The Holy Shroud of Turin: What’s That?

A Tour of the Mystery that is the Holy Shroud of Turin
Introduction
Where is the Shroud presently?

Turin, Italy near French & Swiss borders

Google maps accessed 12/13/2016

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Introduction

What is it? Description of the Shroud

• 14’ 5.22” x 3’ 7.3”/4.4 x 1.1m/8 x 2 cubit flax linen burial cloth (post-2002 restoration 14’ 6.21” x 3’ 8.76”/4.425 x 1.137m)

• Still made in Syria this size and larger with the same process

• Image characteristics:
  ✓ On 1–2 microfibers (10–20 microns), ~ width of human hair
  ✓ Does not permeate the flax linen (not a liquid or burn)
  ✓ Yelllowed on only one side of the straw-shaped fiber cells
  ✓ Cells not damaged as would be expected by known radiation
  ✓ Pixilation like dot-matrix printing, more pixels=darker image
  ✓ Image would disappear if razor run over the flax linen surface
Introduction

Highlights from 1898 in the Study & Testing of the *Image Made Without Hands* on flaxen linen

Start of the modern, scientific studies of the Shroud…

- **1898** Amateur Photographer & Lawyer Secundo Pia (1855–1941) took first photo; after developing the negative, almost drops plate
- **1902** Yves Delage (1854–1920) of the Paris Academy of Sciences concludes the Shroud is the authentic burial Shroud of Jesus
- **1931** Giuseppe Enrie (1886–1961) photographs the Shroud using high-resolution orthochromatic film; confirms Pia photograph
- **1976 Feb 19** Dr. John Jackson & William “Bill” Mottern VP8 Image Analyzer tests reveal 3D properties of the Shroud image
- **1976** Later test of Dr. Jackson & Dr. Eric Jumper with Pete Schumacher (in Jumper’s basement) enabled further VP8 studies & creation of the cardboard model
- **1977** Conference in Albuquerque, New Mexico establishing protocols if testing the Shroud in Turin, Italy were permitted

Photographs highlighted in this slideshow include those taken by Secundo Pia (1898), Giuseppe Enrie (1931), Enrie colorization work of Aldo Guerreschi, 1995, Barrie Schwortz, 1978 & the Archdiocese of Turin post-‘restoration’ images, 2002
Introduction

Highlights from 1898 in the Study & Testing of the Image Made Without Hands on flaxen linen

- **1978 Oct 8–13** Shroud Testing in Turin, Italy: 26 US scientists with 6,000 lbs of equipment to answer how the image was made
- Most of 26 thought they would discover a logical explanation in five minutes (brush strokes, etc.) & enjoy an Italian vacation
- They made special equipment, did a variety of tests & created protocols for 48, 72 & 96 hours, preparing extremely thoroughly
- STURP ran all their protocols over five days and nights – 120 hours straight – yet could not explain the image formation
- STURPs main objective was to explain how the image got there
- Ironically, science can tell us more about what it is not
- No one, those who accept its authenticity and those who do not, understand the process that made the image
- The images taken by Documenting Photographer Barrie Schwortz of STURP in 1978 make up many of the online Shroud images

*STURP – Shroud of Turin Research Project*
Introduction

1978 Shroud Testing: Co-Founders of the Shroud of Turin Research Project (STURP)

Total STURP members by State where worked (33):
- NM – 11
- CA – 10
- CT – 5
- CO – 4
- PA – 2
- TX – 1

STURP team members were chosen for their science, not their faith

Team members included many different people including Catholics, Baptists, Methodists, Jews, agnostics, etc.

Members who went to Turin as STURP by State (26, trip from 9/28–10/18):
- NM – 9
- CA – 9
- CO – 4
- CT – 3
- PA – 1

The table was made specifically by STURP with removable panels for a variety of tests, affixed with white Teflon magnets to hold it without damage.
## Introduction

1978 Shroud Testing: Shroud of Turin Research Project (STURP) by state (least to most)

**Texas (1)**  
**Harris County Medical Examiner**  
- Robert Bucklin (not in Turin)

**Pennsylvania (2)**  
**IBM (PA)**  
- Kenneth E. Stevenson  
**St. Agnes Medical Center**  
- Joseph Gambescia (in Turin, probably with Holy Shroud Guild)

**Colorado (4)**  
**Rocky Mountain Thermograph**  
- Thomas Haverty  
**University of Colorado**  
- Rudolph J. Dichtl  
**US Air Force Academy**  
- Eric J. Jumper (co-founder)  
- John P. Jackson (co-founder)

**Connecticut (5)**  
**Nuclear Technology Corporation**  
- Thomas F. D'Muhala  
**Oriel Corporation**  
- Roger & Marty Gilbert  
**Western Connecticut State University**  
- Al Adler (not in Turin)  
**New England Institute**  
- John Heller (not in Turin)

**California (10)**  
**Barrie Schwortz Studios**  
- Barrie M. Schwortz  
**Brooks Institute of Photography**  
- Ernest H. Brooks II  
- Mark Evans  
- Vernon D. Miller  
**Jet Propulsion Laboratory**  
- Donald J. Lynn  
- Jean Lorre  
**Lockheed Corporation**  
- Joseph S. Accetta  
**Oceanographic Services Inc.**  
- Donald Devan  
**Santa Barbara Research Center**  
- Samuel Pellicori  
**Los Angeles County Museum**  
- Jim Drusik (not in Turin)

**New Mexico (11)**  
**Sandia Laboratories**  
- Robert W. Mottern  
**Los Alamos National Scientific Laboratories**  
- Donald & Joan Janney  
- J. Ronald London  
- Ray Rogers  
- Robert Dinegar  
- Roger A. Morris  
- Diane Soran (not in Turin)  
- Larry Schwalbe (not in Turin)  
**US Air Force Weapons Laboratories**  
- John D. German  
- Steven Baumgart

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26 STURP researchers participated in the 1978 examination in Turin & other researchers worked with the data/samples after returning to the US.
Introduction

1978 Shroud Testing: Shroud of Turin Research Project (STURP)\textsuperscript{15} alphabetical by org

**Barrie Schwortz Studios (CA)**
- Barrie M. Schwortz

**Brooks Institute of Photography (CA)**
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- Mark Evans
- Vernon D. Miller

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In Turin, probably with Holy Shroud Guild:
- St. Agnes Medical Center (PA)
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- New England Institute (CT)
  - John Heller
- Harris County, Texas, Medical Examiner's Office (TX)
  - Robert Bucklin

26 STURP researchers participated in the 1978 examination in Turin & other researchers worked with the data/samples after returning to the US.
Introduction

1978 Shroud Testing: Barrie Schwortz Photographing the Shroud

Photograph of originals being taken by Documenting Photographer Barrie Schwortz of STURP in 1978

STURP – Shroud of Turin Research Project started in 1975 culminating in the 1978 study of the Shroud & ensuing research

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Introduction

SEAM Presentations: 10/2009 Larry Schauff – Shroud on Trial

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Shroud Exhibit and Museum, Inc. (SEAM)
Introduction

SEAM Presentations: 02/2011 Deacon Pete Schumacher – General Audience

Shroud Exhibit and Museum, Inc. (SEAM)

2011 presentation, 14½ foot X 3½ foot backlit Shroud; Dcn Pete Schumacher reveals 1st generation polaroid photo given to him by a dear friend; camera used to take this photograph was about 4 feet from the actual Shroud and the light bounced from the Shroud onto the film he is holding.
Shroud Exhibit and Museum, Inc. (SEAM)
Introduction

SEAM Presentations: 06/2011 Deacon Pete Schumacher – General Audience
Introduction

SEAM Presentations: 03/2012 Dr. John Jackson – 35th Year STURP Anniversary

Shroud Exhibit and Museum, Inc. (SEAM)
Introduction

SEAM Presentations: 05/2012 Barrie Schwortz – 35th Year STURP Anniversary

Shroud Exhibit and Museum, Inc. (SEAM)
Introduction

The Man of the Shroud: Positive, Negative & Crucifixion Painting Comparison

- The positive & negative below reveal the frontal image of a man crucified as was Jesus
- Compare an artist rendering of Jesus crucified & the Shroud
  ✓ Artist: nails in palms, two nails in feet & feet on platform – not what is seen on the Shroud – continue for an examination of the evidence
Crucifixion
Image of a Crucified Man

How do we know he was crucified? – continue for an examination
Crucifixion

How can one be sure this is an image of a crucified man? 1 of 7

**Evidence Point 1 – Hand/wrist wounds reveal:**

- Consistent with crucifixion (wound location proved to hold up a crucified body)
- Blood flow down both arms indicates:
  - A nail went through each wrist & arms were up in crucifixion at that time, arms between a 65-68° angle for the blood flows
  - Thumb either drawn into the palm due to the severing of the median nerve or would be out of sight because it was at rest
Crucifixion
Hand/Wrist Wounds

- Wounds in the hands with thumbs not visible
- Dr. Bucklin supports Dr. Barbet cause puncture the median nerve
- Dr. Soons supports Dr. Zugibe thumb at rest not be visible

Blood flow down the arms indicates the arms were raised
One wound visible, blood flow proves both hands wounded
Arms clearly not broken
Crucifixion

How can one be sure this is an image of a crucified man? #2 of 7

**Evidence Point 2 – Lance wound in the right side**

- Wound proved Jesus was upright & dead on cross; eyewitness records “blood and water flowed out” (Jn 19:31–37)
- The “water” is pericardial fluid\(^1\)
- **Bilirubin** mixed with blood fluoresced in the 1978 STURP investigation
- Back blood flow called “belt of blood”\(^13\)
Crucifixion

Lance Wound

- Blood from a lance in side proved death/very near death
- Blood flow from lance wound toward the feet
- Victim was upright when pierced

Picture (Left)  Computer reversal of left image on right
Crucifixion

Lance Wound

- Blood flow across the back from the lance wound
- Known as the “belt of blood”

These blood flows occurred after the man died (post-mortem) and the body was laid on the Shroud.
Evidence Point 3 – Crown of thorns

- No record of any crucifixion victim crowned with thorns
- *Except* for one man – Jesus as recorded by an eyewitness (Jn 19:2) as they mocked him (Jn 19:3) for being called King of the Jews (Jn 19:19-22; Mk 16:16-20)
Crucifixion

Head Wounds: Consistent with a Crown of Thorns

- Holograms provide unique perspective
  - On 2D photographs a bloodspot appears to be floating above the area of the head
  - The holograms clarified that this BLOODSPOT was actually ON TOP OF THE HEAD
  - There are more bloodspots all around the head area
  - This indicates the crown of thorns was more helmet-like than circular
Crucifixion

Head Wounds: Consistent with a Crown of Thorns

The only record of any crucifixion victim being wounded in the head

- Crown of thorns wounds on the back of his head from the lower to the upper parts indicated by the blood left behind
- Crown of thorns wounds blood shown in white
- Blood reflects wounds around the scalp including the top
- Blood stands out with computer reversals & enhancements

Computer reversed & enhanced negative without removing colors, processed to enhance
Crucifixion

Head Wounds: Consistent with a Crown of Thorns

*The only record of any crucifixion victim being wounded in the head*

Crown of thorns wounds on the back of his head from the lower to the upper parts indicated by the blood left behind.

