

CENTRE INTERNATIONAL D'ETUDES SUR LE LINCEUL DE TURIN
(C.I.E.L.T.)

INTERNATIONAL

SCIENTIFIC SYMPOSIUM

ON THE SHROUD OF TURIN

- ROME -

JUNE 10, 11, 12, 1993

AULA MAGNA - DOMUS MARIAE - VIA AURELIA 481

SYMPOSIUM SCIENTIFIQUE INTERNATIONAL

SUR LE LINCEUL DE TURIN

ROME, 10/12 JUIN 1993

Le Symposium scientifique international de Rome sur le Linceul de Turin est organisé par le Centre International d'Etudes sur le Linceul de Turin (CIELT) 50, avenue des Ternes - 75017 Paris (France)

Il est placé sous le haut patronage du :

CONSEIL SCIENTIFIQUE DU CIELT

Mr Raymond SOUVERAIN, *Secrétaire du Conseil Scientifique*,
Ancien Elève de l'Ecole Nationale Supérieure de Chimie de Paris, Inspecteur Général Honoraire du Service de la Répression des Fraudes, Président d'Honneur de la Société des Experts Chimistes

Professeur Georges J. BENE
Docteur ès Sciences, Professeur Emérite de Physique Expérimentale à l'Université de Genève, Professeur Détaché à l'Université de Grenoble

Mr Philippe BOURCIER DE CARBON
Ancien élève de l'Ecole Polytechnique, Statisticien Démographe

Docteur Jean-Maurice CLERCQ
Docteur en Chirurgie Dentaire, Chargé de cours post-universitaires, Office National de Formation Odontologique continue

Mr Grégoire KAPLAN
Docteur en Géochimie, Expert près de la Cour d'Appel de Pau

Professeur Jérôme LEJEUNE
Professeur de Génétique Médicale à l'Université René Descartes, Membre de l'Académie Nationale de Médecine, de l'Académie des Sciences Morales et Politiques et de l'Académie Pontificale des Sciences

Professeur Docteur Eberhard LINDNER
Docteur ès Sciences Naturelles
Professeur de Chimie Technologique à Karlsruhe (Allemagne)

Mr Gérard NOMINE
Ancien Elève de l'Ecole Nationale Supérieure de Chimie de Paris, Docteur Ingénieur, Lauréat de l'Institut

Professeur Olivier POURRAT

Professeur Agrégé de Médecine Interne à la Faculté de Médecine de Poitiers,
Membre de la Société de Réanimation et de la Société Nationale Française de
Médecine Interne

Dr Yves SAILLARD

Docteur 3ème cycle (Physique théorique), Physicien

Professeur Georges SALET

Ancien élève de l'Ecole Polytechnique, Ingénieur Général du Génie Maritime
(C.R.), Lauréat de l'Institut, Professeur Honoraire au Conservatoire des Arts et
Métiers et à l'Ecole Nationale Supérieure du Génie Maritime

Professeur Philippe SENTIS

Ancien élève de l'Ecole Normale Supérieure, Professeur Agrégé de
Mathématiques, Docteur ès Sciences, en Philosophie, ès Lettres, Maître en
Théologie, Sous-Directeur Honoraire de Laboratoire au Collège de France,
Membre de l'Institut International de Statistiques

Docteur Jean SOLAS

Professeur à l'Ecole Dentaire de Paris, Assistant des Hôpitaux de Paris,
Stomatologiste qualifié en chirurgie maxilo-faciale

Mr Arnaud Aaron UPINSKY

Mathématicien, épistémologue, Président de l'Institut Euclide

ORGANISATION

LA DIRECTION DU PROJET DU SYMPOSIUM a été confiée à **Mr Arnaud-Aaron UPINSKY**

L'ORGANISATION a été assurée par le BUREAU D'ORGANISATION auquel ont
participé :

- le Président du C.I.E.L.T., **Mr André VAN CAUWENBERGHE**, Docteur ès sciences
- le Directeur du projet, **Mr Arnaud-Aaron UPINSKY**, également chargé des relations avec la presse avec le concours de **Mr Hubert de SAIZIEU**,
- le Secrétaire du Conseil Scientifique du C.I.E.L.T., **Mr Raymond SOUVERAIN**,
- le Délégué de la Commission des études historiques du C.I.E.L.T., **Mr Daniel RAFFARD DE BRIENNE**,
- le Délégué financier, délégué à l'organisation, **Mr Alain ROSTAND**
et- **Mr Philippe BOURCIER DE CARBON**
 - **Mme Y. de CARNE MARCEIN-DE GAIL**
 - **Mlle Marie-Alix DOUTREBENTE**
 - **Mr George EDEL**, Trésorier du C.I.E.L.T.
 - **Mr Guy LE CORDIER**, Secrétaire Général du C.I.E.L.T.
 - **Pr Jérôme LEJEUNE**
 - **Mlle Elisabeth de LA RICHERIE**, Secrétariat

A ROME, l'organisation a été assurée par **Mme Maria-Grazia SILIATO**,
Présidente de l'Associazione di Archeologia e Antichita classiche e paleocristiane
di Roma, Déléguée Générale du C.I.E.L.T. pour l'Italie, avec la collaboration de **Mr Jorge FRANCES BAYO**.

IS OPEN
to the 14th C.
CONCEPT -

PAUL MICHELET English 909
59 A MOUNT AVENUE
KALING, W.5 1FN
LONDON, UK.

Mgr Gilles WACQ, Supérieur de l'Institut du Christ Roi, Garicigliano, Italie, a donné son concours pour les rapports avec les autorités religieuses.

Le Dr **Orazio PETROSILLO** a donné son concours pour les rapports avec la presse.

Mme Dorothy CRISPINO, Présidente d'Indiana Center for Shroud Studies, Déléguée Générale du C.I.E.L.T. pour les USA, a assuré la représentation de l'organisation aux Etats-Unis, avec la collaboration de **Mr Michaël MINOR**.

LES PERSONNALITES SUIVANTES PRESENTENT DES MEMOIRES

(par ordre alphabétique d'auteurs)

LIN

Dr Alan ADLER

Professeur de chimie, Western Connecticut State University, USA, et

Dr Larry SCHWALBE

Professeur de physique, Los Alamos National Laboratory, USA

Thème : Conservation du Linceul de Turin

Mr Robert BABINET

Auditeur linguiste, France

Thème : Le Linceul et les Evangiles

LIN

Pr George BENE

Professeur émérite à l'Université de Genève, section de physique, Suisse

et **Mr Y. RAILLARD**

Université de Genève, Suisse

Thème : L'âge du tissu

Dr Michel BERGERET

Maître de Conférences des Universités, France

Thème : Le trou historique, 1204-1357

Mme Daria BERTOLANI MARCHETTI

Directeur de l'Institut botanique de l'Université de Modène, Italie

et **Mme Marta MARIOTTI LIPPI**

Directeur du département de biologie végétale de l'Université de Florence, Italie

Thème : Pollens et recherches sur le Saint Suaire

Mlle Yvonne BONGERT

Médiéviste, Professeur à l'Université de droit de Paris, France

Thème : L'iconographie du Christ et le Linceul de Turin

Mr Philippe BOURCIER DE CARBON

Ancien élève de l'Ecole Polytechnique, Démographe, France

Thème : Bilan du Symposium 1989

Dr Robert BUCKLIN

Docteur en médecine, USA

Thème : Un médecin auprès du Calvaire, deuxième opinion

Dr Jean-Marie CLERCQ
Docteur en chirurgie dentaire, France
Thème : Le Linceul et les monnaies byzantines

LIN

Pr Silvio DIANA
Professeur à l'Institut Central de restauration des textiles, Rome, Italie, et
Pr Emanuela MARINELLI PAOFICCHI
Diplômée en sciences naturelles et en géologie, Rome, Italie
Thème : Recherches des caractères racémiques des fibres végétales anciennes et modernes.

LIN

Dr Ian DICKINSON
Canterbury, Grande-Bretagne
Thèmes : Conservation du Linceul
Nouvelle preuve relative au Linceul depuis 1988

R.P. A. M. DUBARLE, op.
Historien, France
Thème : L'homélie de Grégoire le Référendaire

Don Luigi FOSSATI, sdb.
Professeur à l'Institut Don Bosco, Italie
Thème : Le mémoire de Pierre d'Arcis et les écrits de Clément VII au crible de la critique

Dr Leoncio A. GARZA-VALDES
San-Antonio, USA, et
Dr Faustino CERVANTES IBAROLA
Centro Mexicano de Sindonologia, Mexique
Thème : Vernis biogénique et Suaire de Turin

LIN
C-14

Mr Andrey.A. IVANOV et
Dr Dmitri A. KOUZNETSOV
Prix Lénine, Russie
Thème : Sur la précision de la méthode radiocarbone pour dater des échantillons de textile en lin ancien

Dr John P. JACKSON
Professeur à l'Université de Colorado, USA
Thème : Questions se rapportant à la formation de l'image

LIN

Mme Rebecca S. JACKSON
Directeur associé de Turin Shroud Corporation, USA
Thème : Le Linceul et les lois et coutumes juïques/Hasaden Hakadosh

Dr R.P. JOUVENROUX
Docteur ès sciences, France
Thème : Intervalles de confiance et datation radiocarbone du Linceul de Turin ~ substance

Dr Tarquino LADU
Médecin chirurgien à Cacliari, Italie
Thème : Interprétation d'empreintes sur le Linceul

Abbé René LAURENTIN
Historien, spécialiste de la Bible, France
Thème : Historicité de Jésus : textes romains, textes juifs, textes chrétiens

Dr Gilbert R. LAVOIE
Docteur en médecine, Massachusetts, USA
Thème : Origine du Linceul

Mr Antoine LEGRAND
Sindonologue, France
Thèmes : Les représentations du Mandylion
Datation par l'iconographie

Pr Jérôme LEJEUNE
Professeur à la Faculté de Médecine de Paris, membre de l'Académie des sciences morales et politiques, de l'Académie de Médecine et de l'Académie pontificale des sciences, France
Thème : Le Suaire de Lier et le codex de Pray

Pr Eberhart LINDNER
Professeur de chimie technique et environnementale, Karlsruhe, Allemagne
Thème : La genèse, l'efficacité de témoignage et les possibilités de vérification d'une hypothèse globale sur l'origine des traces dans le Linceul de Turin

Mr Paul MALONEY
Chercheur-archéologue, Quakertown, USA
Thème : Le Linceul devrait-il être conservé sous vide?

