

THE SHROUD: AN ETERNAL CHALLENGE

KEYNOTE ADDRESS by REX MORGAN



Whenever I speak in America I am tempted to think that when anyone speaks with a British accent, or for that matter one with Australian inflexions, it is the sound and the pronunciations which intrigue the audience and so it doesn't much matter what one says -- its more a matter of how one says it.

I realise, of course, that a highly intelligent and cultured American and international audience like this one tonight is interested in the material I am to present and doubtless knows more about it than I do, so minor things like the way of speaking are of no real consequence.

I am fascinated by the fact that today, the 14th of August, is the Feast Day of Saint Eusebius, that remarkable Greek historian and Christian, the Bishop of Caesarea in Palestine, no less, who flourished from 260 AD until 339 AD. During that time he wrote many significant tomes, his Ecclesiastical History; his History of the World; and his geographical gazeteer of Palestine. We also find his name in the index of a number of Shroud books since his work is contemporaneous with the collateral evidence we have of the existence of the Turin Shroud in the third and fourth centuries.

It is hard to believe, is it not, that it was seven years ago that I gave the keynote address in Dallas Texas to the International Shroud Conference that year. Indeed, some of you were there.

It is also hard to believe that this year of 2008 is the 110th Anniversary of that pivotal and momentous occasion in Turin, Italy when Secondo Pia made the first photographic images of the Turin Shroud thus generating such a devastating challenge to the imagination, to the intelligence, to the faith, of the world: a challenge which continues unresolved and largely unanswered to this day.

It is hard to believe that this year of 2008 is the 30th Anniversary of the work of the Shroud of Turin Research *Project*, *STURP*, which discovered and reported so much information about this remarkable object and which is still being analysed and studied as new ideas and techniques for interpretation are brought forward by the enormous and worldwide circle of Shroud scholars and scientists who, for more than a century, have brought their immense resources to bear on what is one of the most studied objects in the world. How well I recall

meeting most members of STURP all those years ago and who encouraged me in my interest in the Shroud which had begun in Turin Cathedral in August 1978.

It is hard to believe that 2008 is the 20th anniversary of the 1988 carbon 14 testing procedure which propelled the Shroud onto front pages all over the world and was wickedly described by a cynical media as a fake without any reference to the massive preponderance of evidence to the contrary.

Do you remember the challenge of some of the gleeful headlines in the press twenty years ago?

Turin Shroud is a forgery says Catholic church

From holy relic to holy red herring

Shroud confirmed as a fake

How an age of mystery ended

Holy Shroud a 1350 forgery

The unmasking of the shroud

Shroud of Turin mystery solved Official: Shroud is a fake

Shroud of Turin was work of medieval master forger Tests show shroud not linked to Christ

But then there were also these headlines:

Shroud test inconclusive says scholar

Expert says test on Shroud was done wrongly

Shroud debate wont end

Fake shroud report sparks row

Fake shroud to remain a holy object

and so the challenges to a hundred years of research and evidence went on ad infinitum.

And it is hard to believe that 2008 is the 10th Anniversary of the opening of the excellent new Shroud Museum in Turin. I recall being shown over it the day before it was officially opened.

Yes, it is hard to believe that these anniversaries, the 10th, the 30', the 20th and the 10' are now upon us And it is hard to believe that we could very well have in our possession in Turin, Italy, the very piece of cloth which wrapped the mortal body of the founder of Christianity.

But what is not hard to believe, for those of us with open minds and even the most minimal powers of observation and common sense, irrespective of our background, our race, our religion, is that there is overwhelming evidence of all kinds to challenge that carbon 14 test, that single test, in any event a procedure not altogether suitable for dating textile, and now, as it was then, believed by those of us who know something about the Shroud, to be, in some way we could not at the time explain, incorrect.

It was also exactly 30 years ago, almost to the day, that I stood outside Turin cathedral with the world media as we waited expectantly for the doors to be thrown open to admit us to see for the first time since 1933 the famous relic so carefully guarded and preserved for centuries.

I recall how, along with the cynics of the media we went into the cathedral from the side door and then virtually everyone stopped in their tracks.

There was, for a few moments, complete silence apart from some intakes of breath. Some hardened media men and women sank to their knees.

There before us in a great frame and dimly lit, was the cloth bearing the faint image of the Man. The effect on me was immediate. I somehow felt it was the real thing. I had no logical reason for thinking so; indeed I knew little of the Shroud or its history then, but it seemed to be almost a self evident truth that I was gazing upon something of exceptional and unique importance.

The power, the aura, seeming to emanate from the cloth was almost tangible and many, many people have felt and said the same for the thirty years since, when they have seen the Shroud or even when they have observed photographs of it on exhibition.

So what is this multifaceted enigma, this eternal challenge ? How can it be that an ancient piece of cloth can evoke so much interest, so much passion, so much study, so much fascination, so much reverence, so much controversy, so much scandal, so much antagonism, so much love?

But then it is at gatherings like this one that we try to answer these questions as we come together from different parts of the world in the common pursuit of the truth; where we can hear from each other; where we can learn from experts in every field of human endeavour who have been moved to apply their expertise to the Shroud in circumstances where we can also respect points of view which might differ from our own and receive them magnanimously rather than enviously.

For the whole of the 110 years since Pia first looked, astonished, at his huge glass photographic plates that night in 1878 in his Turin

darkroom the work has continued. For 110 years there has been an eternal challenge to everyone involved in the pursuit of this multifaceted enigma.

For 30 years it has been a challenge to me as I have collected a vast archive of Shroud material: books, articles, movies, sound tapes, discs, artifacts, photographs. It has been a challenge as I have met and interviewed most of the twentieth century's Shroud scholars and writers, many of them now gone from our midst and known only for their books and writings.

It has been a challenge for me to write and produce 118 editions of the I newsletter Shroud News which I began in 1980 with a four page report and which expanded to a fully fledged magazine but which I suspended in 2001 and I have been challenged ever since by people all over the world to begin writing it again.

It has been a challenge to write four books on the subject of the Shroud and to give major papers like this one at international conferences and to give hundreds and hundreds of lectures and media interviews and broadcasts.

It has been a challenge to be involved in several pieces of original research over the years connected with the Shroud upon which I have reported at conferences worldwide.

So are we not fortunate indeed that people like Joe Marino and Sue Benford and the organisers of this gathering have made it their business, as have others over the years, to keep the challenge alive and continue to evoke interest in this eternal enigma.

Since the AMSTAR conference in Dallas in 2001 and the following one in 2005 much has continued to occur in sindonology and today we are faced with as much controversy and as much new evidence for the Shroud's authenticity as we have ever been. As the spectacular 21st century advances in technology occur so new insights into this perpetual miracle, as I called it in my first book on this subject, continue to be brought into the light and to accrue in abundance.

Much has happened in our world since 2001. That Dallas conference was held just days after 9/11 that day which itself changed the world for ever. And its far reaching consequences are still being felt and dealt with seven years later without a conclusion being reached to relieve the people of the world of the burden of the fear of terrorism and the prospect of continuing religious wars which have always been a factor in our so-called civilised world since time began.

We live then in a difficult time where our beliefs are being challenged daily at the global level of national and international ethics; on the community level of how young people are behaving and being influenced; on the family level of whether the ties and lessons of family life even continue to exist at all as we knew it for thousands of years thanks to the evils of liberty without responsibility and technology without control and media without conscience.

We live now in a world where religious activity is much reduced and greatly diluted in the mistaken belief by its organisers and promoters that this dilution will attract adherents, especially the young.

It seems to me that a subject, an object, like the Shroud can still be a mitigating factor in all these modern challenges as an icon for good and a factor for peace and love and harmony.

So when Joe invited me to give this keynote address, to be almost a repeat performance of the one I gave in 2001, I decided it was a challenge I should accept despite my relative lack of activity on the Shroud scene since that time. I had attended the next Dallas Conference in 2005 and had intended to produce Shroud News again that year but having been an unwilling witness to the unfortunate petulant behaviour of many at that meeting I could not find it in my heart to do so.

Nonetheless I regard it a great privilege to be asked again to speak as I am tonight and I thank you for the opportunity and for the warm welcome you have already accorded me.

In 2001 I spoke at the conclusion of the conference with the advantage of having heard most of the learned papers presented. This time I have the challenge of setting the scene for what is to follow without having seen or heard what is to be presented. I am much impressed by the list of programmed speakers, many of them old friends, and the variety of topics they will be submitting for our earnest consideration.