- Crown of thorns wounds blood shown in white
- Blood reflects wounds around the scalp including the top
- Blood stands out with computer reversals & enhancements

Note: Image is in proper proportion

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Hair
Forehead
Beard

Computer reversed & enhanced image from previous slide
Crucifixion

Head Wounds: Consistent with a Crown of Thorns

- The water stain seems to distort and/or highlight the blood from the top of the head
- Blood throughout hair and upper head
- Blood on the tip of the nose
- Blood in the hair
- Blood on the cheek
- Blood in the mustache & beard

This image done with a filter to highlight the AB human blood in red
Crucifixion

Head Wounds: Consistent with a Crown of Thorns

• Puncture wounds caused by a crown or cap of thorns
• This was proven by the holographic 3D work of Dr. Petrus Soons
• This is the only extant example of wounding the head during a crucifixion
• Eyewitness account of Jesus’ crucifixion reports crown of thorns
Crucifixion

Head Wounds: Consistent with a Crown of Thorns

• Unique edited photo by Barrie Schwortz highlighting the blood on a negative photo of the Shroud face
• Puncture wounds caused by a crown or cap of thorns
• This was proven by the holographic 3D work of Dr. Petrus Soons
• This is the only extant example of wounding the head during a crucifixion
• Eyewitness account of Jesus’ crucifixion reports crown of thorns
Crucifixion

How can one be sure this is an image of a crucified man? #4 of 7

Evidence Point 4 – Foot wounds

• Correct location for crucifixion
• Feet nailed with one nail onto the vertical beam (stipes) by placing the feet flat against the wood as proved by Dr. Soons’ holographic work[16]
Crucifixion

Foot Wounds

- Holograms provide unique perspective
  ✓ Reveal both legs bent with left more than the right, partly covering the right
  ✓ This was caused by the fact the left foot positioned on top of the right foot in a X-way (diagonal) fashion
- In holograms, toes of both feet visible
  ✓ Toes of the left foot sticking out on the side of the right foot
  ✓ Conclusion: Romans put the sole of the right foot against the stipes (vertical beam), crossed the left foot on top of the right foot (diagonal) and fixed both feet with one large nail to the vertical beam of the cross
Crucifixion

Foot Wounds

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In this picture the left foot is clearly over the right

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Crucifixion

Foot Wounds

- Wounds on the front and back of the feet
- Dirt (travertine aragonite) found in Jerusalem located on Shroud dorsal side bottom of the feet (on knees & nose too)
- Part of left foot is over the right in the toe region which should be considered when viewing the feet to understand what you are seeing
Crucifixion

Foot Wounds

- Wounds on the front and back of the feet
- Dirt (travertine aragonite) found in Jerusalem located on Shroud dorsal side bottom of the feet (on knees & nose too)
- Part of left foot is over the right in the toe region which should be considered when viewing the feet to understand what you are seeing

- Feet highlighted in full images illustrate the enlarged photo to the left and right
- Line drawn from the lower legs (left enlarged) shows blood on right foot, with right partially covering left from this view
- Possible left foot partially covering right with one nail through both
Crucifixion

Foot Wounds

- Blood flow at feet
- Dirt from Jerusalem on foot area
- Difficult to see
- Blood on front unclear
Crucifixion

How can one be sure this is an image of a crucified man? #5 of 7

Evidence Point 5 – About 1207 -2208 Ricci scourge marks front & back
• See the marks by a Roman Flagrum from about chin to ankles & upper back to ankles
• Corroborates eyewitness account (Jn 19:35) of scourging (Jn 19:1)
• Flagrum barbell found in archeological sites fit the wounds precisely
• Serum Albumin Halos around scourge marks5
• 1874 dictionary entry: Roman Flagrum
Crucifixion
Scourge Marks made by a Roman Flagrum

Note: Image front and back reveals 120⁷ - 220⁷ Ricci lashes from a Roman Flagrum and that two people of different heights stood on either side of him during this scourging.

View of some highlighted scourge marks of the many on the front in positive and negative images
Crucifixion

Scourge Marks made by a Roman Flagrum

Note: Image front and back reveals 120⁻² - 220⁺² lashes from a Roman Flagrum and that two people of different heights stood on either side of him during this scourging.
Crucifixion

How can one be sure this is an image of a crucified man? #6 of 7

Point 6 – No Broken Bones (Jn 19:31–36)

• Considering the extreme torture, this is amazing
  1. No evidence of a broken nose, but the cartilage is separated from the bone
  2. No evidence of broken arms
  3. No evidence of broken legs which was common in Roman crucifixions
Crucifixion

No Broken Bones

1. Nose Unbroken: Cartilage separated from bone
Crucifixion

No Broken Bones

1. Nose Unbroken: Cartilage separated from bone

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Crucifixion

No Broken Bones
2. Arms/hands unbroken in negative image

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Crucifixion

No Broken Bones

3. Legs unbroken in negative ventral (top) & dorsal (bottom) images

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Collection, STERA, Inc.
Crucifixion

How can one be sure this is an image of a crucified man? #7 of 7

Point 7 – Blood on Shroud (head, hair, lance wound in side, arms, hands/wrist, feet, etc.)

• Type AB human blood on by contact first – no image under the blood
• Red – blood usually turns brown/black; when a body undergoes torture over an extended period, goes into anaphylactic shock: blood cells oxidize inside the body & remains red forever
• The blood highlighted indicates only the main part of the blood visible on the Shroud (e.g. there is blood on some of the flagrum wounds)
Crucifixion

Blood on the Shroud

• Blood on the Shroud is exudate (exuded from a corpse) 23-25 & 42
• Blood did not flow from a living body, but exuded from a corpse
  ✓ When blood flows from a living body, the blood retracts
  ✓ There is no evidence like torn fibers proving the blood did not retract
  ✓ Exudate blood on Shroud proves this man was dead before being put in the Shroud and his body was partially cleaned
Crucifixion

Blood on the Hair

- Holograms provide unique perspective
  ✓ Some researchers claim the blood in the hair on the sides of the face originates from the cheek areas
  ✓ Before the conversion process from 2D to 3D the bloodspots were taken away (no grayscale of the image)
  ✓ When converted, the layer (matrix) containing the exact position of the bloodspots went on top of the 3D image
  ✓ The bloodspots on the sides fitted nicely in the hair, even following on the anatomical right side the natural curving of the hair that is visible in the image
Crucifixion

Notes on Roman Crucifixion Practices & Medical Cause of Death

- Man probably not Roman because they generally did not crucify their own and no Roman would have been scourged this extensively & wounded in the head
- When Romans ready for victim to die they would break the legs
- Wound in side & exudate blood proves death & the legs are unbroken
- Only historical record of a crucifixion victim with wounds on the head
- Wounds in hands consistent with Roman crucifixion – proved by Barbet¹
- Zugibe cause of death: cardiac & respiratory arrest due to hypovolemic & traumatic shock from crucifixion²
Visual Examination

Shroud picture in SEAM is the actual size of the Shroud

Printed on two 4x8’ Kodak DuraTrans film spliced together (see page 3 for Shroud measurements)

Image can only be seen from about 2 – 9 feet away

Now, look very closely at the image below: What do you see? Continue for further visual examination
Visual Examination

Orientation of PHOTOGRAPHIC positive and negative images

*Photographic positive shows exactly as you would look at the actual image*

*Photographic negative reverses what you would see on the actual image*

Feet

Most distinctive L-Shaped burn

Side wound blood flow

Side wound

Wrist wound

Least distinctive L-Shaped burn reversed

*Middle notes highlight reversal between images*
Visual Examination
Orientation of PHOTOGRAPHIC positive and COMPUTERIZED negative images

Photographic positive shows exactly as you would look at the actual image

Note: All Computer reversed images in this slideshow do not appear black since the colors have not been removed; this makes it easier to determine if you are looking at a photographic negative or at a computer inversion of the colors

Computer reversing a positive to negative & changing to gray scale - no image reversal as previous

Computer inverted colors (negative) has the same orientation as the actual image
Visual Examination

Comparison of Black & White Photo & the Computer Inverted Colors

Computer inverted colors (just like negative) with the same orientation as the actual photo but NOT a Photo-negative

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Visual Examination

Comparison of Enhanced Negative Photo & the Computer Inverted Colors

Contrast Enhanced Negative Photo

Computer inverted colors of above negative photo – looks like black & white but the orientation shows it’s actually a modified negative
Visual Examination

Repeating water stains due to the way the Shroud was folded

- Aldo Guerreschi’s & Michele Salcito’s computer & photographic studies on the burn marks & water stains reveals Shroud folding.\(^1\)
- Aldo/Salcito confirm Ian Wilson’s doubled-in-four (tetradiplon) hypothesis.\(^3\)
- Reveals the large water stains were produced prior to the 1532 Chambéry fire
- The Shroud was folded in 52 layers (34x32cm) when large water stains caused by only one corner in the water; storage in a jar is one hypothesis to explain this
- It is believed the Shroud was stored in an earthenware jar similar to those used at Qumran to preserve the Scriptures & store food and other items.\(^13\)
Visual Examination