Mr Rex MORGAN
Président de The South East Research Center for the Holy Shroud, Australie
Thème : Nouvelles preuves de très anciens portraits du Christ

LIN **Mr Mario MORONI**
Expert en électronique industrielle, Robiarte, Italie
et **Mr Maurizio BETTINELLI**
de l'Ordre des chimistes licenciés de Piacenza, Italie
Thème : L'âge du Linceul, propositions pour un contrôle photocalorimétrique

LIN **R.P. Heinrich PFEIFFER, s.j.**
Professeur à l'Université Pontificale Grégorienne, Rome, Italie
Thème : Le Linceul, le Manopello, le Mandylion, la Camuliana et la Véronique

Mme Isabel PICZEK
Expert à Los Angeles, USA
Thème : Observations relatives à l'image du Linceul

Pr Olivier POURRAT
Professeur agrégé de médecine, Poitiers, France
Thème : La datation de 1988 : des questions méthodologiques toujours sans réponse

Mr Bernard RIBAY
Exégète, France
Thème : Les empreintes végétales observées par le professeur VOLCKRINGER

R.P. Jean-Baptiste RINAUDO
Maître de conférences à la Faculté de médecine, Montpellier, France
Thème : Nouveau mécanisme de formation de l'image sur le Linceul de Turin ayant pu entraîner une fausse radiodatation médiévale

Dr Sebastiano RODANTE
Docteur en médecine, Sicile, Italie
Thème : Un éclair de lumière sur le Suaire

Mgr Victor SAXER
Recteur de l'Académie Pontificale d'archéologie, historien, Italie
Thème : La thèse médiévale

Soeur Blandina Paschalis SCHLOMER ocsa
Iconographe, Allemagne
Thème : Le voile de Manoppello

Du
L.N.

Mme Maria Grazia SILIATO
Présidente de l'Associazione di Archeologia e Antichità classiche e paleocristiane
di Roma, Italie
Thèmes : Etat de la conservation, le Sang
Le Linceul de Turin : structures, restauration et radiodatation

Dr Rémi VAN HAELEST
Docteur en chimie, statisticien, Anvers, Belgique
Thème : Critique de l'analyse statistique ayant servi en 1988 pour la datation du
carbone¹⁴

Dr Marie-Claire VAN OOSTERWYCK-GASTUCHE
Docteur ès sciences, Chef de travaux agrégée au Musée Royal de l'Afrique Centrale
(Belgique), France
Thème : Dates radiocarbone sur tissus d'âge archéologique bien connu

L.N.

Mr Gabriel VIAL
Secrétaire technique honoraire du Centre International d'Etude des Textiles
anciens, Lyon, France
Thème : La couture de la bande latérale

Pr J. Delfin VILLALAIN BLANCO
Professeur de médecine légale à l'Université de Valence, Espagne
Thème : Le Suaire d'Oviedo, complément du Linceul de Turin?

Mr Arnaud-Aaron UPINSKY
Mathématicien, épistémologue, France
Thèmes : La déontologie du débat scientifique
La démonstration scientifique de l'authenticité : le statut scientifique,
la reconnaissance, l'identification

Pr Gino ZANINOTTO
Professeur de langues anciennes classiques, Italie
Thème : L'image d'Edesse empreinte de la personne entière du Christ - Nouvelle
confirmation d'un code latin du XIe siècle

LES DEBATS SONT ANIMES PAR TROIS "MODERATEURS"

Mme Dorothy CRISPINO
Mme Maria-Grazia SILIATO
Mr Philippe BOURCIER DE CARBON

**AVEC LA PARTICIPATION DES REPRESENTANTS DES
ORGANISMES SUIVANTS :**

Albany Center Turin Shroud - Pittstown - USA
Assist - Quakertown - USA
Association "Montre-nous ton visage" Paris - France
British Society for the Turin Shroud - Londres - G.B.
Centro Internazionale di Sindonologia - Turin - Italie
Centro Mexicano de Sindonologia
Collegamento pro Sindone - Rome - Italie
Holy Shroud Guild - Esopus - USA
Indiana Center for Shroud Studies - Nashville - USA
**Shroud of Turin Research Project - STURP - Amston -
USA**
South East Research for the Holy Shroud - Australie
Turin Shroud Corporation - Colorado Spring - USA

N.B.

1. Plusieurs textes n'ont pu être traduits en raison de leur communication tardive : ils sont publiés dans leur langue d'origine.
2. Certains autres textes, parvenus après la remise à l'impression, n'ont pu être incorporés dans cette brochure.
3. Enfin, plusieurs traductions, effectuées sur des textes parvenus en temps utile, n'ont pu être incluses par suite d'un incident technique. Nous prions les intervenants de bien vouloir nous en excuser.

PROGRAMME DU SYMPOSIUM

JEUDI 10 JUIN 1993

- 08H00 ACCUEIL DES PARTICIPANTS
- 09H00 OBJET DU SYMPOSIUM, DEROULEMENT DES SEANCES

Introduction par le Dr André VAN CAUWENBERGHE, Président du Centre International d'Etudes sur le Linceul de Turin (C.I.E.L.T.)

Présentation des modérateurs :

Mme Maria-Grazia SILIATO

Mme Dorothy CRISPINO

Mr Philippe BOURCIER DE CARBON

- 09H15 Mr Philippe BOURCIER DE CARBON
"Bilan du symposium 1989"

- 09H30 Mr Arnaud Aaron UPINSKY
"La déontologie du débat scientifique"

- 09H45 HISTOIRE

Pr Gino ZANINOTTO

"L'image d'Edesse, empreinte de la personne entière du Christ - Nouvelle confirmation d'un code latin du XIe siècle"

Mlle Yvonne BONGERT

"L'iconographie du Christ et le Linceul de Turin"

Prof. Jérôme LEJEUNE

"Le Suaire de Lier et le codex de Pray"

Mr Rex MORGAN

"Les plus anciens portraits du Christ"

Mr Antoine LEGRAND
"Les représentations du Mandyion"

Dr Jean-Marie CLERCQ
"Le Linceul et les monnaies byzantines"

Mme Rebecca S. JACKSON
"Hasadeen Hakadosh : le Linceul et les lois et coutumes judaïques"

Dr Michel BERGERET
"Le trou historique : 1204-1357"

Mgr SAXER
"La thèse médiévale"

12H45 DEJEUNER

14H00 ICONOGRAPHIE

R.P. Heinrich PFEIFFER
""Le Linceul, le Manopello, le Mandyion, la Camuliana et la Véronique"

Pr D. VILLALAIN BLANCO
"Le Suaire d'Oviedo, complément du Linceul de Turin?"

Mr Antoine LEGRAND
"La datation par l'iconographie"

Soeur Blandina Paschalis SCHLOMER
"Le voile de Manopello"

Don Luigi FOSSATI
"Le mémoire de Pierre d'Arcis et les écrits de Clément VII au crible de la critique"

R.P. A.M. DUBARLE
"L"homélie de Grégoire le Référendaire"

Mr Robert BABINET
""Le Linceul et les Evangiles"

VENDREDI 11 JUIN 1993

08H00 CARACTERISTIQUES DE L'HOMME DU LINCEUL

Dr Gilbert LAVOIE
 "Origine du Linceul"

Dr Tarquino LADU
 "Interprétation d'empreintes sur le Linceul"

Dr Robert BUCKLIN
 "Un médecin auprès du calvaire - deuxième
 opinion"

09H00 DATATION

Dr Silvio DIANA et
 Pr. Emanuela MARINELLI PAOFICCHI
 "Recherches des caractères racémiques des
 fibres végétales anciennes et modernes"

Dr R.P. JOUVENROUX
 "Intervalles de confiance et datation
 radiocarbone du Linceul de Turin"

Mr Rémi VAN HAELST
 "Critique de l'analyse statistique ayant servi en
 1988 pour la datation du carbone 14"

Dr. Marie-Claire VAN OOSTERWYCK-GASTUCHE
 "Dates radiocarbone sur tissus d'âge
 archéologique bien connu"

Mr Andrey A. IVANOV et
 Dr Dmitri A. KOUZNETSOV
 "Sur la précision de la méthode radiocarbone pour
 dater des échantillons de textile en lin ancien"

Pr. Georges BENE et
 Mr Y. RAILLARD
 "L'âge du tissu"

Pr. Olivier POURRAT
 "La datation de 1988 : des questions
 méthodologiques toujours sans réponse"

Mme Maria Grazia SILIATO
"Le Linceul de Turin : structure, restaurations et radiodatation"

12H45 DEJEUNER

14H00 L'IMAGE

Mr Bernard RIBAY
"Les empreintes végétales observées par le Pr. Volckringer"

Mme Isabel PICZEK
"Observations relatives à l'image du Linceul"

Dr Sebastiano RODANTE
"Un éclair de lumière sur le Suaire"

Dr Leoncio A. GARZA-VALDES et
Dr Faustino CERVANTES IBARROLA
"Vernis biogénique et Suaire de Turin"

Pr. Eberhart LINDNER
"La genèse, l'efficacité de témoignage et les possibilités de vérification d'une hypothèse globale sur l'origine des traces dans le Linceul de Turin"

R.P. Jean-Baptiste RINAUDO
"Nouveau mécanisme de formation de l'image sur le Linceul de Turin ayant pu entraîner une fausse radiodatation médiévale"

Pr. John P. JACKSON
"Questions se rapportant à la formation de l'image"

16H45 PAUSE

17H00 L'AUTHENTIFICATION / L'IDENTIFICATION

Dr Ian DICKINSON
"Nouvelle preuve relative au Linceul depuis 1988"

Mme Daria BERTOLANI MARCHETTI et
Mme Marta MARIOTTI LIPPI
"Pollens et recherches sur le Saint-Suaire"

Mr Arnaud-Aaron UPINSKY
"La démonstration scientifique de l'authenticité :
le statut scientifique, la reconnaissance,
l'identification"

SAMEDI 12 JUN 1993

09H00 DEBAT

MOTIONS

CONCLUSIONS PAR LE PR OLIVIER POURRAT

12H00 ALLOCUTION DE CLOTURE

Professore Gino ZANINOTTO
Professeur de langues anciennes classiques, Italie

**IMMAGINE EDESSENA : IMPRONTA DELLA
INTERA PERSONA DI CRISTO.
NUOVE CONFERME DA UN CODICE LATINO DEL X SECOLO.**

Il Cod. Vossianus Lat. Q,69, mutilo di un foglio finale, contiene due terzi di un "tractatus" tradotto dal siriano probabilmente nel sec. VIII, e può ritenersi il più antico racconto latino della leggenda di Abgar.