Once again we are provided with a magnificent opportunity for information exchange and the expression of our ideas, our research, our hypotheses, the results we have achieved, and most importantly, I believe, our celebration of friendship and the spirit of common purpose

h binds us, reflecting those intangible qualities which are revealed whenever we come together, wherever in the world it might be, to share our knowledge and our work regarding this multifaceted enigma, this extraordinary object, this perpetual mystery, the Shroud.

And I would also like to say how much we have always appreciated the work behind the scenes of Barry Schwartz who will be here for every minute of every part of this conference working all the technical matters.

It is very encouraging to see the range of topics and speakers we are to experience in the next few days: as you know we shall hear about STURP; Oviedo; the VPS; visibility, spectroscopy; digital analysis; image formation; the coins; botany; corona discharge; pollens; the blood; history; carbon 14; the mending; chemistry; causes of death; holography; restoration; religion and others.

I can tell you that the people of my own adopted country, Australia, continue to stand firmly at America's side ready to take up the challenges which lie ahead facing all free peoples in ridding the world of brutal terrorism And conferences like this one bring ~ hope in the world at this time - that essential me good does eventually win out over evil in the end and that what we know to be good and right will endure in the world. The message and inspiration of the Shroud itself is surely proof enough of that age which shows us that

This conference represents another pivotal moment in the history of the Shroud for we are given the opportunity again to take stock of the events in Shroud history of the past two millenia, and of sindonology in the past eleven decades and in particular the most recent years of this twentyfirst century. We are also given the opportunity to look forward, to redefine our hopes and dreams as Shroud researchers in the light of what we have already learned about the Shroud.

We have a unique opportunity, and many are already embracing it, to advance with a fresh outlook, a renewed spirit, a strengthened desire, to work together asking the questions of science, religion, history and art which might yet reveal answers to the unresolved issues of the Shroud.

In February 1997 I wrote the 100th issue of *Shroud News*. In it I wrote of my own 'Shroud Odyssey' , as I called it, which began in Turin in August 1978 when I first saw the Shroud the day before the public were admitted

into the Cathedral for the great exposition of that year, and that odyssey became more and more intense as the years went on. It became a commitment, a passion, for me to continue to bring out *Shroud News* whose first issue appeared in September 1980. I watched the subscription list grow and widen to embrace people in countries all over the world.

I noted at that time that I had no real editorial policy, no mission statement of any significance, no editorial board with individuals forcing their opinions on the publication, no initial requirement for peer review (and therefore not preventing an important immediacy of information), no deadline to meet apart from the approximate bi-monthly production and no pretensions about being a scholarly or scientific or prestigious publication.

For these reasons *Shroud News* became a success and filled a void in communication amongst Shroudies all over the world.

It was very evident to me at the outset that effective communication is and always will be a key to the success and viability of sindonology as a whole.

This observation was further borne out by several tangential developments which followed. Some years ago, for example, the British Society for the Turin Shroud led then by Ian Wilson adopted both the same format and a similar policy as *Shroud News* thus rendering his work, and that of the British Society even more useful, accessible and therefore complementary to my own newsletter which had become, in the English speaking part of the world of sindonology, an apparently useful and, I'm glad to say, welcome device for communication. This work has been competently continued by Mark Guscini in Portugal. And I might add that since I suspended the publication of *Shroud News* Guscini's newsletter is one of the very few publications anyone now sends me apart from the excellent Spanish magazine *Linteum*, the Turin propaganda sheet *Sindone* and Whanger's *CSST News*. All the others have abandoned me and most of my regular correspondents have stopped writing. One has not seen such publications as the Italian *Il Telo*, the *Collegamento Sindone* of Emanuela or the CIELT newsletter from France.

A further and very contemporary example of this need for effective communication amongst Shroud scholars can be observed in the remarkable development and significance of the really superb internet website generated over thousands of hours by Barrie Schwartz in the last few years which brings immediacy to the current news and developments amongst sindonologists and provides access to our work for the interested a

general public all over the world. The websites of Schwartz and the others which have been developed are essential to the sharing of information as our collective research programmes continue in the new millennium

Back in 1997 I said; "If the anti Shroud crusade and skeptics had never put up their absurd theories and if the world media, ever keen for a scandal and for negative reporting, had not taken up, for example, the forgery story (of Walter McCrone) [who was unleashed into the Shroud world by none other than Ian Wilson at a meeting in London] and continued to beat it up for the entire period since 1980, then perhaps the intensity with which those of us who had read all the other research and who understand the implications of the enormous preponderance of evidence for probable authenticity would not have occurred."

I also said in 1997 that; "I have no personal reason for wanting the Shroud to be genuine and whilst I have always been ready to be convinced that it is a fake. No-one has yet been able so to convince me by outweighing that vast body of evidence to the contrary."

It has been a fascinating journey delving into the numerous areas of research and interest. I have been able to meet and befriend many of the world's great sindonologists and then through *Shroud News* to pay tribute to the large number of them who have died during the period."

Many of us can remember those wonderful personalities of sindonology with admiration and affection. Others know only the names. Such great Shroud researchers and enthusiasts who departed during the twentieth century almost all of whom I met, such as:

Don Piero Coero Borga, Giovanni Tamburelli, Dr Jean Volkringer, Professor Max Frei, King Umberto II of Italy, Professor Jerome Lejeune, Monsignor Giulio Ricci, Group Captain Lord Cheshire VC, Dr David Willis, Rev Fr Peter Rinaldi, Claire McAllister White, Werner Bulst, Gilbert Raes, Max Frei, Rodney Hoare, Hilda Leynen, HE Baron Stratenwaillet, Rev Fr Adam Otterbein, Cardinal Anastasio Ballastrero, Dr John Heller, Father Francis Filas, Roger Apple, Anna Hulbert, Dr Alan Adler, Don Lynn and Bob Bucklin to mention a few.

And those who have died since we last met include: Edward Hall; Walter McCrone; Baroness van der Straten Waillet; Bro Michael Buttigieg; Frank Tribbe; Ray Rogers; Bob Dinegar; Kim Dreisbach; Noel Curren Briggs, Don Luigi Fossati; Luigi Gonella; Audrey Dymock; Daniel Raffard de Brienne; Marcia Mascia, Father Peter Rinaldi's associate; Antoine LeGrand (aet 98); Pope John Paul II; Ronald Jenkins; Silvano Scannerini; Eugenia Nitowski; Norma Weller; Giovanni Riggi; Walter Abbott.

But it is good that some of the great names of sindonologist alive but with us at this conference. I think of Antonacci; Benford; Breault; Danin; Dayvault; Fanti; Maloney; Marino; Markwardt; McPherson; Orareo; Porter; Scavone; Schumacher; Schwartz; Stevenson; Whanger to mention just a few of you.

The first great generation of twentieth century shroudies has, then, virtually disappeared. I belong to the second wave and I am no longer young. My earnest hope, shared by many, is that we shall find enough of the third wave of sindonologists, some of you, to persist with the work and carry on the continuing quest for more information, investigation and discussion about the most fascinating mystery in the world.

When we, gathered here, all of like And, think back over the past twenty or thirty years, and further back indeed to the dawning of the scientific age for the Shroud of Turin which began with Secondo Pia and his massive cumbersome plate camera 110 years ago in 1898, I think that we would all agree that one of the most rewarding aspects of the exercise has been in those friendships and collaborations which we have made along the way, and this is particularly true for me as I have had the opportunity of moving freely amongst the worldwide Shroud circle for many years.

There is, as with most fields of study, a special affinity which is manifest amongst those of the same mindset. There are also to be observed, unfortunately, the less noble human failings of academic jealousies, back biting, personal vendettas, scandals and, in some cases, near criminal activity which attends upon all intensive and passionate human behaviour. I have tried to keep clear of these and hope I have been successful apart from the frustration or annoyance which I might have caused occasionally through my comments to those lightweights who cannot face candour.

I have had the great pleasure and privilege of attending and giving papers at many international Shroud conferences. I have managed to write several books on the subject and be involved in one way or another with the production of others. I have given countless lectures on the Shroud to public groups. I have, since 1982, controlled the original Brooks Institute Photographic Exhibition based on the 1978 research work in Turin and have added to and enhanced that exhibit. It has been seen by nearly three quarters of a million people in many countries since that time. I have enjoyed the challenge of doing several pieces of original research and have been a member of a number of expeditionary teams undertaking research in the field of one kind or another.

