THE PARIS SCIENTIFIC SYMPOSIUM ON THE SHROUD OF TURIN

The atmosphere in the Centre Chaillot Galliera fulminated with the release of energies and aspirations too long confined to trickling outlets. Eleven years had passed since the II International Congress of Sindonology brought together scientists, scholars and some 300 seriously interested persons from around the world. A network of contacts, sometimes tenuous, sometimes tenacious, took root in Turin and sent out offshoots, linking up with previously established centers. The Shroud became "news" to an ever-widening though too often incorrectly informed public, while the scientists of the now-famous "on site" testing of the Cloth published their findings in specialized journals. Triennial national congresses in Italy kept research and interest from the doldrums while here and there centers for Shroud studies burgeoned, newsletters reported current happenings and fledgling periodicals filled gaps between the sporadic publication of books. Elaborate exhibits were mounted; some went on the road, while a spate of sciolous enthusiasts sprang to the lecture circuit.

But those who had met and shared their thoughts in Turin in 1978 and those who, through correspondence, had forged new bonds of friendship, had little presentiment that ever they would meet.

The "explosion", then, in Paris on September 7 and 8, 1989, was due in part to joyous reunions and first encounters. But the mood of the assembly was profoundly characterized by the earnestness of the scientists presenting the results of their continuing research and the utter intensity of the thoughtful silence of listeners come from Norway to Spain, Alaska around the globe to Australia.

Where does Shroud research stand today? How can the results of the 1988 radiocarbon dating be reconciled to the formidable accumulation of scientific and documentary evidence that confronts, monolithic, the medieval, ergo artistic, production of the Shroud?

The person whose decision it was to call a scientific conference at this juncture in Shroud history; who lost no time in rallying other scientists knowledgeable in sindonology; and who put all other thoughts out of the way to work day and night conceiving, coordinating, collaborating, is a retired graduate of the *Ecole National Superieur de Chimie* and former director of pharmaceutical research, whose career had brought new discoveries to his field and renown to his name: André van Cauwenberghe, Doctor of Sciences.

Ten scientists made up the active committee: Philippe Bourcier de Carbon, demograph, one of the moderators of the symposium;

George Edel, former professor of history, director of Wagram Voyages who, with a highly motivated and efficient staff, undertook the organizational functions; Jacques Evin, director of the radiocarbon laboratory, Lyon; Guy Le Cordier, formerly a chief of the governmental brevet service, now amateur archeologist; Claude Marchal, engineer, former director of SECAM; Georges Salet, officer of the *Légion d'Honneur*, officer of Naval Engineers; Raymond Souverain (*Légion d'Honneur*), honorary inspector-general of the service for the repression of frauds, and the other moderator; Dominique Tassot, mining engineer, editor of *Science et Foi*; and Gabriel Weill, formerly one of the directors of Roussel-Uclaf.

The Centre Chaillot Galliera is a handsome, ultra-modern conference center on the Avenue George V, just off the Champs-Elysées not far from the Arc de Triumph. The auditorium is equipped with every facility needed for an international congress, and the luxurious comfort of the seats, well-spaced for long legs, prevented any sort of fatigue during sessions lasting from 8:30 a.m. until 6:30 p.m., with an hour for lunch and a 10-minute break in the afternoon.

Eight-thirty sharp, Thursday morning. Dr. van Cauwenberghe, as scientific secretary of the symposium, opens the proceedings by introducing the two moderators. Then the lights are lowered so that the first speaker, **Lucie Coignerai-Devillers**, can show slides of her grandfather, Yves Delage, as she speaks about his career.

She was followed by **Antoine Legrand**, who could well recount events "from Paul Vignon to our days", since he was a part of those events and friend of Vignon, Barbet, and all those who have followed in these five decades.

Setting the background for more recent Shroud activities, **Luigi Gonella** traced the past twenty years of scientific research.

In the context of ancient history, **Gino Zaninotto** drew attention to the importance of coincidences in the crucifixion of Johahanan ben HAGQWL — a free citizen, crucified in the first century, at Jerusalem — with the crucifixion of Jesus. Variations in the mode of crucifying were already common by the IIIrd century; by the VIIth, Christian iconography no longer corresponds to reality. In his second paper, Zaninotto presented a brief study on the sermon of the archdeacon Gregory in 944.

A medievalist whose published works cover long shelves in Parisian bookstores, **Regine Pernoud** (*Légion d'Honneur*), takes a positive view of the work of Ulysse Chevalier, whose research into a XIVth century ecclesiastical controversy uncovered documents pertaining to the "Lirey Affair". Although his arguments in contradiction to the Shroud's authenticity are no longer considered valid, Chevalier's contribution to history is appreciable.