Si ha una conferma quasi definitiva che, in un periodo anteriore alla traslazione dell'immagine edessena a Costantinopoli, in area siriana e successivamente in quella latina si conosceva probabilmente fin dall'VIII secolo l'esatta natura della figura impressa nel "mandylion" comprendente non solo il volto ma l'intera statura di Cristo.

L'inserimento del "tractatus" subito dopo la narrazione dell'immagine di Beyrout (trafitta dai Giudei alla maniera trasmessa dai vangeli e che verso prodigiosamente sangue dalle mani da piedi e dal costato, e con il quale "optime congruit") come pure la testimonianza di "religiosi plerique viri", secondo cui il giorno di Pasqua all'ora nona l'immagine mostra la pienezza della forma che Cristo assunse allorché "dirum crucis pertulit supplicium", può ritenersi un tentativo di spiegare, in maniera quasi prodigiosa, la non perfetta corrispondenza della immagine con la narrazione tradizionale di Abgar. Nessuna tradizione, per quanto ci è dato per ora conoscere, poteva garantire che fosse il lenzuolo funerario di Gesù, ma per l'autore del "tractatus" quell'immagine era segnata dal sangue.

Mlle BONGERT

Professeur à l'Université de Droit de Paris, France

L'ICONOGRAPHIE DU CHRIST ET LE LINCEUL DE TURIN

Les Evangiles ne fournissent aucune indication relative à l'aspect physique du Sauveur. Pendant les deux premiers siècles, les chrétiens sans doute influencés par la tradition hébraïque hostile à toute figuration de la divinité, n'ont pas cherché à en donner des représentations.

Il faut attendre le IIIe siècle pour voir les peintures murales des Catacombes offrir l'image d'un jeune berger, au visage glabre et aux cheveux bouclés, debout au milieu de ses brebis, principale figure de la sotériologie chrétienne : celle du Bon Pasteur. Puis, à partir de la fin du IVe siècle, à côté de cette représentation d'un Christ adolescent, imberbe et aux cheveux courts, en apparaît une autre : celle, majestueuse, d'un homme dans la force de l'âge, chevelu et barbu, des mèches retombant parfois sur le front de chaque côté d'une raie au milieu. Un tel visage évoque déjà celui du Linceul. Ces deux types d'images vont coexister au moins jusqu'au VIe siècle, le second s'imposant peu à peu pour devenir la règle dès le XIe siècle. C'est alors, en Orient, mais aussi en Occident, que les points de concordance entre les traits du Christ Pantocrator et l'empreinte visible sur le Linceul deviennent particulièrement saisissants. Par la suite cette physionomie du Christ se perpétuera pour l'essentiel jusqu'à nos jours.

De telles ressemblances, si frappantes soit-elles, ne peuvent être regardées comme la preuve que toutes ces images du Christ ont été inspirées par le modèle du Linceul. Tout au plus en constituent-elles des présomptions, méritant cependant le qualificatif de "violentes" ou "véhémentes" pour employer le langage de notre ancien Droit. Il en va tout autrement de deux miniatures du codex PRAY, manuscrit hongrois datant des années 1192-1195. Celles-ci représentent, l'une le Christ étendu sur le drap mortuaire, les mains croisées et les pouces rétractés, l'autre, ce drap mortuaire après la Résurrection marqué des traces de brûlures très caractéristiques, tous détails correspondant exactement à ce que l'on peut observer aujourd'hui sur le Linceul de Turin. Ce codex PRAY constitue donc ce qui doit être considéré comme une preuve, sinon de l'authenticité du Linceul, tout au moins de son existence à la fin du XIIe siècle, c'est-à-dire antérieurement à la datation que leur attribue le Carbone 14.

Mr Rex MORGAN
Président de The South East Research Center for the Holy
Shroud, Australie

THE EARLIEST PORTRAITS OF CHRIST

The work of Thomas Heaphy, an English artist who lived in Rome from c1830 to c1960, claimed to have been present at de Rossi's excavations in the 1850s and otherwise to have gained access to many of the catacombs. In his quest for the true likeness of Christ, Heaphy studied many catacombs where he copied from the extensive frescoes revealed at that time. Heaphy's claim that some of the catacomb paintings he saw and copied were of First Century origin have been ridiculed by a number of contemporary scholars. When Rex Morgan published his book, *The Holy Shroud and the Earliest Paintings of Christ* (Runciman, Sydney, 1986) he was told by Ian Wilson "I fear you have chased a very big red herring." Wilson later claimed in *Holy Faces, Secret Places* (Doubleday 1991) that Heaphy "a cheat, albeit from over a century ago, has at last been exposed," and "any remaining shreds of Heaphy's credibility finally evaporate."

Rex Morgan has now studied remarkable new evidence discovered by an English researcher in 1979 which indicates not only that Heaphy told the truth in his 19th century publications but also that datings of the catacombs based on the diagrams of the Bosio period are inaccurate. This paper will reveal startling evidence that not only are some of the catacomb paintings late first century but could have been influenced either by a sighting of the Shroud image or at least depict, from the artist's direct observation, the same man whose face appears on the Shroud thus with Jewish characteristics pre-dating the "Apollo" type and reinforcing the view that the Shroud also dates to earliest Christian times.

The author hopes these revelations will lead to a spirited reassessment by experts in art history and sindonology. And what better place to have such a positive Shroud discussion related to the catacombs than Rome itself?

Antoine LEGRAND
Sindonologue, France

LES REPRESENTATIONS DU MANDYLION

↙ L'image d'Edesse, ou Mandylion, et le Linceul de Turin sont deux objets complètement différents, comme le prouvent à la fois les textes anciens et les représentations iconographiques qui ont été faites de l'un et de l'autre. Dans ces dernières, l'image d'Edesse est clairement montrée comme une serviette à franges, alors que le Linceul est notoirement une longue pièce de tissu comportant uniquement des lisières.

Dr Jean-Maurice CLERCQ
Docteur en chirurgie dentaire, France

BYZANTINE NUMISMATIC AND THE SHROUD OF CHRIST

Study of the characters stamped on currencies from the Byzantine Empire and their contribution to historical knowledge of the Shroud of Christ.

Artistic canons for Byzantine icons depend on precise rules when created, especially when shape and peculiar sizes of Christ's face are concerned. Experts agree they stem from directly observing the Mandylion of Edessa, which would not be anything else than the Shroud of Turin.

In opposition to numismatic tradition, some Byzantine pieces through history of the Empire bear busts of Christ and Christ pantocrator, with exactly the same workmanship as the icons. Could this be considered as the result of an influence due to the Shroud on Byzantine history ?

An exhaustive study of Byzantine coins over more than a thousand years appeared necessary. The research was performed on 2254 expertly analysed coins, stamped in the Empire, and mentioned in R. RATTO's Byzantine currencies catalogue.

Conclusions of this study affirm the very clear influence the Shroud of Christ has had on characters stamped on Byzantine currencies, as well as date coincidences with history of the relic itself and history of the Empire. We, therefore, get a supplementary historical convergence in favour of the Shroud of Turin's presence during the Byzantine history from the 6th to the 15th century.

Mme Rebecca S. JACKSON
Directeur associé de Turin Shroud Corporation, USA

THE HOLY SHROUD IN HEBREW

Ever since the late Dr. Max Frei linked certain pollens on The Shroud with pollens from plants found in the Jerusalem area, an increasing number of Sindonologists and Shroud scholars have delved into what may likely be the true origins and ethnicity of The Shroud of Turin.

Presented will be the author's study of the Jewish elements relevant to The Shroud of Turin: issues vis-à-vis the legality ("kashrut") of fabric composition, Jewish racial ethnicity, Jewish laws and customs, Jewish burial practices, commandments pertaining to personal grooming, and other issues of Jewish significance - kept alive since Mosaic times - all finding expression in "Hasadeen Hakadosh".

Dr Michel BERGERET
Maître de Conférences des Universités, France

LE TROU HISTORIQUE : 1204 - 1357

Entre la lettre de Michel Comnène envoyée au pape Innocent III en 1205, à la suite du sac de Constantinople par les Croisés en 1204, qui fait état de la présence du Linceul à Athènes, et l'ostension de ce dernier à Lirey par Jeanne de Vergy, en 1357, on n'entend parler nulle part de l'insigne relique. Une enquête sur les lieux mêmes des fiefs de Jeanne de Vergy et une recherche généalogique sur ses ancêtres étudient quel a été l'itinéraire du Linceul entre Constantinople et Lirey.

Mr Antoine LEGRAND
Sindonologue, France

DATATION PAR L'ICONOGRAPHIE

L'étude de deux éléments caractéristiques que l'on trouve de manière quasi permanente dans l'iconographie byzantine éclaire les premières manifestations de connaissance que l'on ait du Linceul de Turin.

Le premier élément est la représentation du visage du Christ. De nombreux documents iconographiques attestent, dès le VII^e siècle, un changement radical dans la manière de représenter ce visage, qui, désormais, fait preuve d'une ressemblance frappante avec le visage inscrit sur le tissu du Linceul. La double mèche frontale que l'on retrouve dans ces représentations est particulièrement significative à cet égard, car elle est vraisemblablement la traduction par les artistes byzantins de la double marque frontale du visage du Linceul, qu'ils pouvaient parfaitement voir mais dont ils ne pouvaient savoir qu'il s'agissait d'une double coulée de sang.

