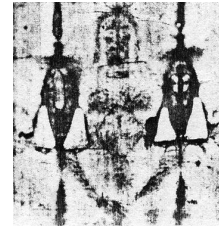


SHROUD NEWS

A NEWSLETTER ABOUT THE HOLY SHROUD OF TURIN
By REX MORGAN - Author of PERPETUAL MIRACLE



Issue No. 17

FEBRUARY 1983

IN MEMORIAM

MAX FREI



PROFESSOR MAX FREI OF ZURICH TAKES A POLLEN SAMPLE FROM THE HOLY SHROUD AT TURIN IN OCTOBER 1978 DURING AN EXTENSIVE SCIENTIFIC EXAMINATION OF THE CLOTH. HE IS WATCHED BY Dr RAY ROGERS A LEADING CHEMIST OF THE SHROUD OF TURIN RESEARCH PROJECT TEAM

PHOTO CREDIT: BARRIE SCHWORTZ, California

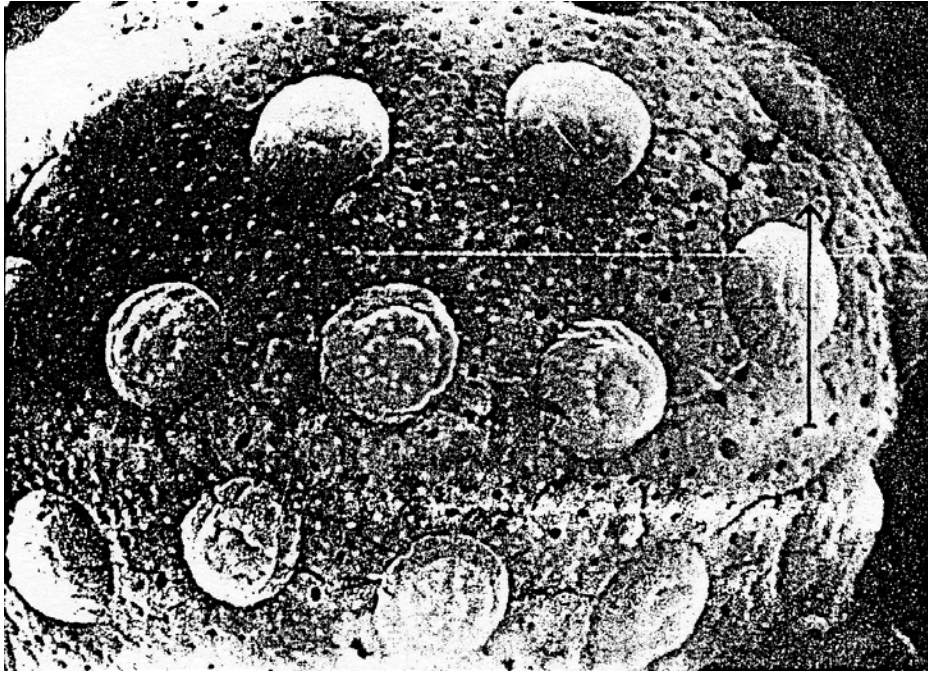
EDITORIAL

The sudden death in January, at the age of 70, of Professor MAX FREI was felt as a shock-wave around the Shroud circle of the world.

We have devoted this entire issue to Max Frei as a tribute to his work on the pollen deposits on the Holy Shroud of Turin.

May he rest in peace.

REX MORGAN



HIGHLY MAGNIFIED EXAMPLE OF POLLEN: *SILENE CONOIDEA* L. FOUND IN URFA AND JERUSALEM. IDENTIFIED BY MAX FREI FROM POLLENS ON THE SHROUD. THIS PICTURE AND THOSE ON PAGE 6 BY COURTESY OF THE INTERNATIONAL CENTRE FOR SHROUD STUDIES, TURIN.