Repeating Water Stains

- There are at least two sets of Geometric water stains appearing in a pattern on the Shroud which could be caused by putting out the fire or by storage.
Visual Examination
L-Shaped Burn Marks, Date Unknown

• 1191: Hungarian prayer manuscript discovered by Gregory Pray, SJ (called the Pray Manuscript in his honor)

• Illustration of Shroud image with these L-shaped burn holes (poker holes) of unknown origin

• Based on the burn holes, Guerreschi & Salcito were able to reconstruct how the Shroud was folded (half in height & then nearly half in width)\textsuperscript{11}

• Also identified were small stains in the same area\textsuperscript{11}
Visual Examination
L-Shaped Burn Marks, Date Unknown

- In an illustrated Hungarian prayer manuscript dated from 1191 discovered by Gregory Pray, Jesuit Scholar
- Source of fire unknown, Historian Ian Wilson surmises btw 7th – 8th century³
Visual Examination

Burn Marks & Patches

- 1532: Long repeating burn marks from fire in Chambéry, France due to the way the Shroud was folded in 52 layers (34x32cm)
- 1534 & 1538: Initial patches & backing cloth (altar cloth called the Holland Cloth) sewn by Poor Clare Nuns
- Other patches added later
- Matching of Enrie 1931 photos with Schwortz transparencies permitted specific measurement of burn holes aiding in identifying folding mechanism.
Visual Examination
Largest Burn Marks (with Patches) from 1532 fire in Chambéry, France

- Examples of fire area from ventral image showing patches sewn on the Shroud in 1534 and 1538 by Poor Claire Nuns; backing cloth seen through unpatched holes

Note: The 1532 fire caused much damage because of the way the Shroud was folded – one corner caught fire causing the majority of the damage to the Shroud

Positive photo highlighting ventral fire damage from below beard to lower legs with arrows identifying patches (ignoring the L-Shaped burns which are highlighted separately in previous slide)
Visual Examination

1978 Examination of Shroud Under the Holland Cloth Near the Foot Wounds

Prof. Giovanni Riggi, Sam Pellicori, Franco Faia and Prof. Luigi Gonella look at the underside of the Shroud near the dorsal feet.
Visual Examination

Creases

- Creases in Enrie’s 1931 image and in the colorization under...
Visual Examination

Creases

- Creases had become a prominent feature (below 1978 Schwortz pictures)
- Most removed in 2002 restoration & now stored flat to avoid future creases

Computer enhanced colors of head

Computer enhanced Black & White

Computer enhanced colors to highlight creases which are easily seen throughout the Shroud
Visual Examination

Creases

- Creases had become a prominent feature (below 1978 Schwortz picture)
- Most removed in 2002 restoration & now stored flat to avoid future creases
Visual Examination

Creases

• Creases had become a prominent feature
• Most removed in 2002 restoration & now stored flat to avoid future creases
• Can you find any creases in the 2002 restoration image below?
• After enlarging several times, the webmaster found four faint creases
• Try enlarging your view of this slide to see them – PDFs are very scalable

2002 post-restoration photo positive

© 2002 Archdiocese of Turin
Visual Examination

Strip of Cloth

• Jackson’s theory: strip cutoff to bind the body in the Shroud & reattached later, noting several fold marks match between the Shroud and the reattached strip.

• Technique used to reattach strip known as false border took great expertise.

• Threading used to reattach is an S-shaped torsion structure, different from the Shroud’s Z-shaped torsion structure.
Facial Expression Evaluation

- The look on the face shows:
  - Peace
  - Serenity
  - Surrender
- This is not the look of a terrified man
- This man accepted his fate
- This man was at peace with himself and the world around him
- There is no discernible emotional facial disfiguration
- The character of this man might be extrapolated from his visage
- He does not have hidden pain, but is in harmony with life & God

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History

Earliest Years according to Eusebius

• In Book 1, 13, Eusebius states written evidence of his report is available & taken from the Record Office at Edessa, that that time a royal capital
• He extracted and translated from the Syriac word for word
  ✓ Copy of a letter sent by Abgar the Toparch to Jesus at Jerusalem
  ✓ Copy of a reply sent from Jesus to Abgar by the courier Ananias
  ✓ Quotes short part of the Doctrine/Teaching of Addai
  ✓ Read the historically attested letters for yourself
• Addai document identifies
  ✓ Judas, also known as Thomas sent the apostle Thaddeus (Addai)
  ✓ Thaddeus is identified with the 70 sent by Jesus to preach (Lk 10:1-24)
Timeline Reconstruction from work of Ian Wilson starting with Eusebius

Jerusalem to Edessa

Thaddeus/Addai (1 of 70 in Lk 10:1-24) sent by Judas aka Thomas takes a “…cloth bearing the image of Christ” known as the image not made by hands (αχειροποίητα - Acheiropoïeta) to Abgar V and he is cured of a serious disease. This cloth becomes known as The Cloth of Edessa since it is kept in that city.

Abgar V dies, his first son takes throne.

After Abgar’s first son dies, his second son takes throne and persecutes Christians. Shroud disappears, likely hidden.

Abgar VIII, pro Roman and Christian, assumes the throne.

Constantine the Great becomes first Christian Roman Emperor. Edessa Bishop Cona orders construction of cathedral.

Flood of Edessa. Roman Emperor Diocletian orders destruction of Christian properties and persons.

### History

**Timeline Reconstruction from work of Ian Wilson**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>375</td>
<td>Egeria, a nun, makes observation concerning a letter from Jesus to Abgar V.</td>
</tr>
<tr>
<td>383</td>
<td>Doctrine of Addai published based on an earlier version of Abgar’s story concerning Hannan who painted Christ’s portrait “in choice paints.” (Perhaps related to garbled memory of a likeness of Jesus brought to Edessa.)</td>
</tr>
<tr>
<td>413</td>
<td>Beginning of Pontificate of Gelasius, who decrees the correspondence of Jesus invalid. The West firmly rejects the letter &amp; the East firmly retains.</td>
</tr>
<tr>
<td>492</td>
<td>The remains of Thaddeus are moved to St. John the Baptist church in the middle of the city of Edessa, near the church of Theotokos (Mother of God).</td>
</tr>
<tr>
<td>494</td>
<td>Joseph of Arimathea reported as having “collected the blood of Jesus in a head band and a large sheet.” Might initiate story of “the Holy Grail.”</td>
</tr>
<tr>
<td>502–503</td>
<td>*City Gates of Edessa are repaired and sealed. Edessa floods again causing severe loss of life and property, including the churches. Repairs and reconstruction undertaken.</td>
</tr>
<tr>
<td>525</td>
<td>City Gates of Edessa are repaired and sealed. Edessa floods again causing severe loss of life and property, including the churches. Repairs and reconstruction undertaken.</td>
</tr>
</tbody>
</table>

*Possible Cloth of Edessa recovery between 502–525 during repairs in both time periods.*

**Persian attack on Edessa is repulsed as “Christ stands before our city.”**
Evagrius writes in his *Ecclesiastical History*, the Persian attack repulsed by “…the divinely wrought likeness (of Jesus) which ‘human hands have not made’.” One of the first references to the Cloth of Edessa as a historical object.

The *Acts of Thaddaeus* (Jude or Labbaeus) story of Edessa’s evangelization, dated no later than 600, describes Jesus wiping His face on *tetradiplon*, a cloth *doubled in four*, leaving an image of His face on the cloth.

Hymn mentions the “image not the work of [human hands]”.

Edessa falls rather peaceably to the Moslems. Nestorian, Monophysite and Orthodox Christian Churches are accorded toleration by the new rulers.

Byzantine Emperor Justinian II issues gold coins bearing the first likeness of Jesus. The likeness is very similar to the Shroud of Turin facial image.

Timeline Reconstruction from work of Ian Wilson

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Byzantine Emperor Justinian II issues gold coins bearing the first likeness of Jesus. The likeness is very similar to the Shroud of Turin facial image.
Countless icons and artistically created images of Jesus were destroyed during a period of iconoclasm. The Cloth of Edessa survived because it was not artistically created. Byzantine and Moslem both suffered losses of such properties during this time.

Byzantine Emperor Romanus sends an army to negotiate for the safe transfer of “the Edessa cloth imprinted with Jesus’ likeness” from the Moslems. He offers “…(Edessa) perpetual immunity from attack, …12,000 pieces of silver, and release (of) 200 Moslem prisoners.” (“Edessa’s Christians attempt to hand over mere copies, the bishop is eventually satisfied that he has the original and travels with it across Anatolia back to Constantinople.

Leo Lector of Constantinople mentions seeing “the holy image made without hands revered and adored by the faithful”

August 15, 944, the “Cloth of Edessa” arrives in Constantinople. August 16, it is paraded and then taken to Hagia Sophia where the Archdeacon Gregory delivers a sermon about the cloth.

Byzantine Emperor Constantine VII Porphyrogennetos issues silver coins with the likeness of Jesus on coins, very similar to the Shroud of Turin image.

Fourth Crusade captures Constantinople and the Shroud disappears.
History

Christ Pantocrator Icon about 550AD

- Cloth of Edessa found in a niche in 525AD after flood nearly destroyed the city
- Cloth paraded around city in 525
- Oldest known icon of Christ Pantocrator or Christ the King (~550AD)
- Encaustic (hot wax painting) on Panel
- Image has several points of congruence indicating modeling from the Shroud face image
- Different facial expressions can emphasize Christ’s dual nature as fully God and fully human (continued examination immediately follows...)

Image Source: Saint Catherine’s Monastery, Mount Sinai
History

Examination of Half-Face Expressions

Judge for yourself if each image has two different expressions as claimed for the Christ Pantocrator.
History

Examination of Half-Face Expressions

*Compare the image in positive and negative for the claimed two expressions*
History

Examination of three different Half-Face Expressions

*Compare each side of the three images for yourself*
French Scholar Paul Vignon identified common markings with many Byzantine Christ portraits he examined.

