

A New Look at the
Validity of the C-14
Dating of The
Shroud of Turin

University of Arizona
in Tucson, Swiss
Federal Institute of
Technology,
University of Oxford,
England

Problems with C-14 Dating

Sue Benford and Invisible Stitching

The Raes and RadioCarbon Sampling Area

Cotton amidst
Linen

Summary of Shroud FTIR Analysis

Ray Rogers,
Sue Benford,
Barrie Schwartz

My
involvement in
The Shroud of
Turin

Instrumental Capabilities

MKRDF---FTIR--

-TOF-SIMS---

XPS

Cotton/Linen

Vanillin

Pure Fe, Ion-
Exchange Ca, Sr

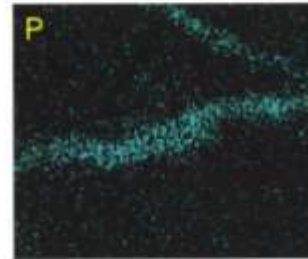
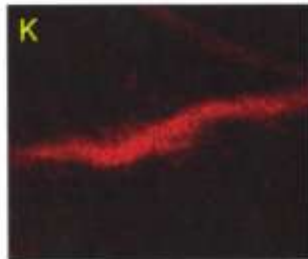
Dirt in Shroud,
Aragonite,
Calcite,
Damascus Gate,
other Tombs

Struthium, Soapwort,
Saponaria Officinalis,
Blood Retention of Red
Color

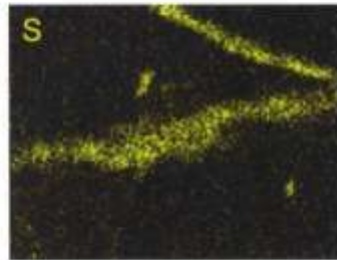
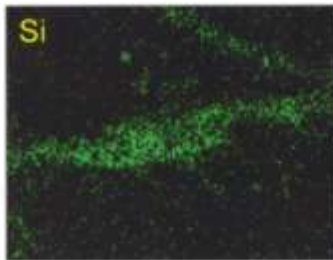
The Pray Manuscript
Preceded C-14 Dating
by 67 to 197 years