MAX FREI - MASTER PALYNOLOGIST

by REX MORGAN

SHROUD NEWS readers will know that I have made several abortive attempts to meet Professor Max Frei in person to discuss his work on the pollen samples taken from the Holy Shroud in 1973 and on subsequent occasions. My last letter to him on 7th January 1983 in order to propose dates for a meeting resulted in the reply from his family that he had died suddenly on 14th January 1983. Thus I shall not meet him in this life.

The Holy Shroud has lost one of its greatest researchers and most diligent scientists and before all his work could be completed.

Having been retired for several years, Frei was still called upon by police investigators all over Europe for consultations following his brilliant career as the Head of the Zurich Police Scientific Laboratory. He devoted most of his time, however, to special projects involving the study of pollens, in which discipline he was an expert of world renown, and particularly in the last few years to the study of his pollen samples taken from the actual cloth of the Holy Shroud.

Pollen Identification

Each year, at each new conference of scientific experts on the Shroud, Frei would report that he had identified a few more pollens and usually these identifications served to add to the claims for the authenticity of the Shroud. He had become convinced of its genuineness through these studies and not through any religious motivation.

As Peter Brent and David Rolfe describe in their book about the making of the film THE SILENT WITNESS, Frei moved from his career in botany and biology into criminology in 1948 when he founded the Scientific Service of the Criminal Police of Zurich. He later also became a lecturer in criminology at the university. He was well-known for being able to produce several pages of information elicited from a single dust sample which might provide vital evidence in a criminal investigation.

He was an expert on the distribution of pollens and although he had retired from the police in 1972 he continued as a consultant.

Max Frei - Master Palynologist (contd)

First contact with Shroud

His first connection with the Shroud of Turin occurred in 1969. He had earlier (in 1955) published a paper on the falsification of photographs and had been called in by the Commission of Examination set up in 1969 by the Roman Catholic Church to report on the Shroud to act as an expert testator to the authenticity of photographs being taken at the time. This he did but as he looked closely at the actual cloth of the Shroud he realised that it would have on its surface a great deal (in microscopic terms) of dust particles containing pollens, something about which he knew a lot.

He sought and gained permission to take minute dust samples from the cloth and using the simple method of pressing adhesive tape to the surface he removed a series of samples for later microscopic examination.

Tiny pollen spores are present in every dust sample in the world and they reveal a great deal of information about the previous whereabouts of the item from which the sample is taken. Since pollen is virtually indestructible, lasting up to millions of years, there is a readymade proof of the location of any article for its entire period of existence. Whilst some pollens may be present as a result of contamination through carriage by wind from elsewhere or by similar methods of deposit the majority are caused by the presence of the article in the location of the pollen itself. Max Frei's expert knowledge and the techniques he had developed enabled him to build up a logistic history of the item.

By 1976 Frei had identified a number of pollens on the Shroud which had come from parts of Europe, several from Asia Minor and one or two from the Holy Land. He had also discovered many he could not properly identify, even from his own vast knowledge and collection of comparative pollens and needed to travel personally in the Eastern Mediterranean to match pollens he could collect in the region.

Work with Rolfe and Wilson

David Rolfe, in making THE SILENT WITNESS, ultimately made this possible and Frei was introduced to Ian Wilson, author of THE TURIN SHROUD and the man who had reconstructed the early history of the

Max Frei - Master Palynologist (contd)

Shroud from his research of early documentary and pictorial material. Wilson was as keen as Frei and Rolfe to see whether the pollens matched his proposed locations of the cloth as revealed by history.

In due course, with Rolfe, Wilson and the film team, Frei travelled through Istanbul where he gathered pollen samples from the ancient walls of that Byzantine city. Then on to Urfa (anciently Edessa) and to the Judaeen wilds of Israel.

When Frei had returned home and compared his new samples with those from the Shroud he was able to say with far more certainty than before:

"Apart from what we already know from historical sources about the displays at Turin, Vercelli and Chambéry, which have left their traces, it is possible in the actual state of our knowledge to confirm that the Shroud is contaminated with pollen from desert plants growing in Israel, from a forest plant and a species from the steppe of Turkey, and from a grass from the sand-dunes of the Mediterranean shores. The greatest number of pollen grains identified comes from the Mediterranean plants which grow in Palestine, at Istanbul and partly at Turin."