1) Two strands of hair
2) Transverse streak across forehead
3) Topless square between eyebrows
4) ‘V’ Shape at bridge of nose
5) Raised right eyebrow
6) Heavily accented, owlish eyes
7) Accentuated left & right cheek
8) Enlarged left nostril
9) Accentuated line between nose & upper lip
10) Heavy line under lower lip
11) Hairless area between lower lip & beard
12) Forked beard
13) Transverse line across throat
14) Left side lock of hair lower than right

See below & subsequent slides to compare Vignon’s identifications with your own observations.
History

Webmaster Evaluation of Enlargement: 10 points of congruence (in orange)

1) Two strands of hair
2) Transverse streak across forehead
3) Topless square between eyebrows
4) ‘V’ Shape at bridge of nose
5) Raised right eyebrow
6) Heavily accented, owlish eyes
7) Accentuated left & right cheek
8) Enlarged left nostril
9) Accentuated line btw nose & upper lip
10) Heavy line under lower lip
11) Hairless area btw lower lip & beard
12) Forked beard
13) Transverse line across throat
14) Left side lock of hair lower than right

Image Source: Saint Catherine’s Monastery, Mount Sinai
History

Byzantine Emperors Coins

692 AD Gold Coin Struck by Byzantine Emperor Justinian II, Byzantine Ruler 685–695 & 705–711

945 AD Coin Struck by Byzantine Emperor Constantine VII Porphyrogennetos, Byzantine Ruler 945–959
History

Webmaster Evaluation of Enlargement: 13 points of congruence (in orange)

1) Two strands of hair
2) Transverse streak across forehead
3) Topless square between eyebrows
4) ‘V’ Shape at bridge of nose
5) Raised right eyebrow
6) Heavily accented, owlish eyes
7) Accentuated left & right cheek
8) Enlarged left nostril
9) Accentuated line btw nose & upper lip
10) Heavy line under lower lip
11) Hairless area btw lower lip & beard
12) Forked beard
13) Transverse line across throat
14) Left side lock of hair lower than right
History

Webmaster Evaluation of Enlargement: 9 points of congruence (in orange)

1) Two strands of hair
2) Transverse streak across forehead
3) Topless square between eyebrows
4) ‘V’ Shape at bridge of nose
5) Raised right eyebrow
6) Heavily accented, owlish eyes
7) Accentuated left & right cheek
8) Enlarged left nostril
9) Accentuated line btw nose & upper lip
10) Heavy line under lower lip
11) Hairless area btw lower lip & beard
12) Forked beard
13) Transverse line across throat
14) Left side lock of hair lower than right
History

Pray Manuscript of 1191AD

- Hungarian Pray Manuscript Illustration (1191) of removing Christ from the cross discovered by Gregory Pray, SJ

Shows the following:
- Dead body of Christ being removed from the cross by the four witnesses
- Nicodemus
- Mary the Mother of Jesus (left)
- Joseph of Arimathea
- John the Apostle (right)
History

Pray Manuscript of 1191AD

- Hungarian Pray Manuscript Illustration (1191) of the entombment of Christ

Upper Illustration:
- Body shows pose like that on Shroud image
- Could halos reveal the Apostle John & Nicodemus (red) and Joseph of Arimathea (black)?

Lower Illustration:
- The L-shaped burn holes illustrated clearly
- One can easily see the distinctive herringbone weave of the Shroud cloth
- Could halos reveal the angel & Mary the Mother of Jesus (red) and Mary Magdalene & Mary Mother of James (black)?
• Shroud medallion
• Only known exemplar to have been found
• Found in 1855 in the Seine river, under the "Pont-au-Change" bridge
• Probably from a pilgrim who went to Lirey, France, to see the Shroud
• Definitely established from several historical records that the Shroud was in Lirey from 1353 to 1453
The earliest known engraving of the Shroud by G. Testa from 1578, commemorating the arrival of the Shroud in Turin with Bishops holding the cloth, from the Richard Orareo Boston Collection of Shroud Art.

For a summary timeline of Shroud history from 1349 see reference 22
Photography
Secundo Pia & Barrie Schwortz

Note how the camera has grown so much more complex and smaller over 80 years 1898 - 1978

© 1978 Barrie M. Schwortz Collection, STERA, Inc.

Barrie Schwortz with his camera in 1978 with Secundo Pia’s Camera used to take the first picture of the Shroud
In 1898, Secundo Pia (lawyer/amateur photographer) developed the negative glass plate of the first photo of the Shroud—image clarity only within past 100+ years.

It is said he nearly dropped the plate, being the first to see the Shroud this way.

The negative has positive image characteristics.

This does not happen with any picture, art work or statue of a person.

This result is a unique property of the brightness map on the Shroud, not a process of photography.
Secundo Pia’s Original Photographs: The First Photographs of the Shroud

Secundo Pia’s original photographs from 1898

<table>
<thead>
<tr>
<th>L</th>
<th>Front (Ventral) Image</th>
<th>Back (Dorsal) Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td><img src="image1.jpg" alt="Image" /></td>
<td><img src="image2.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>

Positive Image seen for the first time in a photograph

<table>
<thead>
<tr>
<th>R</th>
<th>Front (Ventral) Image</th>
<th>Back (Dorsal) Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td><img src="image3.jpg" alt="Image" /></td>
<td><img src="image4.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>

Negative Image with positive image characteristics seen for the first time

*Enlarged Public Domain Image of full Shroud positive & negative images - orientation opposite image in SEAM*
Photography
Secundo Pia’s Original Photographs: The First Photographs of the Shroud
Barrie Schwortz 1978 & Secundo Pia 1898 Photo-negatives

Barrie Schwortz 1978 Negative

Secundo Pia’s Original Negative 1898 Head Photo

Enlarged Public Domain Image of Head

Barrie Schwortz 1978 Negative

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© 1978 Barrie M. Schwortz Collection, STERA, Inc.
80 Years of Photography, Head Shots: Secundo Pia 1898 compared to Barrie Schwortz 1978
Photography

80 Years of Photography, Head Shots: Secundo Pia 1898 compared to Barrie Schwortz 1978

© 1978 Barrie M. Schwortz Collection, STERA, Inc.
Photography

80 Years of Photography: Secundo Pia 1898 compared to Barrie Schwortz 1978

Pia Photo Positive 200DPI

Schwartz Photo Positive 72DPI
Photography

80 Years of Photography: Secundo Pia 1898 compared to Barrie Schwortz 1978

Pia inverted/grey scale Colors 200DPI

Schwartz inverted/grey scale Colors 72DPI
Photography

80 Years of Photography: Secundo Pia 1898 compared to Barrie Schwortz 1978
Photography
Giuseppe Enrie 1931 Negative

• Enrie used high resolution orthochromatic film & raking light

✓ Orthochromatic film only records black or white; it changes mid-tone grays to only black or only white
✓ Orthochromatic film increases contrast so it changes data, discarding more subtle color differences
✓ This causes an infinite number of patterns and shapes
✓ Using Enrie photos to find patterns invalidates the conclusions
Photography
1995 Colorized & Flipped Giuseppe Enrie 1931 Negative

- Enrie used high resolution orthochromatic film & raking light
  - Orthochromatic film only records black or white; it changes mid-tone grays to only black or only white
  - Orthochromatic film increases contrast so it changes data, discarding more subtle color differences
  - This causes an infinite number of patterns and shapes
  - Using Enrie photos to find patterns invalidates the conclusions

© 1931 Giuseppe Enrie
All Rights Reserved
Notice many creases missing in 1978 STURP investigation due to the magnetic mounting of the Shroud on the table as compared with the 1931 Enrie above.
Notice many creases missing in 1978 STURP investigation due to the magnetic mounting of the Shroud on the table as compared with the 1931 Enrie above.
Photography

47 Years of Shroud Photography: Giuseppe Enrie 1931 & Schwortz 1978 Negatives Compared
Photography

47 Years of Photography: Giuseppe Enrie 1931 colorized compared to Barrie Schwortz 1978
Photography
2002 Durante Restoration Image

2002 Contrast Enhanced (false color)
Photography

2002 Durante Restoration Image

2002 Image Computer Reversed Colors/Grayscale

2002 Grayscale Enhanced Image Computer Reversed Colors/Grayscale (false color)
Photography

24 Years of Shroud Photography: Positive Schwortz 1978 compared to 2002 Durante Restoration

1978 STURP Positive 72DPI

2002 Durante Positive
Photography
2002 Durante Restoration Images

Original 2002 Image 300DPI

© 2002 Archdiocese of Turin

2002 Image Computer Enhanced 300DPI (false color)
Photography

2002 Durante Restoration Images

Original 2002 Image Computer Reversed Colors/Grayscale 300DPI

Original 2002 Computer Enhanced Image Computer Reversed Colors/Grayscale 300DPI (false color)
Photography

24 Years of Shroud Photography: Positive Schwartz 1978 compared to 2002 Durante Restoration

Shroud vacuumed and charring scraped away on the 2002 restoration image

© 1978 Barrie M. Schwartz
Collection, STERA, Inc.

1978 STURP Positive 72DPI

Image faded after

Patches removed

© 2002 Archdiocese of Turin

2002 Restoration Positive 300DPI
Shroud vacuumed and charring scraped away on the 2002 restoration image

1978 STURP Computer Reversed Positive 72DPI

Back ing cloth: one closer to Shroud color replaced with brighter one

Image faded after

Patches removed

2002 Restoration Computer Reversed Positive 300DPI
Photography

24 Years of Photography: 1978 Barrie Schwortz & 2002 Durante Restoration Comparison

© 1978 Barrie M. Schwortz
Collection, STERA, Inc.