Antoine Legrand again stepped forward to shift the scene to Constantinople: "What the Byzantines detected and interpreted". Legrand relates that when the whitewash was removed from the

mosaics in Sainte-Sophie, he pointed out to Paul Vignon the resemblance between these Byzantine figures of Christ and the Holy Face of Turin. The peculiar mark on the forehead of the Shroud face was interpreted as a lock of hair and faithfully copied from the VIIth century on, proving that the Shroud was in Constantinople two hundred years before the arrival of the fringed napkin known as the Edessa Image.

If it is widely believed that the epsilon bloodflow on the Holy Face of Turin can be identified with the icons' "lock of hair", many observers are not convinced. Don **Luigi Fossati** examines fifty shrouds copied directly from the Turin Shroud by artists of the XVI, XVII and XVIIIth centuries. Confronted with the Original, the copies are blatant admissions of the artists' inability to interpret the negative character of the Image. Not one of the artists represented the epsilon bloodflow in any way whatever.

Don Fossati was unable to be present; his communication was presented by another participant.

Since the iconographic hypothesis offered in his 1978 book, **Ian Wilson** has continued to investigate art clues relevant to Shroud history, and his presentation was an overview of artistic witnesses. Granted, a XIVth century artist could not have produced the Shroud Image; but in art since the VIth century — be it icons, mosaic, coins, etc., — iconographic details are found which can only refer to a knowledge of the Shroud. Wilson asserts that the Image of Edessa was, in fact, the Shroud itself.

It was Antoine Legrand who wanted some way to demonstrate that the Image was 3-dimensional. At his request, **Paul Gastineau** devised a machine capable of transcribing the intensity differences, producing, in 1974, a sculpture of the Face in low relief. While this unique characteristic excludes any direct technique, such as painting, it does not prove authenticity.

Gastineau was unable to attend; his paper was read by Claude Marchal.

Frederick Zugibe, in "Barbet Revisited", explains that very little scientific study and no valid experiments followed the work of Pierre Barbet. From the point of view of a medical examiner, Zugibe revises three of Barbet's major observations.

Franco Testore, Italian textile expert, commented on the examination, on 21 April 1988, of the Shroud fabric, giving his reasons for the choice of the area to be removed for carbon dating.

He was followed by **Gabriel Vial**, the French expert present on 21 April 1988, who described his observations on the fabric.

The audience then heard the report of **Gilbert Raes**, who told the history of the sample consigned to him in 1973. He asks if the sidestrip is identical to the Shroud fabric, and remarks that it would be useful to know what is the variety of the cotton threads that were found on the Oxford sample.

From the United States, textile expert **Jeanette Cardomon** gave

an in-depth description of the properties and mechanics of flax and the processes of aging. She advised strongly against proposing methods of conservation until the condition of the cellulose could be exactly determined.

At 3 p.m., **Giovanni Riggi di Numana** commented on a video presentation of the sample cutting on 21 April 1988.

A ten-minute break separated the historical and technical studies from the reports on carbon dating, a subject the audience eagerly awaited, and no less so the several nuclear scientists come from distant countries.

First to speak was **Jacques Evin**; you applauded his article in *Spectrum* #27 (June 1988). "The credibility of the radiocarbon dating of the Turin Shroud", he maintains, cannot be questioned. What might be debatable is the interval, 1290 to 1350, given for the origin of the flax. However, the attribution to medieval times cannot be put in doubt.

Teddy Hall, of the Oxford laboratory, had sent his paper, "Dating the Shroud by Accelerator Mass Spectrometry". Two days before the conference, he found he would be unable to attend.

Therefore, the next speaker, **Mike Tite**, stepped to the lectern to deliver his address entitled "Radiocarbon Dating of the Turin Shroud". Straightforward from 21 April 1988, Tite recounted the steps leading to the final calibrated calendar age of the linen. Tite reported that the Shroud was separated from the backing cloth along the bottom left-hand edge, away from patches or charred areas. The strip cut from the Shroud was 10mm x 70mm, divided into three samples, each weighing 50 grams. Three control samples were also supplied to each laboratory. The calendar age ranges were determined from Stuiver and Pearson's calibration curve based on dendrochronological dating.

Jean-Baptiste Rinaudo broached the question of whether the C14 date signals the end or the beginning of Shroud research. Noting that the margin of error given by Oxford lies clearly outside those of Arizona and Zurich, verging toward a more ancient period, he wonders if the C14 content of the cloth is homogeneous.

Marie-Claire van Oosterwyck-Gastuche, on the other hand, asks if radiocarbon is an absolute method of dating. She points out that many are the aberrant dates given for objects whose age is known, and insists that a radiocarbon date isolated from its archeological context is not sufficient for establishing the age of an object.

The Thursday sessions closed with a paper by **Robert Dinegar** and **Larry Schwalbe**: "Isotope measurements and provenience studies of the Turin Shroud", delivered by Dinegar. After reviewing the findings of the 1978 tests and the efforts of more than a decade to carry out radiocarbon testing, the technical aspects of stable isotope measurements are explained. By this method, the geographical origin of the Shroud could be located.