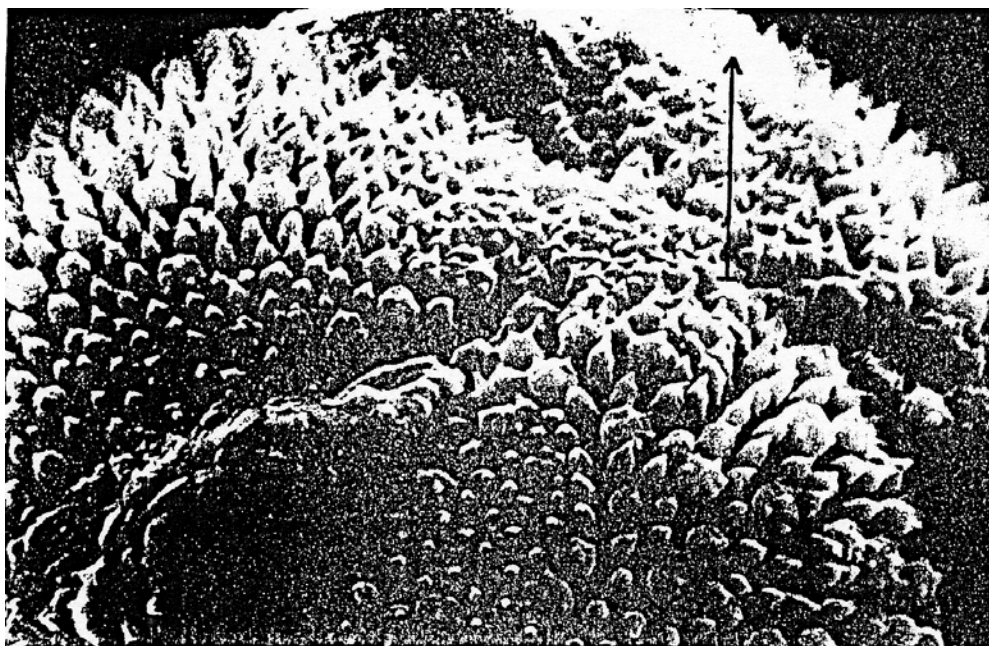
He had thus established that Wilson's historical hypothesis was accurate and although it could not be proved beyond doubt it meant that Wilson's work had to be very seriously considered.

Those who have seen THE SILENT WITNESS will recall the amiable yet convincingly expert sequences of Dr Max Frei as he finds plant samples in the desert of Turkey and later describes in a laboratory the pollen samples he has matched through the electron microscope.