Le deuxième élément est la représentation des chevrons du tissage du Linceul, élément lui aussi caractéristique et capital.

R.P. Heinrich PFEIFFER
Professeur à l'Université Pontificale Grégorienne, Rome, *Italie*

LA SINDONE, IL MANOPELLO, IL MANDILION, LA CAMULIANA E LA VERONICA

L'iconografia del Volto classico di Cristo (tipo maestoso con barba) ha due fonti principali. Una fonte è il volto sulla Sindone, l'altro è quello sul velo di Manoppello. Primo problema: dove era il velo di Manoppello prima di arrivare nella cittadina degli Abruzzi? Il velo di Manoppello si può fare coincidere con il volto della Sindone come non coincidono mai due immagini dell'arte messe insieme. Perciò è almeno ipoteticamente da assumere che il velo e la Sindone hanno ricevuto le loro impronte che fanno vedere un volto su ognuno dei due pezzi di stoffa quando questi due sono stati insieme, probabilmente nella stessa tomba. L'immagine sul velo di Manoppello coincide con il volto di Cristo sulle icone orientali. Questo fatto ci porta verso l'ipotesi che l'immagine di Camulia la quale fu trasportata nel 574 a Costantinopoli è identica con il velo di Manoppello. L'immagine di Camulia sparisce ancora prima dell'arrivo del Mandilion da Costantinopoli. Tutte le tracce indicano Roma come nuova patria di questa immagine che fu prima del Mandilion chiamata con il titolo "acheropita". Secondo problema: se il Mandilion che è identico con la Sindone è stata insieme con la Camulia che è ipoteticamente da identificare con il Velo di Manoppello, quando queste due non hanno più costituito la duplice fonte per la immagine di Cristo nell'arte, ma ciascuno dei due separatamente? Con molti paragoni ed osservazioni il contributo cercherà a portare un po di luce nella storia della formazione del tipo classico del volto di Cristo nell'arte.

Soeur Blandina Paschalis SCHLOMER

Iconographe, Allemagne

THE VEIL OF MANOPELLO AND ITS LINKS WITH
REPRESENTATIONS OF CHRIST IN ARTS
AND WITH THE SHROUD OF TURIN

Introduction: Presentation of the icon of Christ held at Recklinghausen Museum. This 16th century image of Christ has made the author know the "rules" of the Christ icon and lead her to become an icon artist. Presentation of the Veil of Manopello, the author made herself acquainted with, towards 1980, and in which she found all the elements characterizing the icon of Christ.

First part: Presentation of seven icons or representations of Christ through the 14th, 13th, 12th, 11th, 6th and 4th centuries, with their superimposition on the Veil of Manopello by lasercopy on slide.

Second part: The Veil of Manopello and the Shroud of Turin. 10 points of congruency. Introduction to the method and the practical way to superimpose these two images, in order to get only one face.

Third part: Some thoughts on the intimate link between the Veil of Manopello and the Shroud of Turin and their relationship with (all the ?) representations of Christ in Orient and Occident.

Don Luigi FOSSATI
Professeur à l'Institut Don Bosco, *Italie*

IL MEMORIALE DI PIERRE D'ARCIS

La comunicazione e un esame valutativo dei pochi documenti che si conoscono sulle vicende polemiche tra i Charny e il vescovo di Troyes, Pierre d'Arcis. Sono trattati i seguenti argomenti :

1. Viene messa in evidenza la mancanza dei documenti dei Charny, i proprietari della Sindone, e dei Canonici officianti la chiesa di Lirey. E ancora la mancanza degli atti del processo contro i Charny e i Canonici svoltosi sotto Henri de Poitiers.
2. Dei molti documenti raccolti da Ulisse Chevalier, vari, come ad esempio gli atti notarili e i testi liturgici suppongono l'autenticità della Sindone. L'unico documento contro l'autenticità è il memoriale di Pierre d'Arcis che la definisce un manufatto.
3. Sono messe in rilievo le varie prese di posizione del giudice della controversia, Clemente VII, che nel giro di neppure un anno ha cambiato parere almeno tre volte.
4. A completamento di quanto detto più sopra si fa osservare come la Sindone sia definita nei documenti papali in due modi diversi: *fiura seu representacio* e *Pictura seu tabula*. La prima espressione sembra non includere l'idea di manufatto, la seconda invece sì. Ed è l'espressione *pictura seu tabula* che venne cancellata sulla copia della bolla del 6 gennaio 1390 del Regesto Vaticano. Alla correzione seguì; un'altra bolla del 1 giugno 1390 con concessione di indulgenze per quanti avrebbero visitato la chiesa di Lirey ove si conservava venerabiliter quell'Oggetto.
5. Dal momento che la Sindone è stata definita una opera manuale si passano in rassegna alcune affermazioni secondo le quali esisterebbero sindoni risalenti ai secoli XIII-XIV in concorrenza con quella di Torino. L'affermazione è un autentico bluff perché non esiste nessun manufatto di quell'epoca con impronta frontale e dorsale come si vede

sulla Sindone. Coloro che l'hanno affermato non hanno mai pubblicato nessuna riproduzione a prova delle loro affermazioni. In proposito rimando al mio studio sulle copie ritratte dalla Sindone in epoche successive delle quali ho dato relazione nel precedente Symposium di Parigi. La documentazione viva messa a confronto con la Sindone dimostra che quest'ultima è un UNICUM inimitabile e ancor più non fabbricabile manualmente. Impronta frontale e dorsale come si vede sulla Sindone. Coloro che l'hanno affermato non hanno mai pubblicato nessuna riproduzione a prova delle loro affermazioni. In proposito rimando al mio studio sulle copie ritratte dalla Sindone in epoche successive delle quali ho dato relazione nel precedente Symposium di Parigi. La documentazione viva messa a confronto con la Sindone dimostra che quest'ultima è un UNICUM inimitabile e ancor più non fabbricabile manualmente.

R.P. A.M. DUBARLE

Historien, France

**GREGORY THE REFERENDAR'S HOMILY AS
THE IMAGE OF EDESSA ARRIVED IN CONSTANTINOPLA**

Gregory has been sent to Edessa by the Roman Emperor Lecapens. He has got syriac writings translated into greek. In his homily, he mentions the image as bearing the bloody sweat from the agony and the side with blood and water. This definitely confirms I. Wilson's hypothesis identifying the non hand-made image kept in Edessa with the Shroud exhibited in Constantinopla and now kept in Turin. In comparison with other documents, Gregory seems not to be turned to increase the supernatural in his relations of events. He is entirely credible.

Mr Robert BABINET
Auditeur linguiste, France

THE SHROUD OF JESUS IN THE GOSPELS

Robert Babinet, an auditor-linguist, explains form, function and fixing conditions for funerary linens which have been used for the shrouding of Jesus' body. He bases himself on the greek writings which are the only originating texts we hold.

The greek word "othonia" (linen) in Lucas' and John's Gospels, is synonymous with "sindon" (linen cloth) or "shroud in which Jesus was buried" because of an equivalence inscribed in the twofold translation by the Septuagint of "Le Livre des Juges" (14, 12-13). The johannic "soudarion" cannot be the sindon from the Synoptics. It is another cloth which is lying over the head and around the face; it is used as a "chin bandage" in order to constrict the jaws of the dead and is put at the inner top of the "othonia".

Robert Babinet takes again linguistic argument and John's Gospel 20, 6b-7 translation he has already developed in an article "The sindon and the discovery of the empty grave in John 20, 3-10" published by "Esprit et Vie" the 2nd of June 1988 (N°22, PP 330-360). He more particularly reaffirms the exegetical analysis of the greek words at the end of the sentence "eis hena topon", words he translates by:"at the same place". Inside the grave there is no displacement of the "soudarion". It is Peter and John's glance that moves around and ascertains the arrangement of the shrouding linens remains unchanged: from inside the "othonia", i.e. from inside the Shroud, the cadaver of Jesus has mysteriously disappeared. As an ocular witness, John certifies it.

Dr Alan ADLER
Professeur de chimie, Western Connecticut State University,
USA
and
Dr Larry SCHWALBE
Professeur de physique, Los Alamos National Laboratory, USA

CONSERVATION OF THE SHROUD OF TURIN

While many issues concerning the Shroud of Turin are controversial, the matter of its preservation is not. Everyone agrees on the importance of its conservation. Nevertheless, there are a number of serious problems that must be raised and considered prior to initiating such a conservation program :

- * What kinds of physical, chemical, and biological processes will contribute to the degradation of the cloth and/or images?
- * What time frame for such processes could be anticipated?
- * How can such processes be monitored and controlled?
- * What types of preservation methods should be tested and applied? How will they affect the stability of the cloth and the appearance of the images?
- * Should items of historic interest present on the cloth also be preserved? If so, how; which; and what will be the effect on preservation of the body and blood images?
- * How will various types of display formats affect conservation matters?
- * How can the images be best archived?
- * What other protective measures should be considered?

Mr Gabriel VIAL
Secrétaire technique honoraire du
Centre International d'Etude des Textiles Anciens, France

LA COUTURE DE LA BANDE LATÉRALE

Le Linceul de Turin, tel que nous le connaissons, comporte une bande latérale de tissu, large de 8cm, soigneusement cousue tout du long à la partie principale. L'analyse des deux parties montre qu'il s'agit de la même laize de tissu, amputée d'une bande étroite recousue très exactement à sa place, très vite après la découpe. Du point de vue de l'examen textile, rien ne s'oppose à ce que l'on soit en présence des othonia, bande et linceul, de Jean 20,5, recousues ensemble ultérieurement.

Mr Paul MALONEY
Chercheur-archéologue, Quakertown, USA

SHOULD THE SHROUD BE VACUUMED? A QUESTION FOR CONSERVATION

It is now known that there are particles on the Shroud which are catalysts. It has been suggested by some that these should be removed. The quickest and most convenient method would be by the use of a vacuum.

