produce carbon 14 at a very low but almost unchanging rate. For every million million atoms of carbon 12 there is only one atom of carbon 14. Carbon 14 has precisely the same chemical properties as the more common carbon 12 and carbon 13, which forms of the element occur normally throughout the universe. Carbon is common to all living things and as a component of carbon dioxide is, along with water, the essential material in photosynthesis by green plants. It is ingested by animals that eat the plants and by the animals that eat the animals. Carbon 14, as well as being slightly heavier, is radioactive, meaning that it tends to decay slowly into nitrogen.

Owing to the curiously capricious nature of events at the subatomic level, not every atom of carbon 14 lasts the same length of time. Rather, the atoms survive for lengths of time which vary a great deal, but which average out to an interval known as half-life, which is the time during which 50 percent of the atoms in a given quantity will have decayed.

The half-life of carbon 14 is about 5,700 years. Thus a sample of carbon which contains, say, 100 million atoms of carbon 14 today will contain only 50 million atoms of it 5,700 years from now. In 11,400 years the number will have dropped to 25 million. While an organism is living and replenishing its store of carbon from the atmosphere where carbon 14 is being continually created, the ratio of carbon 12 and carbon 14 remains approximately constant. When the organism dies the input of fresh carbon 14 ceases, the carbon 14 already present starts to die off, and the mix of carbon 12 and carbon 14 changes. It is this mix that can, in principle, be used to determine the age of organic material from any object subjected to testing.

Libby's Method

The Libby method, known as the "proportional counting" method has been the conventional procedure until very recently and is an

Carbon Dating the Shroud - A 1988 Resume (cont'd)

indirect method of counting the carbon content. The sample to be tested is converted into a carbon-bearing gas such as methane or carbon dioxide. Every time an atom of carbon 14 decays into nitrogen it emits an electron. So the frequency of decay is measured by counting the electrons being emitted from the sample of gas and thus the number of carbon 14 atoms can be counted.

In a gram of just-dead carbon the atoms of carbon 14 will decay at the rate of about 14 per minute whereas in material which has been dead for centuries the percentage of carbon will be lower and so will the incidence of decay. Thus the older the material the smaller the proportion of carbon and the more infrequent the individual decays so to get a significant reading from an older specimen requires either a larger sample of the material or a longer time to make the count. Thus it was that, until recently, the dating of the Shroud would have required a piece of it about the size of a handkerchief and for this reason the authorities at Turin has resisted efforts to remove such a piece for testing for the obvious reason that this would seriously damage the integrity of the cloth.

Carbon and the Shroud

As long ago as the early 1950s one of the Shroud's foremost experts, Revd Fr Adam Otterbein, President of the Holy Shroud Guild of New York, made contact with Libby who was then teaching at the University of Chicago. He learned about Libby's new dating method and conveyed the information to the then owner of the Shroud, ex-King Umberto of Italy, then living in Portugal. In due course Umberto himself visited Libby in California and Otterbein recalls the anecdote that Libby informed the King that a sample the size of a napkin would be needed and, "of course, we would need a second sample to do a re-run! But it would not make sense to destroy the Shroud in order to prove its authenticity."

From that time onwards, one of the most burning questions on many lips was why the Shroud hadn't been carbon-dated. The church authorities, charged with the custodianship of the cloth had, like Umberto, never said they were against the procedure taking place, only that they were not going to sacrifice such a large piece of what just might be the most precious authentic relic in Christendom. This has

Carbon Dating the Shroud - A 1988 Resume (cont'd)

led, over the years to the spurious proposition that the Church is, for some reason, afraid to allow the test in case it turns out to show the cloth dating to a later period than that of Christ. It became a matter of waiting until some better or more sophisticated method of dating could be developed as surely comes about in due course in most scientific enterprises.

Recent Progress

Even at the 1978 scientific investigation of the Shroud carbon dating was not seriously considered as so many other things were to be done and, as the Cardinal Archbishop of Turin said, no-one even suggested any formal carbon dating protocol. There was a time when Belgian textile expert, Professor Gilbert Raes, had in his possession a largish piece of the Shroud upon which he had conducted a textile analysis on behalf of the commission of enquiry set up by the authorities in 1969. It is also recorded that subsequently an American scientist and an England-based Shroud researcher tried to obtain that sample for the purpose of carbon dating it. The full story of this incident has yet to be told but suffice it to say that the protocols suggested at that time were rejected as not being sound enough and the fragment was returned promptly to Turin.