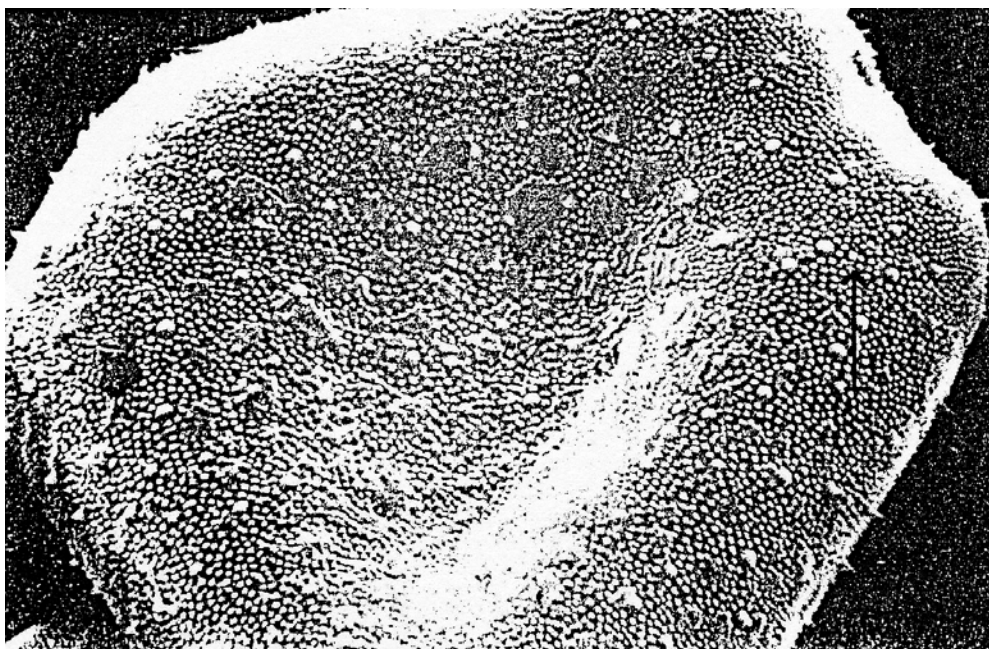
Identifications increase

By 1978 when, after the public exposition of the Shroud in Turin, a scientific congress of researchers from several countries took place, Frei was able to report that he had identified 48 pollens from the Shroud.

At this time, during the massive series of tests on the cloth itself undertaken by a team of more than thirty American and Italian



LINUM MUCRONATUM BERT. (Jerusalem and Urfa)



SCABIOSA PROLIFERA L. (Jerusalem and Urfa)

Max Frei - Master Palynologist (contd)

scientists, Frei was able to take further samples from specific areas of the cloth for more study.

By 1981 he had identified 57 pollens from the Shroud and reported his advances to Cardinal Ballestrero in Turin on 1st April that year. It was significant in this report that some of the pollens he had now identified pre-dated the time of the Crusaders and the known existence of the Shroud in Europe for 600 years. Frei concluded that the Shroud was about 2,000 years old and had come from the Palestine area. He told the Cardinal: "I have full confidence in the tests performed several years ago." He went on to say that he had found no traces of paint or pigment on the cloth which belied the critics who then (and now) claimed that the image was a later forgery. He had also found traces of an aloe ointment which grows only on the island of Socotra, off the coast of South Yemen.

Later the same year a scientific congress was called in Bologna by the International Centre for Shroud Studies and to which I was invited but could not attend. As Max Frei said to me in a letter of April 1982:

"I regret very much that again I will not be able to meet you during your forthcoming visit to Europe in May. However if anything in your schedule changes and you could be in Zurich at a different time please contact me so that we can meet. It would be a good opportunity to discuss the present situation regarding the research on the Shroud.

At the congress in Bologna I gave a summary of my own results which will be published in the proceedings of the congress. An English version is going to be included in one of the next issues of SHROUD SPECTRUM."

And so an excellent translation of NINE YEARS OF POLLINOLOGICAL STUDIES ON THE SHROUD duly appeared in SHROUD SPECTRUM INTERNATIONAL (Vol I, No 3, June 1982).

His last report

In this report Frei describes how he used his original samples together with those he took in 1978 and those supplied by Professor

Max Frei - Master Palynologist (contd)

Baima Bollone from the Shroud's silver container together with those taken by Giovanni Riggi in the area between the cloth itself and the backing sheet sewn on in 1534 by the nuns of Poor Clare.

Extracts from Frei's report are quoted with permission from Shroud Spectrum.

It was a very difficult task to identify the different pollen-grains in the dust collected. First I had to extract them from the sticking-tape and after cleansing they were embedded in glycerine jelly as permanent mountings, so that they could be studied from all sides under the light-microscope. The only true scientific method for identification of pollen-grains is the direct comparison with a mounting in the same medium of ripe pollen collected from a species to which the unknown pollen might belong.

The main problem in this procedure is to find out the right varieties for comparison. Fruitful ideas for comparison often originate from the study of books and articles with clear pollen pictures. A good help is the microscopical examination of all pollens available from private collections or public herbariums. In the case of the Shroud, all these sources gave very few positive results. So I was obliged to make systematic studies of pollen-producing plants growing in such countries where the Shroud -supposing it was authentic -- might have been contaminated. A positive identification of such pollens would be a confirmation of the Shroud's stay in that particular botanical region, while negative results concerning the whole flora of a country would allow the exclusion of the geographical area in question as a source of contamination.