And added to that, I produced 118 issues of Shroud News, my humble newsletter, helping to keep the communication lines open as well as I could.

My intention tonight, as it was back in 2001, is to remind us of several themes which link the past century of Shroud research to the century which lies ahead, I shall offer you a synopsis of just some of the landmark events which have shaped sindonology in that time. I shall mention just some of the outcomes of our research in order to demonstrate what is fairly certain today. I

shall present a view of the radiocarbon polemic. I shall present an overview of the key issues which we must embrace in the next hundred years of Sindonology. And I shall call upon all active Shroudies to maintain their passion and their resolve to continue in the great challenge of unlocking the mysteries of this remarkable Shroud of Turin.

As a prelude to considering the challenges of the future and to put into perspective the present, let us ponder then, briefly, some of the major events which have shaped sindonology in the scientific era of Shroud history which began in 1898.

In May 1898 Pia's photographs revealed the Shroud image to have the same characteristics as a photographic negative. These remarkable images are still available for our inspection. And just think of the implications if digital photography had existed then no negative images!

In 1902 the first modern scientific paper on the subject of the Shroud was presented to the Academy of Sciences in Paris by Professor of Anatomy Yves Delage who argued for the medical and general scientific plausibility of the Shroud image .

In 1931 two million visitors flocked to see the exposition of the Shroud in Turin. Giuseppe Enrie photographed it and Secondo Pia was there as well, as were scientists of the French Academy.

In the same year Dr Pierre Barbet conducted experiments to reconstruct the Passion of Jesus as exhibited in the Shroud image, work later updated by Dr Fred Zugibe, Gus Acetta, Ricci, and others.

In 1933 Fr Peter Rinaldi attended the exposition of the Shroud. I well recall Im talking of this on many occasions. And Barbet, through direct close observation, realised that the bloodstains were derived from direct contact between the cloth and a body.

In 1933 Enrie took his photographs of the Shroud and many think they are still the best black and whites ever taken.

In 1938 Paul Vignon who had studied the Shroud for many years published the most definitive book on the subject to that time - and much of our later work has been in verifying the hypotheses put forward by him

In 1939 the first International Congress on Shroud Studies was held in Turin, at which 20 papers were presented, and which was the forerunner of all international conferences such as this one here in Columbus

From 1939 until 1946 the Shroud was kept safe in a secret location away from Turin. during the Second World War

In 1951 the Holy Shroud Guild was formed in New York (I even received one newsletter from them in the past six years)

In 1954 Group Captain Leonard Cheshire VC toured Britain with a photographic exhibit about the Shroud based on the photographs of Enrie

In 1959 the formation took place of the Centro Internazionale di Sindonologica in Turin

In 1960 British Shroud enthusiast Vera Barclay raised the idea of the viability of Radiocarbon dating of the Shroud with the Atomic Energy Research Establishment, Hartwell, UK

In 1969 Cardinal Michele Pellegrino initiated an examination of the Shroud to study its state of preservation by a team of *experts*

In 1969 The Shroud was photographed by Giovanni Battista Judica - Cordiglia in colour for the first time, and again in Black and white, and by Woods Light / Ultra Violet. I well recall seeing all his original work in his Turin studio some years ago

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In 1972 an attempt was made to destroy the Shroud by an arsonist

In 1973 the Shroud was exhibited for television for the first time and a group of international sindonologists was able to examine it. This included the removal of a significant sample by Professor Gilbert Raes and the removal of 12 adhesive tape samples by Dr Max Frei

In 1976 Dr John Jackson and Bili Mottern viewed a Shroud image through a VPS image analyser, invented by Dr Peter Schumacher, for the first time revealing the three dimensionality of the image

In 1976 Max Frei demonstrated that some pollens found on the Shroud were unique to Israel and Turkey

In 1977 Fr Rinaldi, Fr Otterbein, Sox, Robinson, Rolfe, Jackson and many others met at the first United States Conference of Research on the Shroud, and the Shroud of Turin Research Project (STURP) team later evolved as a result of this meeting

In 1977 Rev David Sox, of the newly formed British Society for the Turin Shroud contacted Professor Harry Gove about carbon dating the Shroud, Gove having pioneered accelerator mass spectrometry in the same year and Sox later to desert the Shroud.

In 1977 a Shroud Symposium was held in London at which Jackson, Jumper, Frei, McCrone, Rinaldi, Otterbein, Ricci and Coera-Borga spoke among others and a significant Conference was held in Albuquerque

In 1978 Cardinal Ballestrero announced a Shroud exposition and international congress for later in the year. The team which became the Shroud of Turin Research Project (STURP) met in Colorado Springs and again in Connecticut to plan scientific testing of the Shroud. Harry Gove met Edward Hall to discuss carbon dating of the Shroud. The Second International Symposium on the Shroud was held in Turin

In 1978 Ian Wilson's book "The Turin Shroud" became the most significant book on the subject to that date in which his hypothesis that the folded Shroud and the framed Mandylion of Edessa are one and the same

In October 1978 STURP carried out its extensive battery of tests. A complete photographic study was undertaken by Vernon Miller, Barrie Schwartz and Ernie Brooks among others. An independent research programme was undertaken, by Frei, Riggi, Baima-Bollone, Gonella and others. Dr Ray Rogers took 32 samples of particulate matter, removed from the Shroud surface by Frei, to microscopist Walter McCrone

In 1979 The significant Oscar-winning film "The Silent Witness" was released by David Rolfe Fr Filas first identified subsequently to be rendered in 3D by Jackson and Jumper and in later work by Fontanille and others.

In 1979 Harry Gove formally offered to carbon date the Shroud

In 1980 I proposed in my first book the testing of DNA from the Shroud. A DNA expert at Cambridge University told me it would be at least 20 years before such testing could occur. He was right.

In 1981 The Brooks Institute exhibited photographic material from the 1978 study and subsequently sent the exhibition on tour in the USA.

In 1981 Jackson, Schwalbe, Gonella, Otterbein and Rinaldi visited ex King Umberto of Italy to report initial findings of the STURP investigations

In 1981 Dorothy Crispino inaugurated Shroud Spectrum International, probably the most prestigious Shroud journal ever produced, but since regrettably defunct

In 1983 King Umberto died and the Shroud was bequeathed to the Vatican in the care of the Pope and his successors

In 1984 Jackson and D'Muhala presented Cardinal Ballestrero with proposals for further scientific work on the Shroud

In 1986 the US Shroud group the Association of Scholars and Scientists International for the Shroud of Turin (ASSIST) was formed and Paul Maloney received five of the Frei pollen samples which were examined by a Shroud conference in Pennsylvania

In 1986 a Shroud symposium was organised by William Meacham in Hong Kong attracting papers by Wilson, Gonella, Rinaldi, Heller and Adler, and at which I also exhibited the Brooks Photographic Exhibit, by then under my control, drawing a quarter of a million people

In 1986 Whanger and Whanger demonstrated their Polarized Image Overlay Technique which revolutionised the iconographic study of the Shroud face image

In 1986 the Environmental Study of the Shroud in Jerusalem (ESSJ), of which I was a member, led by Dr Eugenia Nitowski was conducted in a tomb complex under Jerusalem

In 1988 Samples were cut from the Shroud for Carbon 14 testing. Riggi also took blood samples and retained a portion of the cut Shroud material

In 1988 Frei's entire collection of samples became the property of ASSIST. These were examined by Dr Alan Adler and others revealing plant and floral debris and more pollens

In August 1988 I recall being at a private Shroud group meeting at Dorothy Crispino's home when Rinaldi telephoned gravely disturbed that he had been told that the carbon dating results were likely to be a medieval date

In August 1988 the London Evening Standard had got hold of this information and declared the Shroud to be a fake made in 1350

In October 1988 the results of the carbon dating was announced by Hall as 1260 to 1390 (!)

In 1989 an International Shroud Symposium was held in Bologna, Italy and the first Centre Internationale d' Etudes sur le Linceul de Turin (CIELT) Shroud Symposium was held in Paris

In 1990 a conference was held in Cagliari, Italy

In 1991 Isabel Piczek showed conclusively that the image cannot be any kind of painting

In 1991 an international Shroud Symposium was held in St Louis, Missouri (the proceedings of which, remarkably, were produced the same year) organised by Joe Marino and Fr Aram Berard.