It was not until 1986, when the widely reported seminar on carbon 14 dating was held officially by the authorities in Turin and which was attended by a number of carbon dating experts invited from all over the world. At this meeting (fully reported in earlier issues of SHROUD NEWS) many problems were raised about the accuracy of the methods available and the stringent controls needed for any dating procedures to be seen as valid but the outcome of the meeting was that the authorities agreed to seven laboratories being used for a series of double-blind tests to take place before Easter 1988. It is now well known that the authorities subsequently decided to reduce the number of participating laboratories to three and that samples of the Shroud were actually removed from the cloth on 21st April 1988.

Streamlined Counting

It was in 1977 that a completely new method of carbon dating was

Carbon Dating the Shroud - A 1988 Resume (cont'd)

evolved by Professor Harry Gove of Rochester University as he discussed the matter over a drink at the annual meeting of the American Physical Society in April 1977 with Professor A. E. Litherland of the University of Toronto and K. H. Purser, the head of General Ionex Corporation, makers of nuclear accelerators. The question was how to count directly the carbon 14 atoms in a material. As we have seen the conventional method measures the amount of decay and requires a large sample. If the atoms themselves could be counted the procedure would require only a fraction of the material (about one thousandth, as it turned out) and it could hopefully be done much more quickly.

Mass can be measured. Mass is weight and in atomic and molecular terms mass equals the number of protons and neutrons in the nucleus of an atom. Thus carbon 14, with its six protons and eight neutrons, has a mass of 14, as does nitrogen, with its seven protons and seven neutrons. So do any number of molecules. Carbon 12, for instance, with six protons and six neutrons, will often combine with two hydrogen atoms, each with a single proton, to form a molecule with a mass of 14. So any attempt to count carbon 14 atoms by counting particles with a mass of 14 seemed doomed. There would be no way to differentiate among carbon 14, nitrogen or molecules with a mass of 14 since all weigh the same.

Gove recalled recently, "Over a couple of glasses of wine we got an idea. You can't add an electron to nitrogen." This idea was the breakthrough. To fire a particle through a nuclear accelerator, whether an atom or a molecule, the particle must be charged. In their normal state, atoms and molecules are neutral with as many negatively charged electrons as positively charged protons. One way to charge a particle is to add an electron, giving the particle a negative charge. The three physicists decided to conduct an experiment by taking a sample material, adding an electron to all the particles which would accept an electron. They would then shoot those negatively charged particles through an accelerator and count the particles with a mass of 14 that came out the other side. Because nitrogen would not accept an additional electron the nitrogen would not be accelerated. The only particles that could be confused with carbon 14 (the only other particles with the same mass) would be molecules. They decided that they could solve that problem by

Carbon Dating the Shroud - A 1988 Resume (cont'd)

generating a collision inside the accelerator which would break all the molecules into atoms. Theoretically only the carbon 14 atoms would arrive at the other end of the accelerator with the appropriate mass.

Gove and Turin

Their experiment was conducted at Rochester University and was a complete success. The accelerator method of carbon dating had been established and would require only a minute sample of the test material and the result would be almost instantaneous. From this time on, Gove kept up communication with the Turin authorities on his developments and the possibility of ultimately using the accelerator method for dating a piece of the Shroud.

Also throughout this time and until this year, several groups and individuals have submitted protocols for carbon dating and other tests all of which have been considered by the Turin authorities headed by Professor Luigi Gonella, the Church's scientific advisor and one who has been at the forefront of all modern research on the Shroud itself.

Following the 1986 carbon conference and the subsequent decision to reduce the number of laboratories to three, excluding that of Harry Gove, there has been a degree of acrimony between Gove and Gonella. Gove and Garman Harbottle, head of the Brookhaven Institute laboratory, which was also excluded, issued widely publicised statements in America last year criticising the decision and in particular Gonella, whom Gove described as "a second-rate scientist" and "a man nobody ever heard of." One commentator has suggested that Gove queered his pitch from the beginning by being critical of the Shroud of Turin Research Project (STURP) which was strongly supported by Gonella in 1978.