The Conclusion

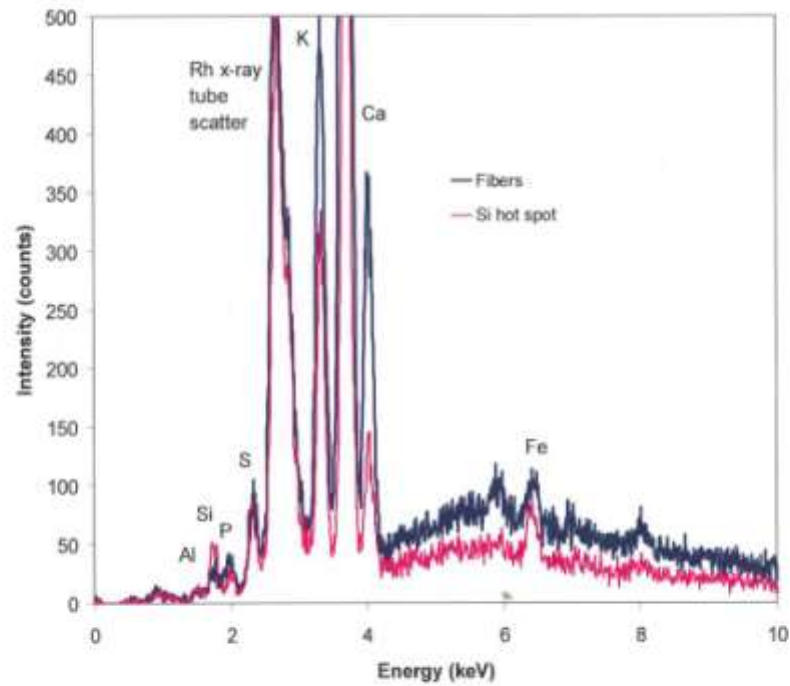
Elemental Images



Elemental Images



Shroud Fiber Spectra



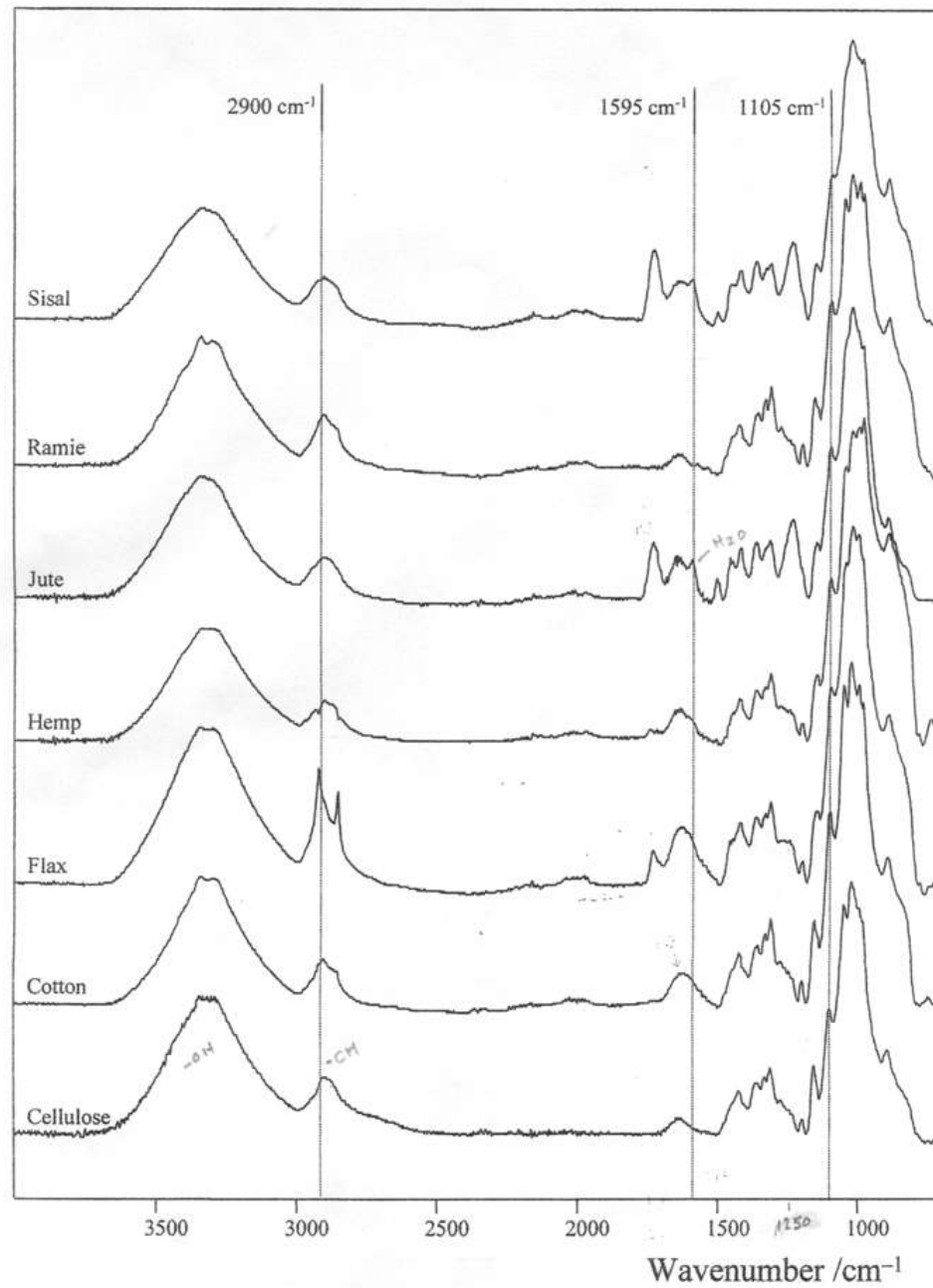
Calculated Composition No Standards Wt%

	Composite	Multifiber thread	Si hot spot	Fe hot spot
Si	2.1	0.81	4.69	2.43
P	0	0.59	0.84	0.53
S	1.6	1.15	2.09	3.09
K	14.2	11.38	16.62	1.88
Ca	77.8	83.88	70.01	62.72
Fe	4.4	2.19	5.67	29.36