In 1992 five textile experts examined the Shroud including Landi, FleuryLemberg, Cardamone, Diana, Luigi

In 1993 Leoncio Garza-Valdes examined the Shroud sample retained by Riggi leading to his observations of bioplastic coating on the fibres

In 1993 the second CIELT International Shroud Symposium was held in Rome

In 1993 STURI' was formally dissolved

In 1993 the Shroud was removed from the Guarini Chapel for restoration work of the building

In 1995 expositions of the Shroud to be held in 1998 and 2000 were announced by Cardinal Saldarini

In 1995 Saldarini declared that any Shroud samples other than those taken with official permission in 1978 are unauthorised and asked for their return to the Holy See

In 1995 Barrie Schwartz created the first major Shroud website

In 1997 the Shroud was dramatically rescued from certain destruction in the burning and collapsing Turin Cathedral by hero fireman Mario Trematore. The Shroud was examined and found to be undamaged

In 1997 The Third CIELT International Shroud Symposium was held in Nice, France

In 1998 an exposition of the Shroud took place as did an International Shroud Symposium in Turin and included several important exhibitions of Shroud related material including the highly significant collection of exKing Umberto II of Savoy, Pia's original photographic plates from 1898, and other important artefacts associated with sindonology

1998 saw the first Conference in Dallas

In May 1999 a conference on relics (including the Shroud and allied cloths) was held in Rome at which HRH Princess Maria Gabriella of Savoy gave a significant paper on the Savoy collection.

In 1999 an International Shroud Conference in Richmond Virginia was held which included an exhibition of Richard Orareo's superb collection

In 2000 the Shroud was again on exposition and a Scientific Congress was held in Turin to discuss the past, present and future of the Shroud

In 2000 a one week examination of the Shroud took place by a group of Italian scientists initiated by Cardinal Spoleto. The underside of the Shroud cloth was examined by Soardo with a scanner, presided over by Ghiberti, which confirmed what had been observed by STURP in 1978, but which apparently gained other data

In 2000 an international Shroud conference was held at Orvieto, Italy And another was held in Vienna

In 2000 Swineharts published the theory of lightning causing the poker holes and their alignment with the Oviedo Cloth.

In 2001 the Shroud was placed in a new storage arrangement and kept flat in a chamber filled with an inert gas to assist in its long term conservation

In 2001 we met for the 2' International Conference in Dallas

In 2002 CIELT held its fourth International Symposium in Paris and Mr Hesemann made a brief amateur foray into the catacombs to pour scorn on my years of work on the earliest portrait of Christ which my three scientific expeditions had identified. This conference also, though, had 48 papers listed and only a few of them were by lightweights and crackpots in 2002 The Turin authorities undertook major "restoration" work on the Shroud chiefly by Metchilde Flury-Lemburg resulting in an international outcry which continues to this day

In 2003 Isabel Piczek was commissioned to adorn the front of the new sarcophagus of the Shroud in St Johns Cathedral

In 2003 members of the Savoy family visited the Shroud

In 2003 A fictional work raised the issue of cloning from Christ's blood (a matter first raised in my book of 1980)

In 2004 Fanti suggested image seen on the backside of the cloth shows the image could not have been faked

In 2005 The third international Conference was held in Dallas and William Meacham, eminent archaeologist and sindonologist published his book The Rape of the Turin Shroud which condemned the restoration work of 2002

In 2006 Dorothy Crispino turned 90 and the National Geographic published a major article on the Gospel of Judas

In 2006 in Turin a special Shroud exhibit was displayed to coincide with the Winter Olympics

In 2006 Zugibe published a major critique of medical inaccuracies in the movie The Passion of the Christ

In 2006 a liturgical Shroud conference was held in Turin at which 22 papers, mostly Italian but also French, German and American

In 2006 Soons produced the first hologram of the image

In 2006 the Pope visited the Manoppello cloth which has been Pfeiffer's life work

In 2006 Australian Brendan Whiting published an up to date major work on the Shroud. It is an exceptional book

In 2007 Barrie Schwartz presented a major exhibit of his material in four cities in the Phillipines

In 2007 Vernon Miller of STURP gave all his original 1978 images to the AMSTAR

In 2007 a convention was held in Valencia, Spain and DNA tests on the blood on the Oviedo cloth were carried out

In 2007 Diana published good research on the missing years claiming France as the repository for the Shroud (contrary to my Templecombe theory)

In 2007 Jackson persuaded Oxford to reconsider carbon monoxide contamination of the C14 sample site

In 2007 Jones put forward a proposal to carbon date the pollens

In 2007 the new Holy Face Complex in Turin was completed

In 2008 David Rolfe's BBC documentary was shown (narrated by a Muslim and thus drawing severe criticism from Ian Dickinson of Canterbury)

In 2008 Barrie Schwartz set up a non-profit organisation to perpetuate his website

In 2008 the Shroud was removed from its location to check the integrity of the protective case and high definition pictures were taken.

In 2008 a high definition image of the Shroud was on display in Sydney during the visit of the Pope for World Youth Week

In 2008 the Holy Face Complex in Turin was completed where the rear wall of the apse has stone tiles set such that the Shroud face is visible from a distance but the image disappears when the observer is close (as with the Shroud itself)

Now, as we have moved into the 21st century, thanks to the contributions of a very large number of sindonologists and associated researchers of the first and second waves some definitive statements can be made about the Shroud, its images and the evidence contained in and upon it.

And Ws worth drawing attention, in giving these statements, to the published proceedings of the International Scientific Symposium which was held (by invitation only) in Turin in March 2000 under the auspices of the Centro Internazionale di Sindonologia. This volume is one of the most rapidly produced of any Shroud conference proceedings that I can remember, eclipsing in production time even the St Louis proceedings of 1991 and the CIELT proceedings of 1997.

That significant gathering in Turin, which also included a private hour long examination of the Shroud itself for that select group, produced some very perceptive and valuable presentations and discussions which helped set a useful benchmark in Shroud research as we determined the course of future priorities.

Further to this important conference others have continued to be held which reflect the current focus and progress of different areas of contemporary Shroud research in all its multi faceted fields by those like you and me and many others all over the world.

We must remember that the statements we make about the Shroud, based on the huge corpus of knowledge which has been amassed over the last hundred and ten years, are mostly polemical - they are open to varying degrees of argument and varying methods of validation- for

as all of us know there are potentially about as many opinions about each characteristic of the Shroud, and as many opinions about each hypothesis accounting for these characteristics, as there are Shroud researchers living and working throughout the world.

Our late friend Al Adler, in his last published work, pointed out that the validation of scientific conclusions differs from the criteria applied to historical arguments in that in science hypotheses must be tested by a reproducible experiment. He reminded us that scientific studies cannot establish the authenticity of the Shroud but only its disauthenticity. He noted that in the testing of hypotheses by experiment the investigator must carry out enough measurements to establish precision and enough control experiments to distinguish which of 11 reasonable possible testable explanations best fits all the data. He said:

"Scientific truth becomes a matter of relative probabilities to which one approximates by continued application of the scientific method utilizing further testable hypotheses and experiments"

These statements are supported and reiterated frequently in the contemporary literature as a response to the scene many of us observed at the huge International Symposium held in Turin in 1998 at which some quite ridiculous and unsubstantiated and unverifiable papers were put forward from the extreme outer fringes of sindonology. Although we must bear in mind that everyone who submitted a proposed paper was sincere in their beliefs and was accepted without question to that conference although, as I recall, some of our esteemed and legitimate colleagues in sindonology packed up and went home in disgust when some of the lightweights took to the podium..

This may have been the cause for the current degree of focus on determining the veracity of research. Barberis comments, in relation to the image formation process, for example, that serious theoretical and experimental research based on strictly scientific foundations must be applied. This comment demonstrates the difference between developing validation in the sciences and the arts.

Another of our Shroud friends, John Jackson, surely one of the best analytical minds of the second wave of sindonologists, comments that:

It is only through a careful application of the scientific method, which relies ultimately upon empirical observation, that we can focus on the correct scientific explanation and resolve contradictory hypotheses, many of which abound about the Shroud"

Regarding the criteria used in historical argument as opposed to scientific method, Adler had pointed out that reasonable theories well supported by a great deal of varied historic, artistic, iconographic and other circumstantial evidence, although remaining polemical, are regarded as acceptable in the determination of Shroud history.

But Ghiberti, who identifies a greater problem, takes a harder line. He states that we must work on the problem of "the force of habit and conceit in 'presuming to know' holding sway over contact with serious primary sources" and he calls on the need to rigorously verify, on an incontrovertible documentary basis, historical descriptions which are made.