Friday morning, a slight change in the order of speakers put **Pierluigi Baima Bollone** first. In technical terms, Baima presented the research carried out with his collaborator, **Franca Pastore Trossello**, at Turin's Laboratory of Forensic Haematology. Their tests on threads from different areas of the Shroud resulted positive for human blood. Positive response was also obtained from tests for erythrocyte antigenes A, B, M and S.

From the Marseille palynology laboratory, **Jacques Louis de Beaulieu** regrets that we know nothing of Max Frei's methods of work nor his conclusions, even though his list of pollen grains and their geographical provenance has been published. Several experts are of the opinion that although no precision is possible, Frei's unfinished work shows that the Shroud once sojourned in a dry Mediterranean country.

The study of Shroud pollen enters a new phase now that ASSIST has acquired the entire Max Frei Collection for Shroud Research, according to vice president **Paul Maloney**, who explained why in "The Current Status of Pollen Research and Prospects for the Future".

Returning, then, to haematology; **Gilbert Lavoie** demonstrated that the bloodmarks were formed by contact with the cloth, but contact was not the mechanism that produced the body imprint. The Shroud shows that the formation of the Image was caused by two separate events.

Alan Adler was scheduled to initiate the subject of chemistry and physics, but he was unable to attend.

To still the applause that greeted him, **John Jackson** hurried his steps to the lectern and began to speak. Jackson outlined, as succinctly as possible, a scientific theory of image formation on which he has been working for several years. Every word in the title of his paper has been strictly chosen to convey the essence of the argument: "A novel mechanism of image formation on the Shroud, which is consistent with all observational characteristics of the image".

After lunch, it was the turn of **Mario Moroni**, whose experiments lead him to conclude that the Image cannot possibly be due to a thermal source, ergo cannot be due to a liberation of heat from a corpse. He proposes that the coloration of the imprint is the result of a light "singeing" at the time of the 1532 fire.

A student of the Shroud since 1942, **Sebastiano Rodante** maintains that the Image was formed by natural means: bloody sweat, aloes and myrrh. His repeated experiments, sometimes on a corpse, in the catacombs of Siracusa have given imprints that are superficial, 3-dimensional and without deformation.

Dr. Rodante was unable to come to Paris; his paper was read by Emanuela Marinelli.

Showing the latest 3-dimensional Face obtained by **Giovanni Tamburelli** and **Nello Balossin**o, Tamburelli pointed out details of

the Passion of Christ invisible to the naked eye. New correspondences between the 3-D images and icons were also illustrated.

A fascinating paper was given by **Arnaud Upinsky**, the only speaker under the heading "Epistomological Synthesis". A series of charts and diagrams, as graphically simple and immediately understandable as road signs, served to guide those "eye-minded" listeners who could have fallen behind the rapid-fire delivery. Impossible to state, in two lines, the burden of Upinsky's demonstration. Two words are culled as examples: The Shroud memory is written in a language that is unfalsifiable-non-reproduceable... The choice of the XIII-XIVth century date as a working hypothesis leads to absurd consequences... Were Science to put the Shroud to the same epistomological and semantic requirements as are regularly applied in law, history and science, in view of the evidence already acquired Science could not but conclude that the Shroud is authentic unless it were to deny its own self.

Methodology was next discussed by **Olivier Pourrat**, who insisted on the absolute necessity of a rigorous methodology for the study of the Shroud.

Eberhard Lindner followed, presenting his hypothesis that the high C14 content found by the laboratories is explainable if the Shroud was irradiated with neutrons 2000 years ago.

Larry Schwalbe discussed scientific issues for a future agenda and outlined a research program for the 1990s.

New studies, declared the Rev. **Adam Otterbein**, are necessary and possible. No serious evidence against authenticity has been discovered since scientific study began in 1898, therefore the C14 date stands in conflict with previous research. A sincere effort must be made on both opposing sides to identify possible sources of error. Meanwhile, the rhythm of scientific research and scholarly studies, rather than slackening, is responding to a new impetus.

Luigi Gonella, having spoken Thursday about the work of the past 20 years, now presented his prospects for work to be accomplished in the future.

Thus ended the reports. Slips of paper were handed to those in the audience who wished to write a question to one of the speakers, and lively discussions ensued.

The symposium was closed by a masterly allocution delivered by **Jerome Lejeune**, of the Academy of Medicine and the Pontifical Academy of Sciences.

There were 35 reports. (I am not counting the few words I was privileged to extend to the assembly on Thursday morning; a greeting greatly enhanced by the pleasure it gave me to announce that early that morning Father Peter Rinaldi had phoned me to express his very best wishes for the success of the symposium, and asking me to greet everyone in his name.) Thirty-five reports: sixteen hours, including two too-brief discussion periods.