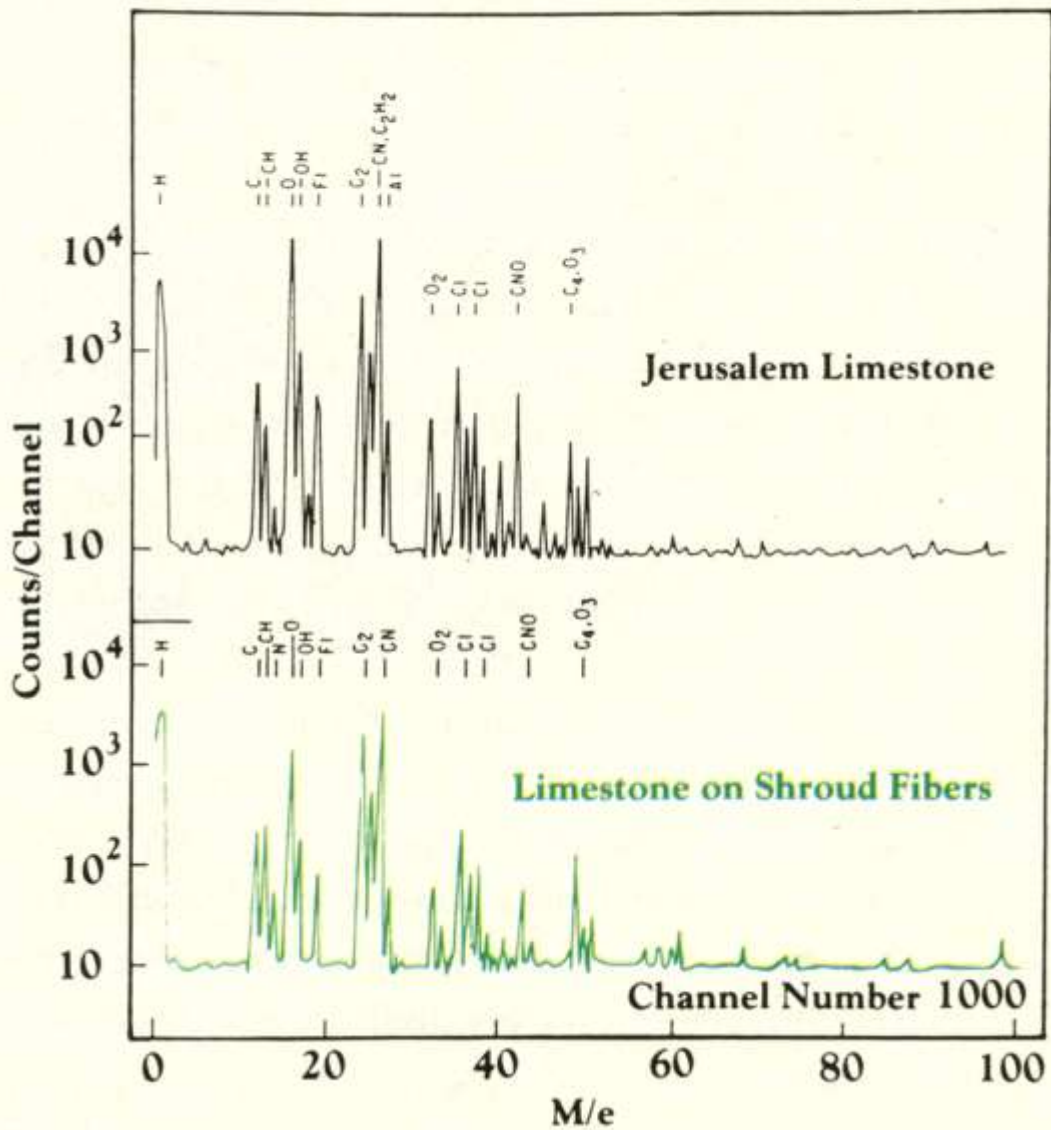
Results

- Fibers appear to be plant based due to elemental composition, possible cotton or similar fiber type
- Heterogeneous composition with apparent elemental hot spots

Figure 2.*Infrared ATR spectra of the plant fibres recorded over the range 4000 – 750 cm^{-1} .



Negative Secondary Ions



DR. R. LEVI-SETTI/ADAPTED BY E. NITOWSKI

Positive Secondary Ions