What quantitative fraction of particulate matter on the Shroud is represented by the catalysts? What is their distribution. Is vacuuming the best method? What would vacuuming actually remove? Are there materials on the Shroud which may have an important bearing on the question of its authenticity? If so these would also be removed in any wholesale application of a vacuuming technique.

There is one case in point that argues that wholesale vacuuming would irreparably damage evidence which may bear importantly on the case for authenticity : In 1981 Dr. Giovanni Riggi made public his discovery of mineral coated pollen grains in his dust samples from the Shroud. Later discussions between Dr. Riggi and Paul Maloney disclosed that these are located exclusively on the non-image side of the cloth. The best explanation to date for this very unique distribution of particulates on the cloth and for the presence of the mineral coating on these pollen grains is a wet or botanical spectrum which stand in extraordinary importance since they represent a kind of scientific control over all other pollen material on the Shroud. This particular group of pollen needs further investigation. To destroy this evidence would be to destroy a critical bit of history inherent in the dust particles on the Shroud.

Conclusion : The wholesale macro-vacuuming method should not be used to remove all the dust particles from the Shroud.

Dr Ian DICKINSON
Canterbury, Grande-Bretagne

COMMUNICATION FOR CONSERVATION

A proper purpose-built housing, cf. the Shrine of the Book in Jerusalem, should be created in an appropriate and secure place, possibly within the Vatican.

The Shroud must be in properly controlled atmospheric and lighting conditions, laid out flat and free of foreign material, in a transparent casing and visible from above and underneath. Absolutely no attempt should be made to 'iron out' creases in the cloth.

There must be absolute security from fire, theft, bullet, bomb, gas explosion, earthquake, lightning, flood, chemicals, and abuse by maltreatment or negligence.

Access should be allowed for non-destructive tests and examination. In particular, and more immediately, for details of the actual cloth : the nature of the seam edges and ends of the Shroud, a full photographic record of the edges and stitching, including the whole of the underside, which could possibly have a cloth maker's/merchant mark, though this may have been on the area of the removed corners.

The Shrine of the Holy Shroud must be accessible to Christians and they should not be obstructed or prevented by 'tourist' abuse - the Shroud is not a museum or commercial artefact.

Mr Mario MORONI
Expert en électronique industrielle, Robiatte, *Italie*
and
Dr Maurizio BETTINELLI
de l'Ordre des chimistes licenciés de Piacenza, *Italie*

THE AGE OF THE SHROUD AND A PROPOSAL
FOR A PHOTOCOLORIMETRIC CONTROL

An imprint like that of the Shroud is realised on a HUMID cloth, soaked in ESSENCES, placed on a face for experiment sprayed with BLOOD SWEAT. The imprint obtained in this way is not SINGED. Should be singed the Shroud imprint if it would not be exposed to the heart of the fire occurred in 1532?

The INFRARED SPECTROSCOPY certifies that all the layers of a cloth soaked in essences - folded up many times on itself closed in a case and exposed to a heat source - undergo an OXIDIZATION-DEHYDRATION process or a slight burning. On the contrary the PHOTOCOLORIMETRY shows that the darkening of the first layers is more meaningful than that of the underlying layers. The GASCHROMATOGRAPHY demonstrates that the above cloth if left soaked loses 46% of the essences and becomes more straw-coloured. Regarding the stripe of the Shroud linen from which the specimens were taken for the three laboratories it has been ascertained that some PHOTOGAPHS show the real size of 70x20 mm instead of the declared size of 70x10 mm.

Anyway we accept the RESULTS of the radiodating of the Shroud. However, even if we sustain that the Shroud could be of the I century we do not reject the hypothesis of a C14 contribution through IRRADIATION OF NEUTRONS released by a corpse, which took place after the decal of the imprint. We wonder whether also the heat and the passing of the time could have contributed to the rejuvenation of the cloth.

Just to answer this question a research was carried out on a specimen of ANCIENT LINEN enclosed in a case of RECENT WOOD, exposed to the heat of 170°C, and therefore in presence of the gas produced by the slow combustion released inside. According to the radiocarbon, the linen after the above described treatment, resulted to be 115 years older than

before.

As an identical process happened to the Shroud at Chambery, it is possible to conclude that the age of 650 years of the Shroud, established by C14 includes more than 100 years which, for a correct calculation have to be subtracted. One CENTURY is of little value compared to 2000 years : compared to 650 years, it becomes of great importance as, in this case, the history of the Shroud should begin from 1450 A.D.

For what concerns its PRESERVATION, the several experimental results obtained impose to take the first practical precautions :

verifications of the folds if they are in a condition of explosive tension; a very wide rolling up; watertight protection against dust and excellent shelter against light; necessity of a dry environment; importance of a chemical analyses of the imprint; survey of new photocolorimetric data in order to COMPARE them to the data taken in 1978, in 71 areas of the Shroud.

Dr Gilbert LAVOIE
Docteur en médecine, Massachusets, USA

ORIGIN OF THE SHROUD

This paper is both a medical and scriptural search for the truth about the origin of the Shroud of Turin. The medical work follows in the tradition that was started by Barbet; the same method of medical observation and deduction is used to further our understanding of the image and blood marks of the Shroud.

The paper begins with a review of my work presented in Paris in 1989 on the blood marks of the Shroud, demonstrating that there was a three-dimensional man placed between the ends of the Shroud cloth. I will then review my work on the image, demonstrating that the event causing the image was separate from that which caused the blood marks.

The culmination of my medical research and observations rests in its relation to the fourth Gospel. I will discuss John's Gospel through the eyes and mind of a first century Jew who will help us to understand new information regarding the Shroud's origin.

Finally, a message that is unique to the Shroud and to John's Gospel will be discussed.

Dr Tarquino LADU
Médecin-chirurgien à Cacliari, *Italie*

INTERPRETATION OF IMPRINTS ON THE SHROUD

In the photographic reproductions of the back of the " Man of the Shroud " which were made using Wood's lighting technique, we find imprints which can be considered as "small streams of blood" flowing towards the nape of the neck and the pelvis. Different studies explain these imprints according to the position that the Man of the Shroud might have been forced to take during his scourging.

After examining the pictures taken from the original in color made by Professor Giovanni Battista Judica Coriglia, expert photographer for the scientific Photographic Shroud Commission founded in 1969 by Cardinal Michele Pellegrino, the author considers that he can give another interpretation as to the origins of such imprints.

Slides will support the given explanations.

Dr Robert BUCKLIN
Docteur en médecine, USA

A DOCTOR AT CALVARY : THE SECOND OPINION

It has long been the custom in Medicine for patients who have been given a diagnosis and a suggested course of therapy, to seek a "second opinion" in order to insure that the diagnosis and plan for treatment are correct. I have applied this principle to the paper which Dr. Pierre Barbet presented in Rome about fifty years ago, in which he analyzed the wounds depicted on the Shroud and concluded that the Shroud must be authentic, on the basis of the medical features. In my "second opinion" I have reviewed recent medical findings based on forensic studies of the Shroud and I have up-dated the work of Dr. Barbet. My conclusions confirm his, in that I believe that proof of the authenticity of the Shroud of Turin is well supported by the pathological features of the image and by the multiple injuries which are so clearly depicted on the Shroud.

Pr Silvio DIANA
Professeur à l'Institut de restauration des textiles, Rome, *Italie*
and
Pr Emmanuela MARINELLI PAOFICCHI
Diplômée en sciences naturelles et en géologie, Rome, *Italie*

RESEARCH ON RACEMIC FEATURES OF THE OLD AND NEW PLANT FIBRES

The authors intend to estimate the transformations of sugars which are present in fibres by studying their racemisation. Such transformations could appear to be useful in order to date the Shroud of Turin historically.

Racemics are always obtained in chemical syntheses leading to asymmetrical compounds, as both optically opposite configurations have the same chance to be produced. The method consists in realising an acid hydrolysis at the temperature of 180° C (356°F) for 2 hours.

The determination of racemics in optically opposite mixtures results from using optically active substances as reagents, which are always present at the end of any reaction. The solution containing the acid depolymerizes sugars and inverts opposites, glucose and fructose. Sugars break up into dextrogyres and levogyres. The different value (gradation) is measured with a polarimeter. The resulting value is the algebraic sum of all present sugars or aminoacids.

Optically active substances can make the vibration plane of polarized light turn to a certain angle, which can be measured with a polarimeter. In order to experiment with optically active substances, a specially pure light is used, i.e. the yellow light of a sodium lamp. The light is directed through a polarizer (usually a Nicol prism) which serves as a first polaroid lens.

The light coming out the Nicol is polarized. The sample to be analysed is placed in the analysing tube after being chemically processed in an appropriate way. Eventual changes in the substance which is used for the test are read and quantified.

Therefore optically active substances may induce the vibration plane of the crossing polarized light to move right or left. After

discovering that certain organic substances are optically active, the phenomena is explained by considering the molecular structure of the substance. The cause of the rotatory power of a substance in its molecular structure has been proved experimentally and taken into account by researches.

Samples of degraded sugars gave various results, compared to reference standards. The concept of racemisation depends generally on a loss of optical activity in the investigated substance. Control tests were carried out on different samples of cellulose with results which could be expected.

Interval around the middle age has been proposed for the detection of the shroud of Turin. The radiocarbon techniques are proposed and a new radiocarbon interval is proposed on the basis of the Bernini - Tschirky formula. Taking into account old known data distribution a new confidence interval is proposed and the beginning of our era is indicated.

On this basis sample 2 of the "Intercomparison" planned in view of the dating the Turin Shroud (Radiocarbon Vol. 28 p.571-577 1986) was rejected because NON SIGNIFICANT and replaced by another sample. This report was authored by S. Burleigh, M. Leese and M. Tse of the British Museum.

The Shroud has been dated solely by AMS. The results presented in table 1 (Nature) are the average of between 2-4 runs, each composed of between 10-20 actual 14C counts about 616-655 per measurement. Converted into radiocarbon years before present between 400-950 years of age in the case of the Shroud, the limits were set following the Wilson-Ward method (As Nature noted as χ^2), to be MAXIMUM 3.30 for a 95% confidence level and (3-1) degrees.