And Jackson further indicated that some of the most compelling historical arguments are based on direct scientific observation of aspects of the Shroud itself. The way forward, he suggested together of the scientific method, through empirical observation, with the historical data supported by strong circumstantial evidence, which although in the crucial period before 1350 remains polemical, will hopefully produce a convincing and satisfying history of the Shroud from its origin until the present.

To guide us into continuing research let me now recall some of the main definitive statements of empirical fact and of near certainty, albeit polemical, that can be, in my opinion, confidently made about the Shroud of Turin as a result of the combined interdisciplinary approaches of scientific, historical, artistic, religious, iconographic and other fields of study over the last 110 years - each of these statements dare I say - with its own separately evolved

methodology for validation - their differences being perhaps the catalyst for many of the greatest disagreements, exclusions, arguments and jealousies which have occasionally, but perhaps in the long run beneficially, punctuated the work of sindonology in the past.

And obviously it is beyond the scope of this paper to cover all the detail which can be derived from the huge corpus of published Shroud research and so I am able only to touch upon some of the key arguments and observations to at least give an indication of where we appear to stand now and which will guide our thinking as we contemplate sindonology in the 21th century.

THE NATURE OF THE CLOTH

We have a quite clear understanding of the nature of the Cloth itself

1) We know with absolute certainty that the major part of the Shroud was manufactured from flax to become a linen cloth, in herringbone twill weave, and it is widely accepted that its manufacture is compatible with the skills, methods, style and technology of, and location in, first century Palestine

2) It is also widely accepted that these skills, the method, style and technology of manufacture are completely anomalous in the 14th century in Europe and that there are no similar examples extant from this period.

3) We know with certainty that the backing 'Holland' cloth (now replaced) was medieval in origin and exhibited normal characteristics of medieval textile technology

4) We know that the side strip, as sampled by Raes in 1973 is distinguishably different to the main body of the cloth, which he also sampled, because it was sewn onto the edge of the cloth

5) We are almost certain that additional strengthening and repair materials such as cotton threads, which can be observed microscopically on the cloth, have been added long after its time of manufacture possibly therefore altering the composition of some parts of the cloth

6) Importantly it is currently proposed by Benford, Marino and Rogers that, based on strong evidence derived from direct observation of pictures of samples used, that some secondary re weaving took place in the area of the cloth which underwent radiocarbon dating in 1988

7) There is also the strongly held view based on Rug Lemberg's work which diametrically opposes the Rogers view and the intervention on the backing cloth, the patches and the foldmarks in 2002 has caused great controversy and about which papers were delivered in Dallas in 2005 and more are to be presented in this conference

HISTORY

A few statements regarding Shroud history can be confidently made.

1) We have clear documentation of the history of the Shroud from 1350 onwards since De Charney owned it and some convincing theories suggesting its whereabouts in the short gaps which exist in its documented chronology since that time are also generally accepted - Some of my own work relates to these periods, along with the work of many others for which I have the utmost respect because we really do not know where the Shroud was from 1350 to 1357. (Zaccone, De Brienne, Wilson, Scavone, Markwardt etc) My own theory of its being taken to Templecombe in England has been published in a number of arenas

2) We have a series of very plausible hypotheses based on a whole range of circumstantial evidence, on the Shroud itself, in the historical record, through art history and iconography,

through the interpretation of religious texts, from eye witness accounts reported in the New Testament, supporting the prior existence of the Shroud back to the first century (Scavone, Meacham, Wilson, Dietz and many others)

3) We know with a high degree of probability that the Shroud conforms exactly, through analysis of existing complex fold marks, (which, it seems, have now, perhaps been removed during the intervention) with descriptions of a shroudlike object being hoisted up for exposition in Constantinople in the middle of the twelfth and probably in the eleventh centuries demonstrating strongly the likelihood of its existence before 1350

4) We know that it is highly likely that it is the Shroud itself which is depicted, along with its 'poker holes' in the Hungarian Pray Manuscript of 1192-5, in stone reliefs from 1150, and it is highly likely that the Shroud face and 'poker holes' appear in representations of the cloth of Edessa, and in Byzantine coinage back to 944 AD (thanks to the work of Zaninotto and Wilson and others) I also noted in 1986 evidence via the Sakli fresco in its Edessa copy that the Shroud was known in the tenth century. I cannot remember whether I ever published that paper!

5) We know from Wilson and others the high likelihood that the Shroud, the cloth of Edessa and the Mandylion are the same historical object demonstrating a date for the shroud back as far as 525 based on historical, artistic, iconographic and other circumstantial evidence (of which certain fold marks and the presence of the poker holes along with the features of the face are but a few examples) and Mark Guscin added to our knowledge of early documentation in 2001

6) We know certainly that the historical accounts of the passion of Jesus of Nazareth speak of a shroud used in his burial which belonged to Joseph of Arimathea placing such an object in the correct context of the time and place of the entombment of the body of Jesus of Nazareth.

THE BLOOD STAINS AND THE WOUNDS

1) We know with absolute certainty that the blood stains on the Shroud are composed of real human blood and blood derived materials of the blood group type AB (Adler and Heller - USA, and Tamburelli - Italy)

2) It is almost universally accepted that these stains were transferred onto the shroud by direct contact between a deceased human male corpse and

the cloth because they have been established as post mortem bloodflows and that these stains are not in stereo register with the body images

3) It is almost universally accepted that these bloodflows are derived from injuries which comply forensically with the written historical accounts of the passion and crucifixion of Jesus of Nazareth and that some of the injuries revealed by the blood stains (particularly the crown of thorns injuries) are unique to the passion and death of Jesus in the historical record (Zaninotto, Adler, Zugibe and others)

4) We know with certainty that the bloodstains were transferred onto the cloth before any image formation of the man in the Shroud took place

5) It is widely accepted through direct experimental evidence that the patterns of bloodflows in the head region of the image on the Shroud conform exactly with the highly complex bloodstains observed on the cloth of Ovideo whose existence is historically proven back to at least the seventh century and that therefore both cloths must have been imprinted with blood from the same corpse at the same point in historical time through the work of Ricci Man and Mary Whanger, Guscin, Rogers and others which also correlates with evidence on the Tunic of Argenteuil.

THE BODY IMAGE

1) We know with absolute certainty that the body image on the Shroud is not the product of human artistic endeavour. This has been demonstrated through rigorous testing of all known artistic criteria and convincingly presented time and again particularly by Piczek and is scientifically proven through chemical analysis and observation summarised by Adler

2) We know with certainty that the main image lies only on the topmost exposed fibrils of the fibres of the weave threads of the cloth and penetrates no deeper

3) We know with certainty that the body image shows the exact forensic accuracy of wounds and the correct medical proportions of the body shape expected of a flogged and crucified man aged in his thirties, laid out in death, despite the arguments for and against distortion of the cloth itself (Barbet, Zugibe, Rodante, Bucklin, Lavoie, Zaninotto and others)

4) It is widely accepted that the man in the image conforms with the expected physical characteristics of a Sephardic Jew of first century Palestine irrespective of whether he should have been tall or short (Rebecca Jackson)

5) We know with certainty that the body image was transferred onto the cloth by a completely independent process from the transfer of the blood stains and some type of imposed linear field is implied because of the absence of image formation to the sides of the body shape (Adler, Jackson, Lavoie and others)

5) We know with certainty that the image has the properties of a photographie negative whereby many of its visually observable characteristics are only revealed when seen in photographic negative form

6) From the work of Jackson, Jumper, and Schumacher, we know with certainty that the image is coded in three dimensions and exhibits this three dimensionality only when processed through a VP8 Image Analyser or other instruments employing appropriate algorithms for 3-D image analysis. And the image of no other object does so without distortion.