© 2002 Archdiocese of Turin
All Rights Reserved
Photography

Transmitted Light

- Transmitted Light, in photography, means light that passed through a transparent or translucent material – back lighting
- This kind of photography proves the image is not made from pigments, paints, dyes or any other material added to the linen cloth
- As you can see in the image to the left, there is no image visible
- We clearly see
  - Blood from the head, hair, side, arms, hands & feet
  - Water stains & burn marks
  - Light source
Photography
Transmitted Light

Only Transmitted Light Ventral Photo Ever Taken Proves Image not Made by Materials Added to the Shroud Linen Fibers
Science

Sample Removal Comparison

Dr. Max Frei, Swiss criminologist, took sticky tape samples from the surface of the Shroud of Turin during the 1978 scientific examination in photos (above & left)

Note he used ordinary tape leaving residue on the Shroud and tearing threads from this ancient relic

The STURP team, in taking samples from the Shroud, used a custom made torque applicator(right) with special tape by 3M designed to not leave residue or tear the flax linen threads of the Shroud
Science

Shroud sample taken & the carbon dating

- The Shroud was **Carbon dated** in 1988 from a corner approved without characterization by Franco Testore, Turin Polytechnic Textile Technology Professor and Gabriel Vial, Ancient Textile Museum Curator in Lyon, France
- The results from the 3 labs dated the Shroud between 1260 and 1390
- The press automatically jumped to the conclusion that the Shroud was a fake, a scam, a forgery; Wait — WHAT?

1978: Picture of SEAM display

Inset highlights two important samples:

✓ 1973: Red highlight (white spot) is a sample removed for study by Dr. Gilbert Raes, called the Raes Sample
✓ 1988: Blue highlight is approximate sample area taken to carbon date the Shroud in 4 equal sections: 3 for labs in Arizona, England & Switzerland and 1 reserve sample
Approximate size of the carbon dating sample

Sample approximately 10mm high X 70mm long

Legend:
Approximate sample weight
1 – 40mg
2 – 50mg
3 – 50mg
4 – 14mg

Old crease on Shroud & Holland (backing) cloth

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Collection, STERA, Inc.

© 2002 Archdiocese of Turin
Science

Arizona lab remaining sample from the section used for the carbon dating
Science

Arizona lab remaining sample from the section used for the carbon dating
Arizona lab remaining sample from the section used for the carbon dating
Science

Arizona lab remaining sample from the section used for the carbon dating
• Sue Benford & husband Joe Marino noticed sample area color different from rest of Shroud
• Took high resolution photos to three textile industry experts, separately confirming in blind questioning area repaired with an Invisible French Reweave\(^{27}\) & \(^{28}\)
• Invisible French Reweave uses cotton, resins, dyes & gums to repair cloth
• **Ray Rogers**, 1978 STURP world-class pyrolysis Chemist ([resume](http://example.com)), confirmed theory finding cotton, resins, gums & dyes with flax in the Raes & Arizona lab reserve samples (Shroud is flax linen)
• Rogers proved the carbon dating sample is anomalous & inconsistent with rest of the Shroud
• Read Rogers’ 2005 article from the prestigious, peer-reviewed *Thermochimica Acta*, which also proposes alternate dating using the vanillin depletion, speculated depending on the storage temperature between 1395–3095 years old\(^{26}\)
Warp fibers from the radiocarbon sample, 400X in 1.515-index-of-refraction oil, showing the gum/dye/mordant coating.
Many early/modern Eastern corporals (Mass linen cloth) have a Shroud drawn body (antimension 6).

Romans stopped crucifixions in the 4th century; rare knowledge in 13-14th centuries.

Shroud face on Pantocrator icon (~550) & coins of Byzantine Emperors (690 & 945).

Hungarian Prayer Manuscript (1191) illustrates Shroud with L-shaped burns.

Shroud moved from Constantinople to France (1204).

Shroud damaged in fire in Chambéry, France (1532).

Dirt on Shroud only found in Jerusalem.
Science

*Carbon Dating and the Evidence*

- Carbon dating sample anomalous, not representative of the entire flax linen Shroud (i.e. Invisible French Reweave)
- Vanillin dating corrects the carbon dating in the range to be Christ’s
- Carbon dating is an inexact science according to William Meacham, an archeologist who is an expert in using carbon dating
  - ✔ There are many factors that could invalidate carbon dating
  - ✔ When carbon dating contradicts majority of known data about an item, the carbon dating is set aside as anomalous
- New Video highlighting the reasons why the carbon dating is not valid (2016)
  - ✔ *A Grave Injustice* (27 minutes)
To assert the Shroud of Turin is a medieval artifact while claiming scientific credentials, it must shown how it can bear an image with all the following 7 characteristics:

1. The body image is created by a molecular change of linen fibers/impurity layer; where there are bloodstains, there is no body image beneath the bloodstains.

2. The body image does not penetrate below the surface fibers and is not visible when illuminated by transmitted light, yet the bloodstains do/are.

3. The body image varies in intensity that correlates to expected cloth-body distances had the cloth covered a body.
4. The sides of the body are not represented even where blood has transferred to the cloth and between the head images.

5. The resolution of the image is sufficient to resolve body features of a few millimeters *(high resolution image)*.

6. There are no outlines or directionality to the body image within the plane of the cloth.

7. The body image has the visual characteristics of a photographic negative *(normal light and dark areas are reversed)*.
Samples & Pollen\textsuperscript{10}: proposed 45 of 58 pollens on the Shroud from Jerusalem and other locales

Summarized Max Frei\textsuperscript{38} Pollen Studies\textsuperscript{2}

Max Frei\textsuperscript{43} (criminalist & amateur palynologist) took sticky tape samples from the Shroud and conducted pollen studies from which he concluded the types of pollens by shape. Quoting Mariotti Lippi, professor of Archaeobotany and Palaeobotany in the Department of Plant Biology, University of Florence, “palinologists today cast doubt on the identifications made by Frei.”\textsuperscript{39} See also Hugh Farey.\textsuperscript{41}

Frei’s pollen studies are not a reliable measure of where the Shroud has been
<table>
<thead>
<tr>
<th></th>
<th>Acacia albida Del.</th>
<th>19.</th>
<th>Hyoscamus reticulatus L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Althaea officinalis L.</td>
<td>20.</td>
<td>Ixolirion montanum Herb.</td>
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<tr>
<td>3</td>
<td>Anabasis aphylla L.</td>
<td>21.</td>
<td>Hyoscamus aureus L.</td>
</tr>
<tr>
<td>4</td>
<td>Anemone coronaria L.</td>
<td>22.</td>
<td>Helianthemum vescarium B.</td>
</tr>
<tr>
<td>6</td>
<td>Bassia muricata Asch.</td>
<td>24.</td>
<td>Haloxylon persicum Bg.</td>
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<tr>
<td>7</td>
<td>Capparis spec.</td>
<td>25.</td>
<td>Gundelia Tourneforti L.</td>
</tr>
<tr>
<td>8</td>
<td>Cedrus libanotica Lk.</td>
<td>26.</td>
<td>Glacium grandiflorum B &amp; H</td>
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<tr>
<td>9</td>
<td>Cistus creticus L.</td>
<td>27.</td>
<td>Fagonia mollis Del.</td>
</tr>
<tr>
<td>10</td>
<td>Cupressus sempervirens L.</td>
<td>28.</td>
<td>Echinops glabertimus DC.</td>
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<tr>
<td>11</td>
<td>Echinops glabertimus DC.</td>
<td>29.</td>
<td>Juniperus oxicendrius L.</td>
</tr>
<tr>
<td>12</td>
<td>Fagonia mollis Del.</td>
<td>30.</td>
<td>Laurus nobilis L.</td>
</tr>
<tr>
<td>14</td>
<td>Gundelia Tourneforti L.</td>
<td>32.</td>
<td>Oligomerus subulata Boiss.</td>
</tr>
<tr>
<td>15</td>
<td>Haloxylon persicum Bg.</td>
<td>33.</td>
<td>Onsoma syriacum Lahili</td>
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<tr>
<td>16</td>
<td>Cedrus libanotica Lk.</td>
<td>34.</td>
<td>Paliurus spina Christi Mill.</td>
</tr>
<tr>
<td>17</td>
<td>Cistus creticus L.</td>
<td>35.</td>
<td>Peganum harmala L.</td>
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<td>18</td>
<td>Cupressus sempervirens L.</td>
<td>36.</td>
<td>Phillyrea angustifolia L.</td>
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<td>37.</td>
<td>Pinus halepensis L.</td>
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<td>38.</td>
<td>Pistacia lentiscus L.</td>
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<td>39.</td>
<td>Pistacia vera L.</td>
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<td>40.</td>
<td>Platanus orientalis L.</td>
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<td>41.</td>
<td>Poeterium spinosum</td>
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<td>42.</td>
<td>Prosopis farcta Macrbr.</td>
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<td>43.</td>
<td>Pteranthus dichotomus Forsk.</td>
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<td>44.</td>
<td>Reaumuria hittella J. &amp; Sp.</td>
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<td>45.</td>
<td>Ricinus communis L.</td>
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<td>46.</td>
<td>Ridolfia segutum Moris</td>
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<td>47.</td>
<td>Romeria hybrida DC.</td>
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<td>48.</td>
<td>Scabiosa prulifera L.</td>
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<td>49.</td>
<td>Scirpus criquerius L.</td>
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<td>50.</td>
<td>Silene conoida L.</td>
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<td>51.</td>
<td>Suaeda aegyptica Zch.</td>
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<td></td>
<td></td>
<td>52.</td>
<td>Tamarix nilotica Bunge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>53.</td>
<td>Zyglophyllum damosum Boiss.</td>
</tr>
</tbody>
</table>

Frei’s pollen studies are not a reliable measure of where the Shroud has been.
3D & Brightness Encoding

History of 3D Studies

• 1938: Paul Vignon, University of Paris, observed a image on the Shroud varied inversely with the \textit{cloth-to-body distance} (closer = darker); image density proportional to distance of body to cloth – could not scientifically prove

• 1950s: Leo Vala, London professional photographer performed first 3D experiments he called \textit{front projection Transflex Process} – projected 2 positive images on bed of clay creating a matrix for a sculpture of the face
3D & Brightness Encoding

History of 3D Studies

• 1973: Barbra M. Sullivan 3D qualities experiments publishing her results in the National Review in article: “Reading the Shroud of Turin: Climax Approaching”

• 1974: Paul Gastineau made a negative relief mold using his equipment, examined every single point with a concentrated light source, measurements of the quantity of light which transmitted to another part of the instrument containing a white-hot point which engraved the image into a soft material, thus visualizing this hidden information and obtaining a three dimensional face
3D & Brightness Encoding