How many Labs?

Gove says: "Seven labs would have been better than three. If one lab makes a mistake and comes up with a result that's way off, you'd know it was a mistake if you had six other results that were the same. My real problem is this: The Pontifical Academy is a first-rate

Carbon Dating the Shroud - A 1988 Resume (cont'd)

scientific body. I can't understand why the scientists from the academy weren't given complete charge of the project instead of Gonella. I shouldn't have said those things about Gonella although they're true. I wish I knew how he got to be scientific advisor."

One of the three participating laboratories' heads, Professor Edward "Teddy" Hall of Oxford University's Research Laboratory for Archaeology and the History of Art said recently, "I'd be hopping mad if I wasn't chosen but having only three labs doesn't undermine the validity of the dating. I think it was absolutely the right decision. You only need one lab to get it badly wrong to confuse everything, and the chances of that are higher with seven than with three."

The Samples Taken

And so on 21st April 1988, in the presence of the Pontifical custodian of the Shroud, Cardinal Archbishop Anastasio Ballestrero of Turin, twenty scientists and technicians witnessed the removal of a piece of the Shroud. Among those present were Edward Hall of Oxford; Douglas Donahue and Paul Damon, co-directors of the National Science Foundation Arizona Accelerator Facility for Radioscopic Analysis; Dr Michael Tite of the British Museum who is co-ordinating the tests; Professor Franco Testore, technological textile expert from Turin Polytechnic Institute; Gabriel Vial of the Historical Museum of Textiles, Lyon; Professor Luigi Gonella and Professor Giovanni Riggi who were actively involved in the 1978 testing programme.

The exercise took from 6.00 a.m. until 8.00 p.m. to complete and it is reported that a piece was cut from the "lower left corner" of the cloth according to precise and agreed criteria so as to guarantee the minimum damage to the relic and the maximum representation. The sample was then divided into three parts, one for each participating laboratory (Arizona, Oxford and Zurich) and personally handed to their representatives by the Archbishop.

Each received three sealed containers: one held an authentic sample from the Shroud and the other two contained samples from other materials of known date. These came from the first, eleventh and thirteenth centuries AD and had been provided by the British Museum

Carbon Dating the Shroud - A 1988 Resume (cont'd)

to act as blind control samples. The whole day's activity was carried out in secrecy although it was entirely videorecorded and some 2,000 photographs were also taken.

American Donahue has said that his whole experience with involvement in Shroud science has been "other worldly". "I remember," he said, "coming back through customs with the sample. The customs agent in New York asked me what I had brought back from Europe. 'A bottle of gin, some chocolates and a piece of the Shroud of Turin' I said. She smiled and waved me through."

The Arizona Test

Whereas a report of the Oxford activities in a British newspaper mentions that Professor Hall hopes to raise a large sum for his highly respected laboratory by selling the rights to the Shroud dating story to a Sunday newspaper, there is a very full report of the first test run in Arizona in a recent American press item.

Paul Damon and Douglas Donahue, co-directors of the Arizona laboratory conducted the tests in the presence of Harry Cove who had been invited as an observer. The report tells us that a piece of the Shroud, one quarter the size of a postage stamp, burned to create approximately three cubic centimetres of carbon dioxide and then converted to graphite and compressed into a target pellet one millimetre in diameter, was loaded into the tandem accelerator mass spectrometer. This machine was built by General Ionex Corp, the company in whose chambers the original discussion took place where Cove invented the accelerator method of dating.