8) It is widely accepted that photographs by Enrie in 1931 reveal details which cannot be readily observed in later photographs suggesting the possible deterioration of the Shroud image since that time

OTHER IMAGES, POLLUTANTS AND ARTEFACTS OBSERVABLE ON THE CLOTH

1) We know that the cloth itself carries a wide variety of particulant matter, surface pollutants and other indicators such as burn marks, water stains, poker holes, fold marks, DNA traces and other historical indicators on its surface from which much historical evidence can be corroborated

2) We know with certainty that the cloth carries specific pollens on its surface which are unique to Palestine and Turkey indicating that the Shroud must have been in those places, and the historical record confirms that this could not have taken place after 1350 demonstrating firstly the plausibility of its earlier existence and secondly its provenance to the correct geographic location and possibly even the time period for direct association with the entombment of Jesus of Nazareth. (Frei, Whanger, Danin, Maloney)

3) It has been demonstrated by direct microscopic examination of samples that a dirt mark on the heel of one foot area on the surface of the cloth

contains particles of calcite and aragonite which have been identified as unique to geological limestone formations in the area of Jerusalem suggesting an association between the cloth and the limestone cut tombs of Jerusalem in use in the first century (Nitowski, Kohlbeck and colleagues) (I recall assisting her to obtain these samples in a Jerusalem tomb)

4) It is generally accepted that human DNA traces have been detected on the surface of the cloth and that a whole range of different DNA got onto the cloth throughout its history

5) It is widely accepted that a complex pattern of fold marks on the Shroud conform to a range of patterns of folding of the cloth both since 1350 supported by direct historical evidence and prior to 1350 supported by extensive circumstantial historical evidence suggesting that the Shroud and the cloth of Edessa are the same historical object (Wilson's Mandylion theory) (and Jackson's work fortunately done before the claimed elimination of the folds)

6) It is widely accepted that coin images are present as part of the body image over the eyes (Filar) and that these are Roman colonial coins of Emperor Tiberius minted by Pontius Pilate in Jerusalem or Cesarea Maritima in the year 29 or at the beginning of the year 30 AD and that these coins were not placed randomly but exactly according to the vertical axis of the symbols on them which strongly suggests a high order of purpose in their placement on the body prior to image formation (Bollone)

7) It is claimed that several graphic traces of writing exist on the cloth observable in the 1931 photographs some of whose traces are also visible

to the naked eye belonging to a particular paleographic style of the first century (Baima Bollone)

8) It is suggested by observation of the Enrie photographs that flower and plant images appear on the cloth detectable by the use of polarising filters and that these correspond with significant pollen accumulations on the Shroud surface in these areas and that these images are most likely to have been formed in the same process which transferred the body and coin images onto the cloth through the work of Whanger, Danin and Paul Maloney

9) It was claimed through direct microscopic analysis that a bioplastic coating exists on the surface of the fibres of the cloth (Garcia Valdez)

10) It was widely accepted that much other particulate matter on the cloth is the residue of direct contact with other objects such as silk wrapping cloths, paintings and so on.

11) Nitowski published 106 colour photos of highly magnified microscopic observations of some of the 1978 samples. These include her identification of body tissue, blood, burial spices, contaminants, image, calcium, pollens and fibres (*All these original slides are in my possession*)

ART HISTORY

1) It is widely accepted that a single and constant received likeness of Christ has been handed down through art since at least the sixth century and it is highly likely that primary or subsequent observations of the

Shroud face were prototypes for this artistic tradition (Vignon, Piczek, Pfeiffer, Manton, Crispino, Fulbright, etc)

2) It is strongly suggested that certain untypical anomalous extant possibly late first century frescoes of Jesus of Nazareth found in the Roman catacombs conform with the face image on the Shroud demonstrating that they are likely to be representations of the same man thus dating possible observations of the Shroud to the first century (Bogdanescu, Morgan and Morgan, Piczek) (Our subsequent work showed that the method of dating some of the catacombs is patently incorrect and that the Orpheus cubiculum portrait with characteristics similar to the man in the Shroud is almost certainly first century)

3) It is generally accepted that the great proportion of iconic pictures of Jesus of Nazareth, and representations of the Mandylion and Edessa Face seem to be derived from the Shroud image given the high number of recurring points of congruence in these images when compared directly to the Shroud face image (Whanger, Manton, etc)

4) Hundreds of examples in iconography, numismatics, sculpture and other artistic forms throughout the first millennium show high levels of congruity the Shroud face image.

RADIOCARBON DATING

1) We know that the radiocarbon dating test of 1988 achieved a date for that sample area of the cloth of 1260 - 1390, and we must assume that it was achieved with good precision (Gonella, etc) or that it probably was, given that the methodology is problematic in the case of old linen (Meacham)

2) But it is now widely accepted, through direct scientific measurement, that the one piece of the Shroud which was cut into samples and radiocarbon dated by three laboratories achieving a date of 1260 - 1390 shows a completely different micro spectroscopic chemical structure to other measured areas of the main body of the cloth, demonstrating a different composition and that the sample area is therefore atypical of the Shroud, and that as a consequence, if the dating study can claim good precision for its reported date, the radiocarbon test cannot assign any accuracy to the date of the whole cloth because it is not clearly established that the location of the sample is typical of the whole cloth (Adler, Meacham)

3) It is postulated, on the basis of direct microscopic observation, that the exact area of the radiocarbon dating sample contained threads of cotton and possible evidence of re weaving in this part of the cloth at a time later than its original manufacture suggesting that this area of the cloth is atypical (Benford, Marino and Rogers) postulated that the fire of 1532 caused mu

4) It is also postulated that the fire of 1532 caused multi-century shift in C14 contained in the cloth (Kouznetsov, Ivanov, Jackson., well as the effect of water borne salt described by Bryan Walsh

5) It is postulated that any number of a range of contaminants could have affected the dating (Marie-Claire Oosterwyck Gastuche)

And yet still, we are unable to state with absolute certainty what is the exact nature of the body image, what process formed it, why it has the properties of a photographic negative, why it has three-dimensional and other singular phenomena associated with it, or how it comes to have anatomical and other data encoded in it unknown in the middle ages, and certainly unknown at the time of Christ.

And despite this there are still some 'flat earthers' who would claim and even publish that it was "made by someone" as a fake, a dupe, a sideshow exhibit, or a confidence trick with little reason for so doing in the middle ages. It cannot be satisfactorily reproduced by any known method even now in the twenty first century despite having witnessed the most spectacular advances in science and technology of all history in the last generation. We see absurd, ugly and crude 'reproductions' claiming to be produced by the same mechanism, whatever that may be, as the Shroud image. For example those of Nickel, Picknett and Prince, who claimed that it had been painted by Da Vinci despite the fact that he was not born until 150 years after the certain existence of the Shroud in 1350.

Allen even proposed that it was manufactured in the Middle Ages by stringing up a real crucified corpse in the sun for a few days beside a camera obscura which had conveniently been invented for the purpose and then forgotten again for five hundred years, and the image formed onto a shroud cloth made using rediscovered ancient techniques also conveniently forgotten again.

I was disappointed to find this absurd theory being reported fulsomely by Wilson in an article written for a recent publication *The Folio Book of Historical Mysteries*. I wouldn't have bothered to mention it in a popular book for the general public.

Many such theories abound about the Shroud but nonetheless they all need assessment.

PLAUSIBLE IMAGE FORMATION THEORIES

There are several of the most plausible image formation theories which need to be thoroughly re-examined and tested with our rapidly expanding technological possibilities in the 21st century.

Amongst them are:

1. Volckringer was the first to talk of cellulose degradation of the fibres as in botanical specimens preserved in paper (1942) and published in my daughter's English translation in 1991 and subsequently supported by the work of Jackson et al . I have much of Volckringer's original work in my possession

2. Rodante's theory of contact transference of chemical substances present on the corpse and later Mattingley's proposal of oxidisation of bacterial fatty acids

3. Nitowski's effect of ambient microclimatic conditions in the burial chamber upon substances on the corpse (I was with her on that scientific expedition in Jerusalem)

4. Igor Benson and Whanger's coronal discharge through the body caused by the effect of lightning generating radiation images (How well I remember Benson demonstrating at a private meeting in Whanger's studio back in 1984 his plasma ball creating coronal discharge. "When Christ's body was in the tomb," he said "a lightning strike probably struck a big toe poking from the Shroud which caused the discharge through the body and then the image." note that Fanti is to present on this subject tomorrow.

5. Lindner's theory that electron radiation caused reactions in the cellulose supported by Wolkowski and the biophoton emissions of all bodies

6. And those who tend towards thereto nuclear flash radiation by an as yet unidentified mechanism generating the image (De Malijay, Ashe, Judica-Cordiglia, Jackson etc) and postulated by Moran as a change in gravity medium or by Lavoie as radiation from a vertical body

7. And just because science as defined by scientists cannot explain nor admit the nature of apparently miraculous occurrences is hardly enough reason for discarding consideration of such possibilities in a world where the impossible becomes the possible on a daily basis

And so several key areas of our research emerge which must be addressed to allow us to move forward in the 21st century.