VP8 Image Analyzer: Proving the 3D is encoded in the Shroud image and is not a property of the VP8

- In 1976, two scientists, John Jackson and Eric Jumper of the Air Force Academy requested Interpretation Systems Incorporated donate a then $25,000 VP8 Image Analyzer analog computer, manufactured in 1972
- Delivered by Pete Schumacher, VP8 production engineer
- There’s a brightness map encoded on the Shroud image
- This brightness map reveals a 3D image when processed with the VP8 – the brightness data encoded on the Shroud image is not a process of photography
- They used this analog computer to make a brightness map in cardboard one line at a time, foot to head
3D & Brightness Encoding

VP8 Image Analyzer: Proving the 3D is encoded in the Shroud image and is not a property of the VP8

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Archbishop Anastasio Ballestrero, Prof. Baima Bollone and Msgr. Jose Cottino (l to r) examine a 3-D sculpture of the Shroud face created from VP-8 Image Analyzer data by Jackson & Jumper
3D & Brightness Encoding

VP8 Image Analyzer: Proving the 3D is encoded in the Shroud image and is not a property of the VP8

- Using the brightness map discovered with the VP8, Drs. Jackson and Jumper modeled in cardboard the “Man of the Shroud”
- They did this by tracing each line from the VP8 to paper, then cardboard, cut them out and stacked them
- They made one model which is in the Air Force Academy Cadet Chapel on left from 1986

*Image (right) was constructed one line at a time (480 total) starting at the feet, next to the negative image*
3D & Brightness Encoding

VP8 Image Analyzer: Proving the 3D is encoded in the Shroud image and is not a property of the VP8

- Using the brightness map discovered with the VP8, Drs. Jackson and Jumper modeled in cardboard the “Man of the Shroud”
- They did this by tracing each line from the VP8 to paper, then cardboard, cut them out and stacked them
- They made one model which is in the Air Force Academy Cadet Chapel on left from two angles
3D & Brightness Encoding

VP8 Image Analyzer: Proving the 3D is encoded in the Shroud image and is not a property of the VP8
3D & Brightness Encoding

VP8 Image Analyzer: Proving the 3D is encoded in the Shroud image and is not a property of the VP8

VP8 image computer enlarged & rotated for ease of view reveals:

1. Chin higher than throat below it
2. Nose ramps up in relief from face
3. Eye sockets sunken from brows & cheeks
4. Mustache & beard raised up from lips & face
5. Hair distinct from face in elevation & distance
6. Cheek bones raised in contrast to rest of face with swelling
3D & Brightness Encoding

VP8 Image Analyzer: Proving the 3D is encoded in the Shroud image and is not a property of the VP8
3D & Brightness Encoding

VP8 Image Analyzer: Proving the 3D is encoded in the Shroud image and is not a property of the VP8
3D & Brightness Encoding

Photo Relief Technique (Edge Enhancement): Proving the 3D is encoded in the Shroud image

- Unique photographic technique perfected by Aldo Guerreschi & exhibited at the 1998 Shroud Congress in Turin, Italy
- Analog photographic technique
- Proves the brightness encoding discovered by Secundo Pia
- Validates the VP8 3D image
- Shows the 3D is not a process of Edge Enhancement
- Proves the 3D is encoded in the Shroud image
3D & Brightness Encoding
Photo Relief Technique (Edge Enhancement): Proving the 3D is encoded in the Shroud image
3D & Brightness Encoding

Photo Relief Technique (Edge Enhancement): Proving the 3D is encoded in the Shroud image

Ventral Image in orientation of Shroud display in SEAM
3D & Brightness Encoding

Photo Relief Technique (Edge Enhancement): Proving the 3D is encoded in the Shroud image

_Dorsal Image in orientation of Shroud display in SEAM_
3D & Brightness Encoding

Photo Relief Technique (Edge Enhancement): Proving the 3D is encoded in the Shroud image

Dorsal (left), Ventral (right) & Bust (below)
Images as kindly provided by Aldo Guerreschi
scaled slightly smaller to accommodate images in this presentation
3D & Brightness Encoding

VP8 & Photo Relief Technique comparison: Proving the 3D is encoded in the Shroud image
3D & Brightness Encoding

Groundbreaking Work: 3D Studies of the Shroud

- Dr. Petrus Soons & colleagues used digital computers (compared to analog VP8), performing three dimensional experiments
  - Applied the brightness elevation model to the photo-negative for a 3D image viewed with glasses (2005)
  - Created a **holographic** image of front and back (2008)
  - From holographic work created:
    - Full-size statue from holograph
    - **Lenticular 24-layer image** with 24 virtual cameras, 3D to the naked eye (from brightness encoding on Shroud, not artwork)
These show brightness encoding from the Shroud & is not an artwork. Where image brightness ends there are no edges – the sides you see are the end of the brightness from the Shroud image. In the right image, you can clearly see the distinction between the head and the watermark.

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Dr. Soons’ holographic work continues with some promising areas of research:

- Solid Object Under the Beard
- Three Hebrew Letters on the Solid Object
- Circle (Halo) Around the Head

Donated examples of two images above can be seen in SEAM.
You can buy 24-layer lenticular images in SEAM.

Dr. Petrus Soons presentation on the letters discovered on the solid object discovered on the Shroud while doing holographic and 3D work.

Presentation given in SEAM April 9, 2011.
Scriptural Evidence

Scriptural Story of the Passion, Death and Resurrection with Shroud Studies Information

- Jewish Sabbath at sundown, about 6 PM
- Christ died about 3 PM (Mk 15:33; Lk 23:44), providing about 3 hours before Sabbath for burial, head cloth (Sudarium of Oviedo) wrapped head incompletely on cross for about 1 hour
- Joseph of Arimathea asked Pilate for the body (Mt 27:58; Mk 15:43; Jn 19:38) & Pilate surprised he was dead already (Mk 15:44)
- His side was pierced from which flowed blood and water (pericardial fluid), proving death and legs not broken (Jn 19:31–36)
- Body taken down (Jn 19:38; Mt 27:58-60; Mk 15:43-45; Lk 23:52-53)
- Blood is exudate; Rigor mortis broken to reposition arms & hands
- Sudarium removed, anointed & wrapped around head for about 1 hour
- Body moved to tomb close by, washed, anointed, enshrouded, bound & buried (Mt 27:59–61; Mk 15:45-47; Lk 23:53; Jn 19:38–42)
Scriptural Evidence

Scriptural Story of the Passion, Death and Resurrection *with Shroud Studies Information*

- Pilate has tomb sealed & guards stationed (Mt 27:59–66; Mk 15:46)
- Next morning women went with spices to tomb but found stone rolled away (in Mt, angel moved the stone away) and empty tomb (Mt 28:1-8; Mk 16:1–7; Lk 24:1–11; Jn 20:1–2)
- John, eyewitness to Jesus’ trial, crucifixion & burial, lead Peter (betrayed Jesus & wept bitterly Mt 26:75) to the tomb, *saw and believed* (John 20:3-8); italicized is a peculiar statement
- If John saw the burial cloths simply untied why would he *believe*?
- **Question**: What did John see? Logically: Either a wrapped Shroud without the body in it (body could not physically exit without being untied) or an unwrapped Shroud with the image on it
- Since the body was not there, they could not not finish the anointing
- We believe the Shroud is an image of Jesus’ burial and resurrection
Scriptural Evidence

*From Jewish Law*

- Anything with blood on it would have been buried with Christ including the Sudarium and dirt mixed with life blood (bled as he expired)
  - ✓ To touch would make one ritually impure
- Images were forbidden in Jewish Law
  - ✓ While no one knows if the image was on the cloth at that time, it is possible
- For these reasons, an observant Jew would not handle a burial cloth with these attributes
3. Beard plucked Is 50:6
5. Jesus hit with hand or fist Mk 15:19; Lk 22:63; Jn 18:22, 19:3 (face)
6. Shoulder damage Jn 19:17
7. Bones out of joint Ps 22:14 (several potential places depending on definition)
8. Bruised Gen 3:15, Is 53:5, 10 (several potential places)
9. Bones unbroken & able to be counted Ps 22:17, 34:20 (whole image)
10. Appearance marred beyond human semblance Is 52:14 (whole image)
11. Stricken, smitten by God, and afflicted Is 53:4 (whole image)
12. Wounded Is 53:5 (head, face, hands, feet, back, front, shoulders, tip of nose, knees, legs)
1. **Pierced hands, feet & side**  
Ps 22:16 they have pierced my hands and feet/Zech 12:10 And I will pour out on the house of David and the inhabitants of Jerusalem a spirit of compassion and supplication, so that, when they look on him whom they have pierced, they shall mourn for him, as one mourns for an only child, and weep bitterly over him, as one weeps over a first-born/Mt 27:35 And when they had crucified him/Mk 15:24 And they crucified him/Lk 23:33 they crucified him/Jn 19:34 one of the soldiers pierced his side with a spear, and at once there came out blood and water. 20:27 Then he said to Thomas, "Put your finger here, and see my hands; and put out your hand, and place it in my side; do not be faithless, but believing."

2. **Back struck/Scourging, nearly shoulders to ankles**  
Is 50:6 I gave my back to the smiters/Zech 13:6: And if one asks him, ‘What are these wounds on your back?’ he will say, ‘The wounds I received in the house of my friends.’/Mt 27:26 having scourged Jesus/Mk 15:15 having scourged Jesus/Jn 19:1 Then Pilate took Jesus and scourged him

3. **Beard plucked**  
Is 50:6 (gave) my cheeks to those who pulled out the beard

4. **Crown of thorns**  
Mt 27:29 and plaiting a crown of thorns they put it on his head/Jn 19:2 And the soldiers plaited a crown of thorns, and put it on his head
5. **Face hit with hand/fist/reed (see also #8)**  
   Is 50:6 I hid not my face from shame and spitting/Mk 15:19 they struck his head with a reed/Lk 22:63 the men who were holding Jesus mocked him and beat him/Jn 18:22 one of the officers standing by struck Jesus with his hand & 19:3 and struck him with their hands

6. **Shoulder damage**  
   Jn 19:17 bearing his own cross

7. **Bones out of joint (several potential places depending on definition)**  
   Ps 22:14 I am poured out like water, and all my bones are out of joint

8. **Bruised (several potential places)**  
   Gen 3:15 I will put enmity between you and the woman, and between your seed and her seed; he shall bruise your head, and you shall bruise his heel/Is 53:5 he was bruised for our iniquities & 10 it was the will of the LORD to bruise him/Lk 22:63-64 Now the men who were holding Jesus mocked him and beat him; they also blindfolded him and asked him, “Prophesy! Who is it that struck you?”