Atoms of cesium, propelled by 10,000 volts, were fired at the target. cesium is used because a cesium atom has a loose electron - that is, an electron in a loose orbit that readily dissociates itself from the nucleus of its host atom. The cesium struck the target pellet, and particles in the target picked up loose electrons, thereby gaining a negative charge. These negatively charged particles - carbon atoms and molecules, mostly carbon 12 atoms with two hydrogen atoms, but also carbon 13 atoms with a single hydrogen atom - sputtered out of the target and began their trip through the 50-foot accelerator at approximately 200 miles per second. An injection

Carbon Dating the Shroud - A 1988 resume (cont'd)

magnet steered all the particles with a mass of 14 to the left, into the main body of the accelerator where they were drawn toward a power source of 2 million volts increasing their speed to 2,000 miles per second. Then those particles ran into a cloud of argon gas providing the collision that Gove and his colleagues had envisaged, which would smash the molecules into their component atoms. In addition to breaking up the molecules the collision knocked four electrons off each carbon atom. So instead of having an extra electron, and a negative charge of one, each atom now had a positive charge of three. With their journey almost complete, the atoms spun towards another magnet which directed particles with a mass of 14 into a detector. Only the carbon 14 atoms were detected. This process went on for one minute.

Then the injection magnet was slightly altered to steer particles with a mass of 13 through the accelerator. In this way the carbon 13 atoms were counted. Then the magnet was readjusted for a mass of 14. Then readjusted for a mass of 13. Then back to 14. The cycle was repeated ten times.

The whole procedure was repeated with a modern sample of known age for calibration purposes. Then two samples of ancient material provided by the British Museum were carbon dated. Museum officials, but not the scientists doing the tests, know the dates of the material. The entire test was repeated five times. The results are printed out on a computer with the modern sample always coming out as a reading of 20 so a reading of 10 would indicate that the object being tested was 5,700 years old. In the case of the Shroud a reading of 16 would indicate that the flax from which the linen was woven had been harvested 2,000 years ago. If the flax had been harvested in the 14th century the reading would be closer to 18.

Dr Walter McCrone, who claims the Shroud is a mediaeval painting, said earlier this year, "I'm rather surprised the church is letting the test be done. I think one of the big reasons is the way my results were so vigorously attacked. I think the church believes this test will prove the Shroud to be 2,000 years old. I'd bet all the money I have that it dates to the 14th century."

Back at Arizona, Donahue was the first person to read the results.

Carbon Dating the Shroud - A 1988 Resume (cont'd)

The second was Harry Gove. No one has divulged what those results were.

After the laboratories in Arizona, Oxford and Zurich have completed all their tests the results will be co-ordinated by the British Museum and sent back to Turin where, in the fullness of time, the authorities will announce them to a world sitting on the edge of its chair. No one knows when this will be but it is anticipated that the announcement will be made during 1988.

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ANOTHER SHROUD BOOK IN FLEMISH

We have received a copy of a new book in the Flemish language by Belgian OKT. BOIE entitled "DE LIJKWADE VAN TURIN" (The Shroud of Turin). The book is technically very well produced on good paper stock and with numerous black and white good quality etchings and photographs. The book contains 217 pages in paperback binding and traces the history and features of the Shroud from a biblical point of view. It has no international book number which will presumably make it hard to trace through normal library listings but is available at \$17 (US) (which includes airmail postage) from:

Remi Van Haelst
Kerkstraat 66/B4 2000
ANTWERPEN
Belgium

It would be a worthwhile addition to any Shroud scholar's library.

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BRITISH AIRWAYS "HIGHLIFE"

The November 1987 issue of the British Airways inflight magazine "Highlife" carried a four page article on the Shroud and carbon dating giving a resume of the matter as it then stood. There is an increasing number of articles appearing in such media which reflects the intense interest in the subject worldwide nowadays.

TRACES OF EARLY SHROUD VENERATION IN EUROPE (300 - 850)

by REMI VAN HAELST

In most works about the history of the Shroud, the "Shroud of Compeigne" which was lost in a fire during the XIXth century is noted as the one reported by Bishop Arculf of Perigeux because the description "8 feet long" is about half the Shroud of Turin. The existence of the half shroud in the Propsteikirche and the documents related to the gift of relics to Charlemagne by the Caliph of Damascus, the donation to abbot Benedict by Louis the Pious and finally the exchange arranged by Charles the Bald, are indications that the existence of the Shroud was known in Europe by the Carolingian emperors. It seems impossible that the Caliph of Damascus gave one worthless copy to a person such as Charlemagne. I do not believe that the Propstei shroud or the documents related to it have yet been systematically examined. The following article is no more than a compilation of the notes found in literature and I acknowledge the help of Dr Witkamp of Kerkrade, Netherlands.