We must continue to revisit the issue of radiocarbon dating as a very high priority. This is essential because, as Meacham has so clearly pointed out, many of the general public who do not necessarily understand the subject

as we do, regard the October 1988 announcement of the dating of the Shroud as the point of closure for the debate which, if true, would consign so much of our work to the garbage bin of history.

Meacham also claimed that the handling of the C14 radiocarbon testing was a debacle and he was one of the very few who predicted its probable failure from the outset of the debate in the early 80s.

After the event, of course, many Shroudies struggled to comprehend how a radiocarbon date, announced so smugly and in such contempt of the sensibilities of religion, history and science by self promoters Tite and Hall of Oxford , could be possible in the face of the mass of Shroud knowledge which had been borne of a century of research and observation. The reported date was totally incongruous to most of us and a complete anomaly when set against all the other massive assemblage of evidence to the contrary.

And the resolution of this conflict continues to remain a vital and crucial issue.

Some argue that new measurements must be taken using several sample sites across the cloth as proposed by Meacham and others.

There are others who hold out hope that a single thread might one day be a satisfactory sample size to redo the C14 experiment. And it is said that plenty of residual single threads lie even now in the secret archives of a number of those who have access to the cloth over the years although none of these could now be accepted as having original uncontaminated provenance.

Some argue that a radiocarbon dating test is totally inappropriate for a textile which has been exposed to so much disturbance over such a long period as this one certainly has.

Many believe that the C14 testing was unwise and preemptive, telling us more perhaps about our own arrogance - our search for a 'once and for all' solution to the riddle of the Shroud - than about the Shroud itself, and that because it is a one off unverifiable test which is unlikely ever to be repeated, unless a procedure requiring minute sample sizes is invented, and the protocol itself is undertaken in a far more comprehensive and transparent manner, that this particular test only demonstrates that one very small corner snippet, in all likelihood contaminated and/or of a later repair, cut off the Shroud was dated to 1260 - 1390 for some reason or another, probably with good precision, but this one off sample does not, and cannot, assign any accuracy to the date of the whole cloth.

This is what probably should have been pointed out in October 1988 for it was never established that the location sample is typical of rest of the cloth.

Jackson, Fornof and Nopp have demonstrated that the fire of 1532 may have caused multi-century shifts in the C14 content of the cloth anyway through mechanisms of isotropic exchange. Moroni and Saillard also support this research.

And there are perhaps hundreds of other studies and hypotheses directly challenging the veracity of C14 testing as applied to the Shroud.

I was present at a private meeting in 1986 at which it was reported that someone had secretly carbon dated another Shroud sample and came up with a date of about the year 500 - and although this evidence is inadmissible and cannot be corroborated either it still demonstrates the vagaries of C14 dating when applied to textiles.

The future debate about C14 needs to address the issue from the point of view that it is the cloth itself which contains characteristics which may defy a meaningful C14 result rather than any conspiracy theories or alleged incompetencies in actually carrying out the measurements themselves.

Experts such as Gonella always indicated that the science of radiocarbon dating can only make the measurements of samples which are supplied. It is up to other researchers, not the C14 experts to determine whether the samples were typical of the whole object and whether the results are appropriate indicators of the whole object.

All of this shows that we must find out once and for all why the anomaly of the radiocarbon date contradicts so much other data. We must evaluate and test the current hypotheses which could explain it. Jackson, Fornof and Propp need to be encouraged to keep working on the possible 1532 fire effect. Benford and Marino must be encouraged to further test their hypotheses and those of Rogers that the 1988 samples contained rewoven and added medieval materials.

The continuation of the work of the late Alan Adler, and Selzes and De Blase regarding variations in the microspectroscopy results observable across the Shroud must be encouraged for they demonstrate variations in the chemical composition of the cloth at different points. The degree to which the bio-plastic coating observed by Garzia Valdez on the thread fibres affects the carbon dating process must be further explored as well.

We must also take into account the opinions of other contemporaries such as Antonacci, who have considered the C14 polemic.

Adler said that further radiocarbon dating of the Shroud should not be carried out until we really understand why the present study failed.

Whanger hypothesizes that a possible image formation process involving type x radiation, corona discharge and weak dematerialization would result in a younger carbon date.

Far from being the point of closure for the debate about the history of the Shroud the carbon date is in fact an opening for a whole period of new research and experiment. And who knows, the outcome might lead to a complete review of the science of radiocarbon dating of textiles and of fire damaged objects.

Another reason for concentrating on this aspect of Shroud study is that it was the one factor twenty years ago that branded the Shroud a fake in the minds of the world and needs to be redressed - a very difficult task.

And so it seems to be very important to move forward knowing absolutely that the C14 testing is by no means the final verdict on the Shroud and if anything only serves to demonstrate that any particular atypical result derived from a one off unverifiable test is exactly the type of scenario which should be avoided in the future.

Because the CI-4 episode did not 'solve the mystery' or 'end the debate' or consign people like you and me to the lunatic fringe of 'flat earthers' who are 'onto a loser' (as supercilious Hall said in 1988) but instead demonstrated once more that a multi disciplinary approach is needed when assessing the characteristics of the Shroud, by focussing our attention on

the real issues derived from the arts, history and the sciences which only in combination can answer the outstanding questions of the Shroud. One can feel confident that many of the third wave of Sindonology, some of you, will therefore make great progress in the years ahead by taking up this challenge.

There is also much to be done in other areas. The emphasis in recent years has been on the conservation of the Shroud. Science has learned what religion already knew - that the Shroud, whatever its provenance, is a unique and special object which is precious beyond description and must be preserved, protected and conserved.

As the new millennium dawned, contemporary conservation ideas caught up at last with the Shroud. But as with all aspects of Shroud study, agreement over appropriate storage and conservation requirements for it took a long time to be reached. It is certainly a step forward that the Shroud is now maintained in a controlled environment and is kept flat. FleuryLamberg and many other textile experts and conservators had a hand in these very positive outcomes .but also had a hand in what have been described as unfortunate restoration work in 2002.

Some there are who propose that the image will shortly disappear altogether and they may be right although I have to remind you that I commented during the international press conference in Turin in 1998, as one of the few present who had seen the Shroud both in 1978 and in 1998, that my subjective observation was that the image looked better twenty years later, but that may be a view some would relegate to the onset of senility or an unlikely improvement in my eyesight.

Despite frequent calls for proposals from Turin it seems unlikely that the experts and the custodians will agree on protocols for further testing unless these are presented by a unified and comprehensive group of top line researchers who have demonstrated that the envisaged tests would be non intrusive and will be broadly beneficial to future research. It would be unfortunate to undertake tests which will not yield data which is widely available to all or which simply repeat aspects of previous testing if there is no need for further verification of those earlier ones.

We are in general agreement that future direct testing of the cloth will have to be unintrusive. There is considerable opinion that the 2002 tests were intrusive.

Some of us of the second wave, and those of you of the third, are engaged in a major effort to define and propose whole fields of new constructive testing procedures which might clarify for example the nature of the image itself and will hopefully lead to a better

understanding of the image formation process. For this is the other outstanding issue which we are called on to explore.

Jackson, reflecting the views of many, has pointed out that finding a satisfactory mechanism for the origin of the Shroud image has shown itself to be *a complex* and difficult problem and is one of the most profound that exists in modern science. Testore declared image formation as the most important mystery. Barberis has noted that the problem of formation of the image remains the most open and interesting field of research regarding the Shroud.

We know that a large number of hypotheses exist which can generally or partly explain the image formation process but nearly all of these fail to account for all the properties of the image. Nearly every speaker at the Turin Scientific Symposium of March 2000 and many others have since made this observation.

Therefore a new series of tests and measurements of the cloth itself will need to be undertaken sooner or later by a research team, probably over several weeks, not unlike the great STURP effort of 1978, to gather evidence specifically directed towards an understanding of the chemistry of the cloth and the image formation process. For such a proposal to be taken seriously by Turin this will have to be an international effort based on total cooperation, supported by perhaps years of planning and requiring a spirit of generosity and friendship which reaches far beyond our own egos and the advancement of our own pet theories. And the proprietorial attitude of Turin. And I did not see much evidence of such co-operation at the Dallas conference as recently as 2005

Many Sindonologists have observed that new technologies are available coupled with the incredible advances in data retrieval, storage and interpretation by digital computer systems and that the appropriate application of these technologies to the Shroud might reveal new information allowing a better understanding of the image formation process. Indeed digital imaging has already taken place.