9. **Bones unbroken & can be counted (whole image)**  
   Ps 22:17 I can count all my bones, 34:20 He keeps all his bones; not one of them is broken
10. Appearance marred beyond human semblance (whole image) Is 52:14 As many were astonished at him -- his appearance was so marred, beyond human semblance, and his form beyond that of the sons of men

11. Stricken (whole image) Is 53:4 we esteemed him stricken, smitten by God, and afflicted

12. Wounded (head, face, hands, feet, back, front, shoulders, tip of nose, knees, legs) Is 53:5 he was wounded for our transgressions

13. Blood is exudate, i.e., it exuded from a dead corpse and was not pumped by a living heart (see ventral & dorsal image on the Shroud) Eph 1:7 In him we have redemption through his blood, the forgiveness of our trespasses, according to the riches of his grace (see also Rom 5:9, Col 1:14, 1 Pt 2:24 & Is 53:4-5)
Scriptural Evidence

*Old Testament (RSV*) Prophecies of Physical Description

Genesis 3:15 I will put enmity between you and the woman, and between your seed and her seed; he shall bruise your head, and you shall bruise his heel.

Psalms 22:14b all my bones are out of joint 15b my tongue cleaves to my jaws; thou dost lay me in the dust of death. 16b they have pierced my hands and feet – 17a I can count all my bones 18 they divide my garments among them, and for my raiment they cast lots.

Psalms 34:20 He keeps all his bones; not one of them is broken.

Hands could be down too far indicating potential dislocation of shoulders
Isaiah 50:6 I gave my back to the smiters, and my cheeks to those who pulled out the beard.

Isaiah 52:14 his appearance was so marred, beyond human semblance, and his form beyond that of the sons of men.

Zech 13:6 And if one asks him, ‘What are these wounds on your back?’ he will say, ‘The wounds I received in the house of my friends.’
Scriptural Evidence

Old Testament (RSV) Prophecies of Physical Description

Isaiah 53:4b yet we esteemed him stricken, smitten by God, and afflicted. 5 But he was wounded for our transgressions, he was bruised for our iniquities; upon him was the chastisement that made us whole, and with his stripes we are healed.

Isaiah 53:10a Yet it was the will of the LORD to bruise him
Zechariah 12:10b when they look on him whom they have pierced, they shall mourn for him, as one mourns for an only child, and weep bitterly over him, as one weeps over a first-born.
Daniel 9:26a And after the sixty-two weeks, an anointed one shall be cut off, and shall have nothing;

His clothes were taken, scourged naked nearly to death with anywhere from 120-220 lash marks. He was crowned with thorns, the blood of which can be seen covering the entirety of his head. His hands and feet were affixed to the wood of the cross with nails that pierced them both. There he hung upon the cross naked for all to see with a sign above stating “Jesus, King of the Jews.” The Romans wanted all to know they had power over this king. So at this end he had nothing, completely cutoff – until his resurrection.
God & Light

- In the NT (RSV), light is used in 77 verses 90 times, not including all variations & others (lighted, lighten, lightened, lightens, enlighten, lamp, lampstand, etc.), for example:
  - John 1:5: The light shines in the darkness, and the darkness has not overcome it.
  - Rev 23-24a: And the city has no need of sun or moon to shine upon it, for the glory of God is its light, and its lamp is the Lamb. By its light shall the nations walk.
  - Jesus’ transfiguration on Mount Tabor is described in Luke 9:28-36: the appearance of his countenance was altered, and his raiment became dazzling white.

Dazzling white could indicate radiance: could this indicate some form of energy which would not damage the flax linen fibers?
Mary Magdalene thought she saw the gardener & when she realizes who he is, he says in John 20:11-18 Do not hold me, for I have not yet ascended to the Father

✓ What happened to his body that she could not touch him?
✓ How was his body changed to cause Jesus to say this?

*Author note on additional information: also 44

1. Dr. Ray Rogers – “The crystal structure of the flax fiber of the Shroud shows the effect of aging, but it has never been heated enough to change the structure. It has never suffered chemically significant radiation with either protons or neutrons. No type of radiation that could produce either color in the linen fibers or change in the C\(^{14}\) content (radiocarbon age) could go unnoticed. All radiation has some kind of an effect on organic materials. This proves that the image color could not have been produced by thermal or radiation-induced dehydration of the cellulose. Image formation proceeds at normal temperatures in the absence of energetic radiation of any kind."\(^{21}\)

2. This opinion must be balanced by the following
   a. Expert holographer Dr. Petrus Soons’ observations on his website
   b. Dave Hines’ video claims (first part)
The man in the Shroud image has a look of serenity in his face.

John 19:26-30 When Jesus saw his mother, and the disciple whom he loved standing near, he said to his mother, "Woman, behold, your son!" Then he said to the disciple, "Behold, your mother!" And from that hour the disciple took her to his own home. After this Jesus, knowing that all was now finished, said (to fulfill the scripture), "I thirst." A bowl full of vinegar stood there; so they put a sponge full of the vinegar on hyssop and held it to his mouth. When Jesus had received the vinegar, he said, "It is finished"; and he bowed his head and gave up his spirit.

This recorded conversation at the end of his crucifixion matches the serene look on the face of the man of the Shroud.

- He ensures his mother is taken care of.
- He fulfills prophecy in Scripture.
Scriptural Evidence

Examination of Jesus’ words under torture and the face on the Shroud image

- Matthew 27:46 And about the ninth hour Jesus cried with a loud voice, "Eli, Eli, lama sabachthani?" that is, "My God, my God, why hast thou forsaken me?"

✓ He has been nearly beaten to death in the scourging and hanging on the cross from some time, and then he prays

- Luke 23:27-31 And there followed him a great multitude of the people, and of women who bewailed and lamented him. But Jesus turning to them said, "Daughters of Jerusalem, do not weep for me, but weep for yourselves and for your children. For behold, the days are coming when they will say, `Blessed are the barren, and the wombs that never bore, and the breasts that never gave suck!' Then they will begin to say to the mountains, `Fall on us'; and to the hills, `Cover us.' For if they do this when the wood is green, what will happen when it is dry?"

✓ He has already been beaten nearly to death in the scourging yet he speaks with serenity

✓ This matches the serenity on the face on the Shroud

✓ One who loves has peace in the midst of suffering
Scriptural Evidence

Examination of Jesus’ words under torture and the face on the Shroud image

- Luke 23:39-43 One of the criminals who were hanged railed at him, saying, "Are you not the Christ? Save yourself and us!" But the other rebuked him, saying, "Do you not fear God, since you are under the same sentence of condemnation? And we indeed justly; for we are receiving the due reward of our deeds; but this man has done nothing wrong." And he said, "Jesus, remember me when you come into your kingdom." And he said to him, "Truly, I say to you, today you will be with me in Paradise."

✓ He has already been beaten nearly to death in the scourging and is now on the cross, yet he speaks with serenity
✓ This matches the serenity on the face on the Shroud
✓ The peaceful countenance also matches his obvious, self-donating love which considers others as more important than oneself
Scriptural Evidence

Papal statements about the Shroud in the last 100 years

- Pope Pius XI (1922-1939): “…certainly not the work of any human hand.”
- Pope Pius XII (1939-1958): “The linen in which Joseph of Arimathea enveloped the sacred remains of our Lord Jesus Christ.”
- Pope John XXIII (1958-63): “This can only be the Lord’s own doing.”
- Pope Paul VI (1963-78): “The image from the Holy Shroud reveals to us the human and divine personality of Christ.”
- Pope John Paul II (1978-2005): “The Holy Shroud is the most splendid relic of the Passion and Resurrection.”
- Pope Francis I (2013-Present): “By means of the Holy Shroud, the unique and supreme Word of God comes to us.”
Summary

Evidence: Summary of what the Shroud is NOT...#1

• What the Shroud image is **NOT**:  
  ✓ **NOT** Bodily secretions  
  ✓ **NOT** Burn mark or scorch (1966 Asche Scorch theory disproved)  
  ✓ **NOT** Painting, dye, etching or rubbing
    - Medullas of the fibrils show no coloration  
    - No binders (cementing substances) found between Shroud fibers  
    - Rogers’ Pyrolysis/Mass Spectrometry Analysis revealed no impurities (organic/inorganic impurities would have changed parts of the image during the Chambery fire)  
  ✓ Not made by thermal or radiation-induced dehydration
Summary

Evidence: Summary of what the Shroud is NOT…#2

• What the Shroud image is **NOT**: (continued)
  o No sulfide pigments (vermillion, mercury sulfide, HgS, orpiment, realgar, mosaic gold or cinnabar) found on Shroud
  ✓ **NOT** Medieval “photograph” (first *chemical photograph* in 1826)
  ✓ **NOT** Made by artist because:
    o Image has no pattern (all human work has patterns)
    o No image directionality (direction of light)
    o Fourier Analysis shows no brush stroke directionality
    o Image went on after blood (blood removed, no image)
Summary

Evidence: Summary of characteristics of the Shroud...#1

- Characteristics of the Shroud image:
  ✓ There is a cloth-to-body distance relationship
  ✓ Body in rigor mortis, image created w/in 48 hours of death
  ✓ Light/dark characteristics similar to a negative photograph
  ✓ Human blood on Shroud first (blood removed, no image)
  ✓ Image contains brightness map revealed with the VP8 Image Analyzer
  ✓ Serum Albumin Halos around scourge marks unknown in medieval times
  ✓ Scientific consensus: image made by something caused oxidation, dehydration & conjugation of the polysaccharide structure of the microfibrils of the linen itself
• Characteristics of the Shroud image: (continued)