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In the classical history of the Holy Shroud now kept in Turin (Italy) it is generally accepted that the Shroud came into the possession of the Byzantine emperors in the year 944. The Shroud disappeared during the sack of Constantinople by the crusaders in 1204. How it came into the possession of Geoffroy de Charny we can only assume. Perhaps it was Othon de la Roche who brought the relic to Besançon in France at the end of the XIIIth century or perhaps the Templars brought it to France.

Since the earliest days of Christendom pilgrims went to the Holy Land and brought with them many souvenirs and relics. The first mention of the Shroud in Western Europe is given during the Council of the Terme di Traiano by Pope Sylvester. It was declared: "That Holy Mass shall be celebrated upon a linen consecrated by a bishop as on the Holy Shroud with the representation of the Lord." (Labbe. Scr. Conc. p 1542)

Empress Helena brought several of the "Passion Tools" to Byzantium. According to ancient tradition she also brought the Shroud which was venerated in the church and monastery of Maria di Blachernae, the very same monastery where de Clari saw the Shroud in 1204.

Traces of Early Shroud Veneration in Europe - Van Haelst (cont'd)

About 440 Empress Pulcheria ordered an extension of the church of - Maria di Blachernae into a basilica.

Many pilgrims have reported seeing a Shroud in Jerusalem or other parts of the Holy Land. Bishop Arculf of Perigeux reported a Shroud of 8 feet long in Jerusalem. Antoine the Martyr witnessed the veneration of a shroud in a monastery alongside the River Jordan. Bishop Braulio of Saragossa and John of Damascus saw a shroud in Jerusalem. It is important to note that one of the very earliest descriptions of Christ was given by the very same John of Damascus who wrote: "Christ is a beautiful man, tall of stature, with undulating hair, arched eyebrows uniting above the nose, an oblong dull-brown coloured face, blond hair and beard, shining eyes, melodious voice, looks full of softness, wisdom and dignity." About the same description is given in the so-called Lentulus or Pilate letter. Two historians Bede and much later de Chifflet reported the same miraculous rescue of the Shroud from a burning house witnessed by the Saracen king of Mahuvia in the year 675. And Antoine of Piacenza reported a "Mandylion acheiropoietos" (not made by human hands) in Memphis, Egypt.

Did all these men see the "panaghias" (authentic relic)? Or one of the many "ectypas" (substitute relic) made authentic by touching the original?

That we do not know.

Historically there are indications that the existence of the Shroud as a single well-known relic was known in Western Europe. Pope Stephan III who died in 757 mentioned the veneration of the Shroud in one of his sermons. But a puzzle surrounds the history of the two halves of one shroud, formerly kept in Compeigne (France) and Kornelimunster (Germany). During the reign of Charlemagne (742 - 814) the veneration of the "Salvator Mundi" by the imperial house was a well-known fact. n From the Caliph of Damascus Charlemagne received several "Authentic Relics" among which were three pieces of cloth: Linteum Domini (Apron), Sindon Munda (Shroud) and Sudarium Domini (Sweat cloth). All these pieces were kept in the Imperial Treasury in the Dome of Aix-la-Chapelle (Germany).

Traces of Early Shroud Veneration in Europe - Van Haelst (cont'd)

When Charlemagne died in 814 he was succeeded by Louis the Pious. This emperor was a very religious man and reformed the Roman Church and the monastic orders in many ways. One of his counsellors and best friends was the Benedictine abbot Benedict of Aniane. To prepare the reform of the monastic orders Louis the Pious gave abbot Benedict the opportunity to build the Monasterium St Salvatoris ad Idam on the ruins of a Roman temple Varnemum in the valley of the river Idam about 10 km south of Aix-la-Chapelle. At the end of the Synod of Aix-la-Chapelle in 817 the monastery was inaugurated by Louis the Pious when 75 new rules of the Benedictine order were proclaimed. Louis gave a precious gift to his friend Benedict, namely the Linteum - Sindon - Sudarium part of the imperial treasure.

In 875 Charles the Bald arranged an important exchange of relics between the monasteries of Compeigne and Idam (Germany). Half of the Sindon Mundi (shroud) was exchanged for the skull of pope-martyr Cornelius (died 253) and from that time the abbey was called Monasterium Sancti Cornelli. Later this abbey received many other precious relics.