The Nature paper, co-authored by Dr. Tse and Dr. Leese, states a χ^2 test value of 6.4, which indicates that it unlikely that the errors quoted fully reflect the overall scatter. Not stated is the FACT that the Arizona data are NOT SIGNIFICANT, as shown by a NEGATIVE χ^2 test should not have been used in any further calculation.

The graphical representation, based on the QUOTED ERRORS and SCATTER as presented in Nature and calculated without any interpretation, will show clearly for non-mathematical minds, that the claimed "conclusive evidence that the linen of the Shroud of Turin is mediaeval" is not supported by the statistical analysis of the data presented in Nature.

Dr R.P. JOUVENROUX
Docteur ès sciences, France

CONFIDENCE INTERVALS AND R.C. DATATION OF THE SHROUD OF TURIN

In this article we study the statistical methods used in the celebrated article of "Nature" in which a double confidence interval around the middle age has been proposed for the Datation of the Shroud of Turin. The mathematical techniques are reexamined and new confidence intervals are proposed on the basis of the Bienaymé - Tchebychev formula. Taking into account old known data distributions a wider confidence interval is proposed until the beginning of our era.

Dr Remi VAN HAELST
Docteur en chimie, statisticien, Anvers, Belgique

THE STATISTICAL ANALYSIS OF THE R.C.
DATA OF THE SHROUD OF TURIN

Radioactivity is in essence a statistical phenomenon, or which the results are distributed following a certain pattern (Poisson-Gauss-e.o.) To be SIGNIFICANT, EACH result must fall into mathematically accountable error-limits, wich are given in any book on statistics.

It is scientifically not allowed to combine NON SIGNIFICANT data. Radiocarbon dating, not supported by statistical analysis, is in fact MEANINGLESS. Blind testing and standardisation are essential to avoid SUBCONSIIOUS BIASSING.

On this basis sample 2 of the "Intercomparison" planned in view or the dating the Turin Shroud, (Radiocarbon Vol.28 p.571-577 1986), was reiected because NON SIGNIFICANT and replaced by another sample. This report was authored by R. Burleigh, M. Leese and M. Tite of the British Museum.

The Shroud has been dated solely by AMS. The results presented in table 1 (Nature) are the average of between 2-4 runs, each composed of between 10-20 actual 14-C counts about 616-655 per measurment. Converted into radiocarbon years before present between 400-950 years of age. In the case of the Shroud, the limits were set following the Wilson-Ward test-method (In Nature noted as Chi^2), to be MAXIMUM 5.99 for a 95% confidence level and (3-1) degrees.

The Nature paper, co-authored by Dr. Tite and Dr. Leese, states a Chi^2 test value of 6.4, which indicates that is unlikely that the errors quoted fully reflect the overall scatter. Not stated is the FACT that the Arizona data are NOT SIGNIFICANT, as shown by a NEGATIVE Chi^2 test should not have been used in any further calculation.

The graphical representation, based on the QUOTED ERRORS and SCATTER as presented in Nature and calculated without any interpretation, will show clearly for non-mathematical minds, that the claimed "conclusive evidence, that the linen of the Shroud of Turin is mediaeval" is not supported by the statistical analysis of the data presented in Nature.

Dr Marie-Claire VAN OOSTERWYCK-GASTUCHE
Docteur ès sciences, Chef de travaux agrégée au Musée Royal de
l'Afrique Centrale (Belgique), France

C14 AGES FROM ARCHAEOLOGICALLY WELL DATED TISSUES

The explanation of the chaotic C14 ages obtained on samples of well-known archaeological age, qualified "anomalous" and eliminated from the publications must be sought in the physico-chemical characteristics of the samples analysed. Tissues developing high specific surfaces and high porosities behave as ideal absorbants for a great number of contaminants which resist to cleaning procedures

Since the specialists who analysed the Turin Shroud measured chaotic data on tissues not only neglected to interpret taking those characteristics into account, but did eliminate them through the same type of unsound statistical calculation found in "Nature"'s paper, it results that their "medieval age measured at 95% probability" is devoid of any scientific sense.

The author suggests physico-chemical investigations should be performed on tissues revealing anomalous C14 data.

Indeed the experimental study of a synthetic tissue submitted to hydrothermal conditions similar to those suffered by the Shroud in 1532 has shown the migration of radiocarbon.

Mr Andrey A. IVANOV
and
Dr Dmitri A. KOUZNETSOV
Prix Lénine, Russie

ON THE ACCURACY OF RADIOCARBON METHOD FOR
DATING
OF THE ANCIENT LINEN TEXTILE SAMPLES

Since all final results of radiocarbon evaluation of the textile (linen) "age" values depends on normalization to a non-radioactive stable carbon isotopes standard ($\delta^{13}C$), this standard should be especially investigated with an aim to find the answers to AT LEAST the following two questions :

- 1) How variable (or constant) are the $\delta^{13}C$ values measured in major biochemical compounds of flax as well as in different kinds (subspecies) of this plant ?;
- 2) What is a nature of correlation between $\delta^{13}C$ values measured in different textile samples and biological material (flax stems and/or isolated cellulose fibers)?

Besides, a probability of temperature effect on the $\delta^{13}C$ values in textile samples is of a special interest.

In search of the answers to the questions listed above, it has been experimentally shown and described for the first time that :

- 1) polysaccharides (cellulose/dextranes fraction) isolated from the stems of flax, *Linum usitatissimum*, are significantly enriched by heavy carbon isotopes (^{13}C and ^{14}C) as compared to the lipids and proteins.

IT MEANS THAT BECAUSE THE FLAX SPINNING, A ROUTINE PROCEDURE OF THE TEXTILE MANUFACTURING, LEADS TO A REMOVAL OF LIPIDS AND PROTEINS FROM THE ORIGINAL BIOMATERIAL (flax stems), THE RESULTING FLAX FIBRES (97% cellulose) AS WELL AS TEXTILE CONTAINS ESSENTIALLY MORE ^{14}C THAN LIVING PLANT (flax) WHICH IS

AUTOMATICALLY LEADS TO A CRUDE ERROR IN RADIOCARBON DATING OF ANY KIND OF TEXTILE - namely, the resulting values of the calendar age has to look "YOUNGER" than they really are.

- 2) Different populations and subspecies of the cultured flax, *Linum usitatissimum*, contains different fractions of ^{13}C - i.e. different $\delta^{13}\text{C}$ values - estimated in polysaccharides pool isolated from the stem homogenates.

IT MEANS THERE IS NO ADEQUATE REASONS EVEN TO TRY TO NORMALIZE THE $\delta^{13}\text{C}$ VALUES TO (-25‰) WHICH A SOURCE OF METHODOLOGICAL ERROR IN THE WORK CARRIED OUT USING THE ROUTINE RADIOCARBON DATING PROCEDURE BY Damon et al.(1989).

- 3) A thermal treatment (heating at 85°C - 95°C , open fire impact) of the textile is able to promote small but statistically significant increase of the $\delta^{13}\text{C}$ values which probably is a result of "evaporation" of the lipids/proteins traces and/or reactions of a so called "isotopic exchange" described early by Gorkin et al (1979).

A numerous data described in literature are under discussion : these data deals with :

- a well-known Suess effect (cosmic radiation effect on the carbon isotopes pool turnover on the Earth);
- microbial contamination of the textile samples;
- rates of the decay of biochemical compounds of the textile samples during the long-term keeping of the latters;
- an interdependence between $\delta^{13}\text{C}$ values of different kinds of biomaterial AND ecological conditions of the existance of corresponding life forms (plants for textile).

CONCLUSIONS

- 1) Radiocarbon method is an inappropriate approach to the dating of textile samples because of impossibility to create an adequate $\delta^{13}\text{C}$ standard.
- 2) In particular, a famous research carried out by Damon et al (1989) did not take into account a regularity of inter-molecular distribution of heavy and light C-isotopes.

As a result, the calendar dates (textile age values) estimated by Damon et al. has to be significantly less ("YOUNGER") than the value of a real age of the textile sample tested.

- 3) It is possible to assume that a heating treatment of the textile sample is able to "simulate" a decrease of the value of "historical age" estimated by radiocarbon method because of increase of delta 13C (enriching with carbohydrates fraction).

Foot-note : $\delta = \frac{(13C/12C)_{\text{spec.}} - (13C/12C)_{\text{stand.}}}{(13C/12C)_{\text{stand.}}} \times 10^3, \text{‰}$

Pr. Georges BENE
Professeur émérite à l'Université de Genève,
Section de physique, Suisse
and
Mr Y. RAILLARD
Université de Genève, Suisse

**COMMENTS ON REACTIONS FOLLOWING
THE C 14 DATING IN 1988**

This dating was long awaited by the various groups which were interested in the age of the Shroud.

The results, which were supposed to clarify any uncertainty, in fact brought up several controversies, which are still going on today.

It is difficult to admit that such a huge mistake in the dating of the Shroud, showing just the date wished by the opponents of the attributing of this Shroud to Christ, might have occurred in such sophisticated experiments. However, certain questions remain unanswered:

- The importance of respecting protocol in relation to the public opinion and the medias.
- The secrecy imposed on initial results from measurements carried out/in laboratories.
- The definitive interpretation of results without any multidisciplinary investigation.

Pr Olivier POURRAT
Professeur agrégé de médecine, Poitiers, France

**DATING OF THE SHROUD OF TURIN IN 1988
METHODOLOGICAL QUESTIONS STILL REMAIN
UNANSWERED**

If we strictly concern ourselves with the scientific study and exclusively with its methodological aspects, the results of dating the Shroud of Turin in 1988 with Carbon 14 raised several questions which are still unanswered : the scientific reasons for abandoning a blind procedure; the methodological necessity to inform laboratories about the age of the control fabrics : the initial results from the Carbon 14 measurement : the detailed results from the specialized statistical study; the reasons for avoiding any epistemological discussion.

These questions were araised in the same review which published the results of this experiment. However, no answer has yet been given.

This particularity should be highlighted as it is quite contrary to the usual procedures of Scientific Communication. The fact that the authors of the article in which these results were published did not reply to those questions shows a lack of scientific rigour which is very astonishing at such a high level of Scientific Communication.