✓ Jumper, Adler, Jackson, Pellicori, Heller & Druzik in "A Comprehensive Examination of the Various Stains and Images on the Shroud of Turin," Archeological Chemistry III

- Fibrils on image areas more yellow than non-image areas (like pixels in printing – more in darker areas)
- Color consistent with aging effect due to alteration of the microfibrils of the cellulose structure of linen caused by oxidation, dehydration & conjugation of the long-chain sugar molecules that comprise the microfibrils
- Human blood consists of exudates (the blood exuded from corpse)
• Characteristics of the Shroud image: (continued)

✓ In contrast to the conclusion of Jumper, Adler, Jackson, Pellicori, Heller & Druzik, lead STURP Chemist Ray Rogers surmises that since the “image color resides only on the fiber surfaces leads to the hypothesis that the color formed as a result of chemical reactions involving impurities on the surface. The spectra strongly suggest that the impurities were carbohydrates that dehydrated as a result of the image-formation process. The hypothesis on carbohydrate impurities is supported by observations of traces of some starch fractions on image fibers. No protein impurities were found in image areas.”\(^{19}\)
Summary

Evidence: Summary Overview and the Challenge of Faith

• Science is limited: it only can prove what it can measure
  ✓ Drs. Adler & Heller proved blood on Shroud is human\(^5\)
  ✓ Dr. Luigi Bollone proved the blood is AB (some dispute)
  ✓ Dr. Adler proved the blood is exudate\(^{23-25}\)
  ✓ Cannot prove or disprove the identity of the image
    without physical evidence – cannot prove or disprove it
    is the image of Jesus

• The preponderance of evidence is more than enough to
  accept in a court of law & provides reasonable assurance
  this is the burial cloth of Christ

• Generally, believing is a matter of faith: what one believes
  from honest inquiry (different from but related to the gift of
  faith from supernaturally revealed data in Christianity)
Summary

Theories of Shroud image formation

✓ There is a principle which is a bar against all information, which is proof against all arguments and which cannot fail to keep a man in everlasting ignorance – that principle is contempt prior to investigation. -Philosopher William Paley

✓ Theories about the process that made the image include:
  o Vapor (Vignon disproved by Jumper\textsuperscript{8})
  o Radiation or scorch (Disproved by Rogers\textsuperscript{21} - statement below)
  o Natural Chemical Reaction (Rogers\textsuperscript{19})

*Ray Rogers – The crystal structure of the flax fiber of the Shroud shows the effect of aging, but it has never been heated enough to change the structure. It has never suffered chemically significant radiation with either protons or neutrons. No type of radiation that could produce either color in the linen fibers or change in the C\textsuperscript{14} content (radiocarbon age) could go unnoticed. All radiation has some kind of an effect on organic materials. This proves that the image color could not have been produced by thermal or radiation-induced dehydration of the cellulose. Image formation proceeds at normal temperatures in the absence of energetic radiation of any kind.\textsuperscript{21}
Summary

Evidence: Summary Overview and the Challenge of Faith

• Scriptural Evidence
  ✓ The Biblical account of Jesus passion & death can be seen in the details on the Shroud image
  ✓ Biblical prophecies concerning the Messiah can be seen on the Shroud image and none of them are contradicted by the evidence
  ✓ The appearance of the image shows a man at peace

• Jewish Law: Items with life-blood prohibited yet his Jewish followers kept the Shroud

• Papal Statements: In the past 100 years Popes made statements about the authenticity of the Shroud
Summary

Webmaster statement on the import of the Shroud studies

• The medical studies on the Shroud prove beyond a doubt that this is an image of an adult male body subjected to the torture and death of scourging and crucifixion
• Historically, this kind of punishment was done by Romans
• This evidence demonstrates the body on the Shroud is dead, disproving any theory that Jesus was resuscitated
• All the Scriptural evidence proves that the man in the image suffered perfectly in accordance with everything written in sacred Scripture about Jesus
• If one follows the evidence, it points to this being Jesus
• In a court of law, the evidence is so overwhelming that it would be accepted as proof that the image is Jesus
• There is simply no other tenable explanation after over 115 years of study
Follow the evidence: whatever is not ruled out is possible

Have you followed the evidence?

What do you think and believe about the Shroud?

Is the evidence the basis of those thoughts and beliefs?

Ask yourself: Do I believe that the Shroud *could* be the burial cloth of Christ? Is it *possible* Christ died and rose?

Follow the evidence & come to your own conclusion
Summary
SEAM Summary and Conclusion

- We believe the preponderance of evidence (Shroud Cloth, Chemical Analysis, History, Art & Iconography, Medical Forensics, Science, Eyewitness Accounts, etc.) indicates that this is a true image of Christ’s crucifixion & resurrection
- This is an image unlike any other…
All this proves and confirms that on the Shroud there are effectively real and complete bloodstains, conserved in their various components. -Dr. Baima Bollone

I have no doubt in my mind whatsoever. -Dr. Frederick Zugabie

There have been attempts to date the Shroud, but the style of sewing is the biggest clue. It belongs firmly to a style seen in the 1st century AD or before. -Dr. Methchild Flury Lemburg

The authenticity of the Shroud from the point of view of anatomy and physiology is a scientific fact. -Dr. Pierre Barbet

The remarkably fine detailing of the scourge marks revealed by UV florescence would be impossible to obtain by any other means than by direct contact between a body and the linen. -Dr. Sam Pellicorri

The perfect correspondence of the forehead bloodclots gives us the certainty that the Shroud covered the corpse of a man who, while alive, endured the lesion of these blood vessels. -Dr. Sebastiano Rodante
References

1. A Doctor at Calvary: The Passion of our Lord Jesus Christ as Described by a Surgeon by Pierre Barbet, M.D. (1953)
6. Personal correspondence with Sr. Christine Dudych, Eparchy of Toronto and Eastern Canada (Ukrainians) 9/15/2010
7. Personal conversation with Barrie Schwortz 2010
9. Revised Standard Version (RSV), Biblia Clerus, Rome, Italy, © 2004 Catholic Software
10. Dr. Petrus Soons presentation at the Shroud Exhibit and Museum April 9, 2011
References


12 Dr. John Jackson presentation in Colorado Springs 2010

13 The Templars and the Shroud of Christ by Barbra Frale (2011) – See Ian Wilson’s article about ref 17, The Shroud, the Knights Templar and Barbra Frale


15 The 1978 STURP Team by Barrie Schwortz (2009)

16 Findings in the Three Dimensional Materials by Dr. Petrus Soons (2010)


19 A Chemist’s Perspective on the Shroud of Turin by Ray Rogers, 99 (2008)

20 The Shroud of Turin Research Project 1978 Scientific Examination of the Shroud by Barrie Schwortz (2012)
References

175

21 Shroud of Turin FAQ, Raymond N. Rogers, 2004
22 3D Studies of the Shroud of Turin (History), Shroud3D.com (Dr. Petrus Soons), 2010
23 Shroud Encounter Fact Sheet, Dr. Alan Adler quote authored by Russ Breault, document date 06/21/2011
24 Blood on the Shroud of Turin: An Immunological Review, Dr. Alan Adler quote authored by Kelly P. Kearse, 2012
26 Thermochimica Acta, Dr. Raymond N. Rogers, 09/12/2004
27 Textile Evidence Supports Skewed Radiocarbon Date of Shroud of Turin, M. Sue Benford & Joseph G. Marino, 2002
28 Historical Support of a 16th Century Restoration in the Shroud C-14 Sample Area, M. Sue Benford & Joseph G. Marino, 2002
29 Shroud History: Highlights of the Undisputed History, Ian Wilson, 1996
References

30 A BAS Relief from a Photograph of the Holy Face, Paul Gastineau, document date 01/05/2014
31 VP8 Image Analyzer & Shroud of Turin, Andy Weiss author, Pete Schumacher, editor & expert 2010-2015
32 VP8 Article, Wikipedia, nd
33 VP8 Article, Shroud.com, 1997, updated 03/30/2014
34 VP8 Image Analyzer Brochure, Interpretation Systems, Inc., August 1977
35 CYC1 Image Analysis Camera Brochure, Interpretation Systems, Inc., August 1977
36 Pope Quotes from Comment in Shroud of Turin Blog, by participant Nabber, accessed 4/26/2015
37 The Rape of the Turin Shroud, by William Meacham, 2005
38 Max Frei-Sulzer Biography, Encyclopedia.com, accessed 06/30/2015
39 The question of pollen grains on the Shroud of Turin and the Sudarium of Oviedo, Emanuela Marinelli, document date 10/22/2012
40 Walter C. McCrone and the Max Frei Sticky Tapes of 1978: A Background Study, Paul C. Maloney, 07/14/2014
References

41 BSTS N79Part3, Research Articles (3) Problems with Pollen, Hugh Farey, 06/2014
42 SSI N3P3, Nine Years of Palinological Studies on the Shroud, Max Frei, document date 01/10/2013
43 An Autopsy on the Man of the Shroud, Robert Bucklin, M.D., J.D., 1997
44 Evidence that the Shroud Was not Completely Flat During Image Formation Slideshow & Paper, Dr. Mario Latendresse, nd, accessed 7/26/2015
45 The Shroud of Turin Slideshow, Stephen E. Jones. 01/2008, accessed 2/26/2017
46 The Doctrine of Addai, 1876 Translation, accessed 2/26/2017
47 The Nature of the Body Images on the Shroud of Turin, Dr. Alan Adler, 2002, accessed 2/26/2017
Shroud Exhibit And Museum (SEAM)

Shroud Museum in Alamogordo, NM (Feb 25, 2009 – Present)

- SEAM goal – for all to experience the “Man of the Shroud” including persons with vision impairments & those who speak various languages
- This is a permanent exhibit sustained by generous contributions
- 1st Space generously donated by White Sands Mall, 2nd by The Olde Post
- Insurance generously donated by Diocese of Las Cruces
Credits

• Originally 30 slides used in presentations in the Shroud Exhibit and Museum, Inc. (SEAM)
• Original Creator: home-schooled HS student Christa
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