After the secularisation of the abbey under Napoleon the chapel became in 1804 the parish church of the little village of Kornelimunster, now a part of Aix-la-Chapelle. The three "grossen biblischen Heiligtumer: Schurztuch, Grabtuch und Schweisstuch Christi" (great biblical relics: apron, shroud and Christ's sweatcloth) have been on exhibition since 1520 in the second "Prozessionskirche" (procession church). Every seven years the relics were venerated by pilgrims from all over Europe. For prelates, kings and other persons of high rank, special exhibits were held.

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NEW BANNER FOR SHROUD NEWS

Readers will have noted the new banner on the cover of the last issue. This, like the previous one, was prepared for the newsletter by Revd Fr John Conliss, SVD, of Tajimi in Japan. Father Conliss is an artist and amongst other Shroud works produced a ceramic tile representation of the face of the man in the Shroud. We are most grateful to Father Conliss for his continued interest.

LETTER TO THE EDITOR From HAROLD NELSON, Corpus Christi, Texas

As most correspondents to "Letters from Readers" departments of newspapers and periodicals know, editing can sometimes be drastic; subsequently the inclusion of my letter to "Biblical Archaeology Review," reprinted on p 14 of SHROUD NEWS (no 45, Feb 1988) is a case in point. I submit the significant portion of the original letter submitted in July 1986 to BAR:

"It was a rare privilege for this layman to participate in the ESSJ (Environmental Study of the Shroud in Jerusalem) scientific expedition at Jerusalem (April 6 - 26, 1986) - and, an even greater honour to be in the company of such dedicated and exceptional Biblical archaeologists as: Sister Damian of the Cross, OCD (formerly Dr Eugenia L. Nitowski), Dr James F. Strange and Dr Donald Wimmer. The tours and studies of archeological excavations at Jericho, Beit She'arim, Qumran and Jerusalem were truly once-in-a-lifetime experiences for this humbled layman. The expedition's special interest in ancient Jewish tombs focused on a re-enactment of Jesus Christ's burial (in Jerusalem) and a replication of the Shroud (of Turin) by natural image formation. The findings of this scientific enquiry would be especially exciting to your subscribers."

Now, almost two years later, in reviewing again the many negative responses of those readers to "Biblical Archaeology Review," one can see a continual rejection of Christ even two thousand years later. It brings to mind the truth revealed in Deuteronomy (31:26-30):

"For I know thy obstinacy, and thy most stiff neck. While I am yet living, and going in with you, you have always been rebellious against the Lord: how much more when I am dead?"

"Gather unto me all the ancients of your tribes, and your doctors, and I will speak these words in their hearing, and will call Heaven and earth to witness against them.

"For I know that, after my death, you will do wickedly, and will quickly turn aside from the way that I have commanded you: and evils shall come upon you in the latter times, when you shall do evil in the sight of the Lord, to provoke Him by the works of your hands."

The late and great theologian of England, Ronald Knox, left a fitting memorial in the statement: "He shrouds Himself from profane eyes that he may reveal Himself more effectively to the eyes of faith."

CARBON 14 DATING

Correspondence from Dr Denis Dutton published in NATURE Vol 331, 14 January 1988

Sir—One of the essential points of my previous remarks about the confidentiality surrounding the dating protocols for the Turin shroud (*Nature* **327**, 10; 1987) is that the matter unavoidably involves religious passions. No better demonstration could be found than P.R. Smith's denunciation (*Nature* **328**, 11; 1987) of my letter as a "gross insult" to the experts whose job it has been to design the procedures for the carbon tests. Smith suggests I am hostile to religion; but anyone who has been critical of attempts in recent years to give scientific legitimacy to the shroud will be accustomed to such accusations.