Mme Maria-Grazia SILIATO
Présidente de l'Associazione di Archeologia e Antichità
classiche e paleocristiane di Roma, Italie

**SHROUD OF TURIN : STRUCTURE MENDINGS AND
RADIODATING**

A basic inquiry related to the structure of Shroud's flax is that of weight per sq cm. The search with a view to determine this weight was optically, technically and radiographically carried out.

The data issuing from every measuring process agree among themselves with smaller variations. One infer a sufficiently accurate indication.

The historic, iconographic search and photographic information confirm the handling and attrition of peripheral area of Shroud and get information relating to reiterative intervention of mending.

After valuing incidence of mixing younger flax staples with earliest staples relating to the radiodating results alteration, one examine the average weight per sq cm of radiodated sample. We infer the incidence of younger staples.

Mr Bernard Ribay
Exégète, France

PLANT IMPRINTS - DISCOVERY BY Dr. VOLCKRINGER

After a brief description of Dr. Volckringer who was a member of the Academy of Pharmacology, General Inspector of Sanitation and Population, Expert for the World Health Organization as well as a friend and associate of Dr. Barbet in the research on the Shroud of Turin, Mr. B. Ribay will present the discovery of this scientist and friend with the help of spectacular audiovisual documents.

Special attention will be given to the perfection of plant imprints, their characteristics, similarities to the Unique image of Turin (including the quality of the negative picture and its three-dimensional aspect) and differences with that image (in the case of the Shroud : discontinuous image, "micro-thick" oxidation, surprisingly strong "phenomenon"). However, the point is not in any way to prove that this discovery of plant imprints reveals the origin of the imprint on the Shroud of Turin. The interesting aspect of the discovery of plant imprints is that, contrary to what one might think, there in fact do exist natural imprints which produce, as Dr. Barbet has already stated, "very beautiful images, the only ones whose perfection can match those of the Shroud".

Therefore a comparison with the Shroud concerns the image itself and not the cause of that image. Oxidation of the cellulose is certainly found in both cases but its characteristics are so different for plant imprints and for the Shroud that the imprint of Turin must be considered as the only one of its kind.

A further presentation will be made of natural imprints from different items. According to Dr. Volckringer these imprints originate in the same way as plant imprints.

Mme Isabel PICZEK
Expert à Los Angeles, USA

IS THE TURIN SHROUD A PAINTING?

In considering the preservation of the Turin Shroud a serious professional analysis has to be made to define with certainty if it is or it is not a painting or a man-made artifact. If it could be a painting or an artifact, then the conservation of the art would take hierarchical precedence over the conservation of the textile of the Shroud. However, it is a very dangerous proposition, because in art conservation the support is destroyed in many cases to save the artwork, (in this instance the support would be the very cloth of the Shroud), and the artwork is installed on a new support.

An erroneous conclusion - namely, taking the Shroud for a painting - may deprive humanity of its most precious relic through a wrong type of conservation method.

Through many facets of the professional practiced arts a thorough assessment is made of the credibility of the theory that the Shroud might be a painting or artifact by a medieval artist. This analysis, however, cannot start with paint particles supposedly found on the Shroud. Paint particles by themselves do not constitute a painting. A painting is an optical illusion intelligently created. This illusion depends entirely from an intact paint film. In the Middle Ages this paint film could have only been one of the colloidal emulsions. Consequently, a painting exists as an interplay between the paint medium-film, (in the Middle Ages the colloidal medium), the support, the paint-ground and the pigments, bringing forth the different techniques of art. However, great variations exist even within one particular technique with dire limits to the possibilities of their use, known only to the practicing professional artist.

In the light of these general informations the paper probes the different medieval techniques of art, their style and the typical decay they suffer through time, and compares the finds with what we see on the Shroud. As said above, a painting and its image does not depend on discontinuous paint particles, but, rather, it is inherently tied to a continuous, thoroughly visible and chemically well defined paint medium-film. Any discontinuity in the paint film will cause an interruption in the very continuity of the image. The Turin Shroud exhibits a

logically connected, continuous image, clearly visible by the naked eye, but it does not exhibit a continuous paint film of any kind. Professionally, this leaves no doubt that the Shroud image is thoroughly independent from any of the loose paint particles which may exist on the surface of the cloth.

The Shroud image also is entirely independent from any of the characteristics or decay of the medieval art techniques, all of which entirely rely on colloidal emulsions. Besides the great visual and technical discrepancies between the Shroud image and medieval art, none of these techniques would work with any success on the type of texture, without a well prepared paint ground, which the Shroud linen has.

As for the submicron size loose particles of paint supposedly scattered on the surface of the Shroud, in the hands of the professional arts they become the best proof that the Shroud is not a painting. Particles of paint, which measure at least in one dimension not more than 200 millimicrons and not less than 5 millimicron, tell a different story to the practicing artist than to a microscopist.

The research also points out three paradoxes existent within the Shroud image, which cannot be produced by an artist :

1. the radical lack of an outline
2. the apparent foreshortening on the frontal and dorsal image, yet no light focus. Foreshortening was not known by artists before the 15th century. Foreshortening is a result of geometrical optics dependent on a light focus.
3. a reverse thinking about space strikingly expressed on the Shroud, and which could not be incorporated into a painting.

Lastly, an experimental demonstration shown on slides proves there is an insurmountable limitation in the size of the artwork an artist can produce from the vantage point the Shroud exhibits. No artist at any time could produce a 14 feet long painting from that vantage point with the exact visual qualities of the Shroud image.

The conclusion of the research is that the Shroud cannot be and IT IS NOT A PAINTING.

Note : The above research on the Shroud is demonstrated in all its details by slides.

Dr Sebastiano RODANTE
Docteur en médecine, Sicile, *Italie*

A FLASH OF LIGHT ON THE SHROUD

For 50 years of studies, research and experiments I have been trying to make some contribution to solve the fascinating problem related to the formation of the Shroud image. By focusing my attention on aloe and myrrh which were both used for burying the Christ, I was able to prove that linens can show the following three kinds of imprints observed on the Shroud, when they have been soaked in a watery or oily solution of aloe and myrrh :

- a) water rings
- b) corpse marks
- c) blood marks

(in note N°1, the author indicates his report at the Turin Congress in 1979, Ed. Paoline, p. 127-136).

In the report called "Natural Formation of the Shroud marks : Sweat and Blood, Aloe and Myrrh" that I presented in September 1989 at the International Scientific Symposium in Paris, I showed that marks can be produced by using the same substances as those which were used for the Christ burial.

In a recent experiment done by sunlight, linens previously soaked in a watery or oily solution of aloe and myrrh showed the characteristics of reacting to sunlight, and producing negative bodily imprints which are rather suggestive and similar to those on the Shroud.

I had proved previously that neither X-rays nor Laser-rays which were sent through the holes of a screen placed above linens, could produce an image on these linens which have been soaked in a solution of aloe and myrrh (picture N°1).

However, linens would react to UV rays filtered through the holes of a screen and show an image after 5 seconds. This would only happen when the linens were wet (picture N°2).

After repeating this experiment with sun rays, the results were more significant, linens would only show an image if they had

been soaked in the solution. They would not show any if they had been dried up, even after being soaked in the solution (picture N°3). The image on the linens was superficial like the one of the Shroud (picture N°4).

These experiments were published ten years ago, or are still being published in specialized reviews (in note N°2 the author mentions the Sindon Review N° 31, p.19-22 in 1981 and the American publication called Shroud Spectrum International N°7 p.20-23 in 1983) They inspired the recent experiment done with sunlight which made it possible to reproduce the features of the Shroud face with an amazing similarity.

After different preliminary experiments I managed to perforate a photo of the clear zones of the face showing on the Shroud which appeared through a direct contact between the face and the Shroud. I use a negative picture presenting a positive image of the face. I put the perforated picture on a linen woven with a herring-bone pattern, wich had been soaked with a watery or oily solution of aloe and myrrh. The result was that sun rays passing through the perforated zones of the face produced an image on the linen with reversed light and dark parts, like the original imprint of the Shroud.

A negative picture of this linen showed a positive image of the Shroud face (picture N°5).

According to this experimentally proven fact, we may suppose that if a body wrapped (at a certain time) in the Shroud of Turin when it was still wet (and after 30 hours, which was the time elapsed between the death of the Man spoken of in the Gospel and the moment when the tomb was found empty, the linen would have still been wet) had been irradiated by a flash of instantaneous, blinding light such a sunlight, this would have been able to imprint on the linen images which are still visible on the Shroud of Turin.

Dr Leoncio A. GARZA-VALDES
San Antonio, Texas, USA
and
Dr Faustino CERVANTES IBAROLA
Mexique

BIOGENIC VARNISH AND THE SHROUD OF TURIN

Lichenothelia Varnish is a natural accretion on ancient stable surfaces, it is produced by a dark-brown to black fungi, isodiametric, with five micrometers in diameter. It takes hundreds of years of Lichenothelia activity to have a continuous coating on a stable surface. It may have a thickness from one to 500 micrometers. Its components are a mixture of calcium carbonate, kaolin-montmorillonite, Lichenothelia remnants (poly (N-acetylgluco-samine), melanin), manganese and or iron compounds, and silica.

Lichenothelia Varnish was reported as a variety of biogenic varnish to the Society for American Archaeology by Garza-Valdes in April 1993. This coating is reported in six ancient artifacts with stable surfaces (ancient blood, ancient bone, ancient cotton, clay, gold, rock). The artifacts were studied using : (1) AMS-radiocarbon dating, (2) energy dispersive spectrometry, (3) fungi culture media, (4) gas chromatography/mass spectrometry, (5) Fourier-Transform infrared spectroscopy, (6) optical microscopy, (7) scanning electron microscopy, (8) solid probe/mass spectrometry, (9) ultraviolet light, (10) wavelength dispersive spectroscopy, and (11) wet chemistry. The study of the Lichenothelia structures with the optical microscope was enhanced after staining the fungi with amido black. The data obtained in the above studies is compared with the reports on the Shroud of Turin by the STURP groupe (1978).