There seems little likelihood of the experts and the custodians agreeing on protocols for further testing unless these are presented by a unified and comprehensive international group of top line researchers who have demonstrated that the envisaged tests will be non intrusive and will be broadly beneficial to future research.

It would be unfortunate to undertake tests which will not yield data which is widely available to all or which simply repeat aspects of previous testing if there is no need for further verification of those earlier ones, or if every new fangled machine is wheeled up to the Shroud for some specific measurement in isolation from any others because the machine may seem promising at the time, or those using it are the flavour of the month. If this were to be the way forward we will be no wiser in another hundred years.

You will recall that further tests on the Shroud itself were suspended by the authorities for a long time in view of the acrimonious exchanges amongst the experts since the last round. There are still many political mysteries surrounding the Shroud, many intrigues and plots, cover-ups and scandals, and many big egos are involved.

Barberis and others speak of the need for a concrete and detailed plan of work because the acquisition of more data on the image is the indispensable starting point for any future research"

Here then are some examples of proposed tests based on contemporary available literature and no doubt we are to hear further proposals over the course of this important conference.

1) Adler recommended a biological assay for the micro flora and microfauna actively resident on the cloth as imperative.

2) Adler also recommended the application of improved spectroscopic instruments to better understand the chemical structures found on the cloth. And he is supported by many others calling for spectroscopic analysis such as Cardamone who seeks better understanding of the flax fibre and its role in image formation , Virlet who calls for the use of Nuclear Magnetic Resonance spectroscopy, Pellicori, who offers a plan for the provision of calibrated

measurements to ensure the accuracy of such tests and Deblase who calls for the removal of fibres from key areas to help build a larger data base of spectroscopic and infrared spectra through the use of off-site instruments, to monitor the integrity of various regions of the Shroud, which was supported by Adler.

3) Wilson calls for a spectroscopic analysis of the 'poker holes' to determine the specific regional geological signature of the black pitch substance found in these areas, and is supported by Schwartz (That's if the pitch is still available)

4) Adler calls for surface pH measurements to be taken

5) Jenkins suggests a range of further x-ray radiography and fluorescence experiments using improved technology to build on research already obtained

6) Soardo, Iacomussi and Rossi suggest that a complete colour map of the Shroud be obtained through a Mobile Imaging Radiometer to increase knowledge of the colourimetric characteristics of the Shroud particularly to verify any possible future colour drifts - in other words to test whether the image really is fading as quite a few have suggested.

7) Ballosino demonstrates the importance of computer science through digital imaging of the Shroud to future research adding support to the colour map proposal. This was done in 2002 by Durante.

8) Vercelli places at the disposal of experts an exact reproduction of cloth sample with the same textile characteristics as the Shroud cloth, as well as the data demonstrating its conformity.

9) Meacham calls for 'a few grams of the cloth from six new locations coupled with the latest technology to conduct new radiocarbon tests. Otlet and Evin demonstrate these improvements in the technology.

11) Walsh calls for further work on the carbon gradient

12) Benford and Meacham have called for dating of the burnt material taken in 2002

And, of course, from the point of view of its history and iconography the "Historical Detectives" must be encouraged to continue their arduous task. There is more work to be done to strengthen further the case of circumstantial evidence supporting Shroud history prior to 1350.

It is surely only a matter of time before someone comes up with hard evidence proving beyond dispute the whereabouts of the Shroud at some time in the first millennium. All the signs are there. Maybe we will find 554 more clues amongst the ruins of Edessa, or in Constantinople, or tucked away in a medieval manuscript, as yet unseen in a hidden ancient library.

Sindonologists of the third wave can take the example of those like Scavone and Markwardt who continue to lead the debate in pre 1350 Shroud historical studies.

It is also important to continue to develop a global index or archive of the vast mass of Shroud material spawned in the past hundred years. There are now so many thousands of books, papers, articles, published proceedings, photographs, videos, websites, research group and society newsletters, in so many languages reflecting Sindonology that it is beyond the scope of any single mind or organisation to accommodate anything like them all.

And so part of our way forward must be to collaborate, to share, to advise, to seek peer review, to offer viewpoints, to remain open to the findings of others and to realise that it is teamwork at the local, national and international levels which will overcome the danger of individual research being lost in the mass.

We must be vigilant in our desire to encourage legitimate research. We must be vigilant, albeit with compassion, in our desire to sort out the straw from the chaff, to separate the distractions of the sideshows from the action of the main arena, and to draw each other's attention to the credible and the plausible. Remember, as Richard Orareo said in 2005, "The best of the Shroud is yet to come"

And so therefore, these, it seems to me, are the major issues which represent the way forward in the new millennium:

1) We must focus on the contemporary issues as defined at conferences like this one

- 2) We must try to resolve the radiocarbon polemic once and for all
- 3) We must encourage those who seek to explain the image formation process
- 4) We must inspire the 'historical detectives' not to give up their arduous search
- 5) We must unite internationally in devising a new and beneficial round of direct testing based on the huge advances in technology since 1978 applicable to the Shroud itself
- 6) We must assemble our corpus of Shroud knowledge and resources into an accessible data base for the benefit of all through the websites, the museums and the collections
- 7) We must demonstrate absolutely our good intentions and goodwill, which we hope will be reciprocated, towards those charged with the onerous responsibility for allowing or denying access to the cloth itself in the 21 st century
- 8) We must embrace teamwork and encourage peer review in all our work
- 9) We must remain focussed on the need for a multi disciplinary approach
- 10) We must seek high standards of verification for our claims and hypotheses
- 11) We must sustain and support those of the younger generations who represent the third wave of Sindonology to take up our work and continue the research

And so, my Shroud colleagues,

Let us Look back this evening with pride and satisfaction over the work we *have* done in the last 110 years and let us remember with affection those who have made their contribution and *are* now gone.

Let us also look forward, turning to the sons and daughters of the first and second waves.

Let us be positive and remain challenged and excited.

Let us be inspired by this extraordinary piece of linen which has not only survived the last thirty years of malicious controversy, criticism, lampooning, ignorance, personal grandstanding and sensationalism, but has survived, perhaps, two thousand years of abuse, damage, attack and often negligence and yet remains the greatest single mystery on earth and attracts more attention than any other object in existence. And which for more than a century has brought people like you and me together in our quest to unlock its mysteries.

And let us once more think deeply, each of us, about the implications of the Shroud and how it touches our hearts and souls- and continue to consider what this object really means and what it tells us about the message of the man it represents. Here, where religion, the arts and the sciences collide, lies, does it not, a vessel of great hope, containing a message of enormous power, and an expression of enormous love.

And it's up to us to harness this same love which brings us all together in places like here in Columbus, Ohio, and at every other Shroud convention or conference all over the world, at every Shroud exposition, or meeting, to remember and learn from the message which lies within that enigmatic image, that multifaceted enigma, that eternal challenge as we continue to unlock its secrets.

Let us then celebrate what is good, let us celebrate what unites us and to try to be conciliatory and magnanimous about the issues that would divide US.

If so many thousands of people in the world regardless of their religion, their agegroup, background, training, nationality or any other apparent difference are united in their quest for the truth about this extraordinary and we object surely it simply cannot be some kind of monstrous fraud.

And so, as memories begin to fade of the recent visit to America and Australia of the Shrouds nominal owner, His Holiness Pope Benedict, (with whom I had the privilege of discussing the Shroud enthusiastically in a one to one audience some years ago)

And as we leave the eleventh decade since 1898, a decade which has been characterised by much good research work but also a certain amount of crackpottery on the fringes of Shroud study and some unfortunate public and international skirmishes

Let us nonetheless perhaps remember the wellknown words of your American poet Max Earman who, in the last sentence of *Desiderata*, which hangs framed on walls all over the world, said: With all its sham, drudgery and broken dreams, it is still a beautiful world. Be careful. Strive to be Appy.'

And finally, my brothers and sisters, I thank you all for the great honour you have granted me in being able to deliver this keynote address to you on this auspicious occasion tonight, and thereby giving me the opportunity to attempt to take stock of our hopes and dreams for the Shroud in the 21st century. So let us confidently prepare ourselves for the work of this conference in studying again the eternal challenge of the Turin Shroud and hope that our exchanges will bring us, in love and fellowship, nearer to an understanding of its challenge, its enigma, its mystery and its message for all mankind.