The point is, however, that there has been unacceptable secrecy and confusion about how the tests are to be conducted, beginning with an early report in *La Stampa* (Turin, 5 October 1986), at the conclusion of the closed conference of experts, indicating that the "timetable and methods of investigation are secret". In this respect, the open response from Harry Gove (*Nature*, **327**, 652; 1987) is welcome, but it stands in stark contrast to a 'Vatican spokesman' whose reaction to my previous letter in *Nature* confirmed the suspicions it expressed. According to a wire service report, the spokesman told the London *Daily Telegraph* that it was indeed likely that "only the results" of the tests would be made available to scrutiny by independent observers — precisely the issue that is so unsettling — adding that they "would be made available in a couple of years". This last assertion also curiously contradicts the initial announcement about the test, which stated that the results were to be made public at Easter 1988.

I hope and expect that there will be a detailed and satisfactory disclosure of the test protocols before the samples are taken. An important first step would be for the person who is in a position to speak authoritatively about the conduct of the tests to identify himself or herself. I also trust that M.S. Tite is correct in suggesting (*Nature* **327**, 456; 1987.) that neither the British Museum nor the seven testing laboratories will be party to the tests unless each of them is confident that the protocols absolutely preclude tampering with the samples by the introduction into the chain of evidence of "C-depleted linen, such as mummy linen.

There is no specific reason to believe that any of the scientific devotees of the shroud or its Vatican owners would seek to rig the tests. Nevertheless, besides the obvious involvement of religious sensibilities, all of us must face the fact that a veritable industry has been built up around the shroud. In this respect, the Vatican can rightly be seen as having a vested interest in keeping alive at least the possibility that the shroud is the actual burial cloth of Jesus. As a negative test result is clearly going to spoil the fun, it is imperative that the protocols for the sample handling be spelled out in advance and that they be seen to be beyond reproach.

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C 14 and AN EARLY FIREPROOF COVER?

More correspondence published in NATURE Vol 332, 24 March 1988

SIR—Both the scientists involved and outside observers such as myself have been astonished at the recent decision of the Archbishop of Turin, Anastasio Ballestrero, to withdraw from four of the seven participating laboratories permission to carbon-test the Shroud of Turin.

This action, supposedly made in the interests of conservation of the shroud linen, leaves in a shambles the carefully devised plans of the group of experts who met in the autumn of 1986 to draw up testing procedures for the cloth. As things now stand, only laboratories at the University of Arizona, the Technical University in Zurich and the University of Oxford will be given shroud samples. Shut out from the tests will be Dr Harry Gove of the University of Rochester and Dr Garman Harbottle of the Brookhaven National Laboratory, as well as the Saclay Laboratory in France and the Atomic Energy Research Authority in Harwell.

Of equal importance is the fact that the Vatican officials in charge of the test have still not come forward with procedures to secure the authenticity of the samples themselves—procedures, for example, to make it impossible for ancient mummy linen to be surreptitiously introduced into the chain of evidence. If the shroud linen is itself of ancient origin, but the tested samples are not provably from the shroud, then there will be no reason for anybody to take the test results seriously.

I call on all the concerned laboratories to withdraw from the tests until such time as the Vatican decides to go back to the seven-laboratory plan, with strict, open procedures to ensure the authenticity of samples.

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SIR—Those in a position to apply scientific tests to the Shroud of Turin might care to look for asbestos fibres in it, as well as in the other folds of the shroud reported (by Murray's *Guide to Northern Italy*, 1883) to exist in Rome, Besançon and Cadouin.

Marco Polo, after describing the extraction of asbestos in China, from mines perhaps near Hami in Sinkiang, says that the fibres, which look like wool, are spun into napkins which may be cleaned by being put into the fire. He continues: "And I will also tell you that in Rome there is a napkin that the Great Kaan sent to the Pope as a splendid present, when he sent the two Polo brothers [Niccolo. Marco's father and Matteo his uncle] to him as envoys, in order that the sacred shroud of Our Lord Jesus Christ might be wrapped up in it. And on that napkin are golden letters, saying Tu es Petrus et super hanc petram edificabo ecclesiam meam" (*Travels of Marco Polo*, Routledge & Kegan Paul, 1931, p.74).

In fact, in 1269, when the Polo brothers arrived back with this present from Kublai Khan, it was in a period (1268-71) when there was no Pope. The Shroud of Turin, apparently, was not reported before the fourteenth century, but we may wonder whatever happened to the fireproof cover, especially as some have considered that the shroud carries scorch marks.

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

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

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

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