A segment from a second transfer scotch tape taken by the STURP in 1978 and supplied by A. Adler was examined (Garza-Valdes), it has a Lichenothelia microcolony, several L. thalli fragments, and greenish yellow fluorescence.

The Shroud of Turin needs to be specifically analyzed for the presence of Lichenothelia Varnish, this may explain the formation of the image (ACHEIROPOIETOS) and its anomalous radiocarbon age.

Pr Eberhart LINDNER
Professeur de chimie technique et environnementale,
Karlsruhe, Allemagne

A HYPOTHESIS WHICH CAN EXPLAIN ALL THE TRACES
IN THE SHROUD OF TURIN
ITS ORIGIN, VALIDITY AND THE POSSIBILITIES OF ITS
VERIFICATION

In the scientific discussion, there are two explanations given for the fact that the radiocarbon analyses of 1988 contradict all the other results obtained until today :

- Dr Tite has exchanged the samples of the Shroud with another of the 14th century,
- The unexpectedly high content of radiocarbon was caused by a neutron flux during the historical event of the resurrection.

The first supposition can be refuted once and for all by the comparison of photos taken of the samples cut from the Shroud and those analysed in the three laboratories, showing an exact conformity between them.

There are outlined the following four parts of the second supposition (which can also explain all the traces in the Shroud of Turin) :

- 1) Why and in what manner have I formed the hypothesis :
 - a) the first step was made in 1982 in scientifically explaining the most spectacular wonderhealing in modern history.
 - b) The second step was to apply the conclusions to the problems of the Shroud (in spring 1988). This led me to the hypothesis which is able to explain the origin of the body-image and the traces of coins on the eye-lids.
 - c) Six months later (October, 1988) the third step was to modify this hypothesis to explain the strange results of the radiocarbon analyses.
- 2) Today, there are 5 indications which confirm the hypothesis.
 - a) The image of the corps (consisting of conjugated double bonds and carbonyl groups) can only physically have been caused by electron radiation.

- b) The traces of coins on the eye-lids also are caused by the same electron-radiation.
 - c) The results of the radiocarbon analyses, in 1988, show clearly a nonhomogeneity of C14 which is expected and calculated corresponding to the position of those parts of the Shroud where the samples have been in the grave.
 - d) The origin of the exactly depicted hair is only possible scientifically, if one accept the hypothesis.
 - e) The fact that the fingers of the right hand seem to be a little too long, and the nail beds a little darker.
- 3) Possibilities for verifying the hypothesis.
- a) Radiocarbon analyses of the thread which was used to sew the strip on the left side of the Shroud.
 - b) Radiocarbon analyses of the unwashed sample of reference (kept back in 1988).
 - c) Taking new samples from the Shroud in positions where the radiocarbon content would be higher than is possible in the atmosphere. Some results of calculations for this are given.
- 4) The importances of new radiocarbon analyses and the consequences which might be derived from the expected results are emphasized. This might contribute to a renewal of belief in the resurrection of Jesus Christ.

R.P. Jean-Baptiste RINAUDO
Maître de conférences à la Faculté de médecine, Montpellier,
France

**A NEW MECHANISM FOR THE FORMATION OF THE
IMAGE ON THE SHROUD OF TURIN WHICH COULD HAVE
INDUCED AN INACCURATE MEDIEVAL RADIODATING**

In this study, we concerned ourselves with the main problem that the formation of the image on the Shroud of Turin poses to science.

Starting from microscopical observations and various biochemical studies which have been carried out up to this date, we built a model in order to bring all these data together and tested it through experiment.

The obtained results showed us that the image seems to have been built by protons radiating from the buried body due to an energy flow whose origin is unknown. We suppose that this radiation was focused by the rocks surrounding the corpse and underwent variations according to the different paths it followed, which would explain the three-dimensional aspect of the image.

Moreover we carried out experiments of artificial aging which showed us that the image could not be seen at the beginning stage but could only be revealed after a long period of time. As we know that the image was perfectly visible in Lirey, in 1357, this would mean that the linen was not new. Therefore the radiocarbon dating would have been wrong for some unknown reason.

The problem of finding out where the radiation of protons came from could help us to answer this question. In fact the nucleus which requires the least energy to release a proton is Deuterium (heavy Hydrogen). Its splitting produces one proton and one neutron. In this case, protons produce the image and the radiation of neutrons increases the amount of C14 in the linen, which correspondingly distorts the result of its radiodating.

In order to test this new hypothesis through experiment, we radiated a sample of linen with neutrons and measured the increased level of C14.

We will discuss the results obtained and check if they contribute to confirm our model. The origin of the energy which might have produced the phenomena still remains an unsolved problem. We must recognize that an answer to this question is for the moment beyond our scientific approach.

Pr. John P. JACKSON
Professeur à l'Université de Colorado, USA

ISSUES RELATED TO IMAGE FORMATION

Physical and chemical characteristics of the Shroud image as determined by the 1978 and previous examinations of The Shroud provide clues sufficient to formulate a hypothesis of image formation capable of explaining all currently known properties of the image.

The speaker will discuss his hypothesis explaining why alternative hypotheses fail and elaborating on the merits of his proposed hypothesis in light of available data from The Shroud.

Dr Ian DICKINSON
Canterbury, Grande-Bretagne

NEW EVIDENCE FOR THE SHROUD SINCE 1988.

Evidence exists to match the Shroud's true age and provenance. Cubit rods are extant, classified as Jewish and Assyrian usage of 21.4 inches, period Graeco-Roman : the Shroud measures 8 by 2 Jewish cubits with accuracy and precision. Illustrated, with examples of cubit rods from the Petrie Museum.

The reason why the Shroud has the side strip, and why two corners of the Shroud are missing. Illustrated.

The significance of the 13th century Reliquary of the Holy Sepulchre, in Pamplona, Spain. Illustrated.

The reason why the image of the Face appears separated from the Body; and the image of the Adam's apple. Illustrated.

How the Shroud was kept and folded before c. 1355. Illustrated.

The actual word 'Shroud' *hyasa*, is in the Syriac/Aramaic Gospel MSS from the II/III centuries. The identification of *sin don*, *othonia*, *soud-arion*, from the Syriac MSS. Illustrated.

Mme Daria BERTOLANI MARCHETTI
Directeur de l'Institut botanique de l'Université de Modène,
Italie

e

Mme Marta MARIOTTI LIPPI
Directeur du département de biologie végétale de l'Université
de Florence, Italie

POLLINI E RICERCHE SINDONICHE : NUOVE LINEE DI INDAGINE

Il rilevamento del corredo pollinico della S. Sindone ha aperto la via a ricerche di vario tipo in argomento, che non comportano nuovi prelievi sull'oggetto, per i quali occorrerebbero strumenti che, senza provocare il minimo danno, permettano di entrare in possesso di una maggiore quantità di microreperti. Ci proponiamo al presente di orientarci secondo due linee. Una di esse (per la quale qualcosa è già stato tentato : v. Bertolani Marchetti, 1990, V° Congr. Naz. Sindonologia-Cagliari) consiste nell'esame di diagrammi e spettri pollinici del passato, datati, per ricostruzioni ambientali dell'epoca, con particolare riguardo all'area mediterranea - orientale, dove il Sacro Lenzuolo ha maggiormente sostato.

L'altra è il riscontro accurato di piogge polliniche attuali, nell'ottica del comportamento quantitativo di granuli, che deve aver avuto peso nella loro partecipazione o meno alle piogge polliniche. Si procederà in base alla letteratura e a personali ricerche.

Questo contributo riguarda la specie perimediterranea Olea europaea L., fitosociologicamente appartenente all'Oleo-ceratonium, la cui significatività negli spettri pollinici passati e attuali dovrà essere accuratamente vagliata nell'ottica sindonopalinologica. La nostra attenzione è stata attirata dal fatto che il polline di olivo non è stato finora ritrovato su un reperto che è stato tessuto, trasportato e usato in un'area dove Olea europaea vive abbondante, Verranno date inoltre notizie dell'esame palinologico di altri reperti in tema.

Box 25326

**THE SCIENTIFIC DEMONSTRATION OF AUTHENTICITY :
THE SCIENTIFIC STATUS OF THE SHROUD;
RECOGNITION, IDENTIFICATION**

After the 1989 British Museum exhibition "Fake? The art of deception", the forgery cause engaged against the Shroud of Turin for 6 centuries (1389) is over. The up-to-date scientific question is from now on : "As the Shroud, scientifically speaking, cannot any more be qualified a deception, can it not be the Shroud of Jesus of Nazareth ?"

It is the fourth question of the global problematic about the Shroud of Turin presented during the "Symposium Scientifique International de Paris" on september, the 8th, 1989.

To answer this question, it is necessary to go through three steps :

- 1) To replace this question within the progressive methodological frame of the Shroud's scientific structure, submitted in 1989; to show in particular how the scientific method dictates a thought process inverse to the intuitive approach which is usually taken.
- 2) To show on the basis of official documents, how recognition of Shroud's authenticity clarified the three first questions about how the Shroud was generated. "Was it from an artist ?" "Was it from a forger?" "Was it from the cadaver of a crucified man ?" and to place the problem of the Shroud's scientific status in this fourth question; in other words, how authentification comes before identification.
- 3) To proceed to the identification of the man of the Shroud following the 14 points of judicial identification method, in order to build its modelisation table; to demonstrate that, in the present conditions of the Science, not only everything works as if the Shroud of Turin was Jesus' one (direct theorem), but also as it could not be the Shroud of anyone else (reciprocal theorem); to show how, even without taking into account C14 datation irregularities, the hypothesis of the medieval genuine crucified, necessarily leads either to

technical impossibility of the image transfer mechanism, or to the self-contradictory identification with a double of Jesus, unknown, of whom only the simulacrum Shroud would have kept admiring attention for unavowable purposes.

Considering results already got, it arises, from such a method - if Science submits the evaluation of the Shroud to the same level of epistemological demands as those regularly used for identifying physical phenomena - that Science cannot conclude to anything else than scientific authenticity at the second degree. This means the Shroud of Turin is indeed the Shroud of Jesus of Nazareth who has been historically crucified towards the year 30 of our era.