From 1974 to 1978, I travelled several times (in different floreal seasons) through Palestine, Turkey (especially Anatolia and the region around Constantinople), through Cyprus, France and Italy, collecting pollens for direct comparison under the microscope. I devoted all my spare time to these journeys and the consequent laboratory work.

My patience was crowned with success. The number of unidentified pollens diminished slowly but steadily. During this research I realized that it was not sufficient to study the pollens under

Max Frei - Master Palynologist (contd)

the normal optical microscope. In order to confirm the correct identification, it was necessary to analyse the tiniest details of the pollen-structure under the scanning electron microscope.

Summary of the Results

1. I succeeded in identifying 57 different plants which have left microscopical evidence on the Shroud (56 in the form of pollen, one in the form of typical multicellular hairs). Every identification has been controlled not only under the optical microscope at magnifications ranging from 60x to 1200x, but also under the scanning electron microscope.
2. None of the pollens was glued to the cloth with tempera or covered with tempera. This is strong evidence against the possibility of the Shroud's being a painted fake.
3. So far I have not tried to identify the spores of fungi because, for example, spores of mildew are of cosmopolitical distribution and cannot give any clues to the country of origin.
4. As a by-product of my microscopical studies, I could identify hairs of *Platanus orientalis* and epidermis cells of *Aloe socotrina*. Probably aloes and myrrh were used as spices in the provisional burial of the Crucified.
5. With regard to their geographical area and their ecological properties, the plants belong to a few very characteristic groups:
 - A. DESERT PLANTS, either from sand deserts or halophytes, i.e., plants growing in soils with a very high concentration of salt. In the lands of the Bible, many of these plants grew around the Dead Sea and are completely missing in Italy and France. They could not have contaminated the Shroud during the last six centuries of its known history. There are 16 species in this group.
 - B. PLANTS OF ROCKY HILLS AND STONY PLACES (RUINS) in Palestine and neighbouring countries accounted for 7 species. Two of them still grow nowadays on the walls of the ancient city of Jerusalem: *Hyoscyamus aureus* L. and *Onosma syriacum* Labill.

Max Frei - Master Palynologist (contd)

C. MEDITERRANEAN PLANTS (16 Species). These grow in Biblical Palestine as well as in France and Italy. The contamination of the Shroud with these plants might have occurred in any country with Mediterranean vegetation, except for those varieties which grow only in the Eastern Basin.

D. PLANTS FROM ANATOLIA, mostly steppic plants (16 species). To this group of plants from the Near East, partly with areas from Iran to the Eastern Mediterranean, belong six species from the Shroud. The contamination of the Shroud with these pollens could not have happened in Europe. Therefore these plants must be considered as strong evidence in favour of the Shroud's stay in Edessa as stipulated by Ian Wilson and other historians. Nine more plants in groups A and B from Palestine also grow in Anatolia and might therefore have contaminated the Shroud there, although they are less abundant than in Palestine.

E. PLANTS GROWING NEAR CONSTANTINOPLE. A few plants from groups B, C and D can be found on both sides of the Bosphorus. Furthermore, on the Shroud I identified a species of more local distribution: *Epimedium pubigerum* DC. This finding might confirm the Shroud's stay at Constantinople, as testified by the Crusaders.

F. PLANTS WIDELY DISTRIBUTED IN CENTRAL EUROPE OR COSMOPOLITANS (12 Species). These 12 species do not give any special information concerning Shroud history, as they all grow in France and Italy where the relic is known to have been for over six centuries, and has been exposed to public veneration without particular protection against pollen contamination.

6. So far I have not found any evidence for the Shroud's presence in Cyprus or other regions touched during the transfer from Constantinople to France and Italy.

7. Groups A, B, and C of plants on the Shroud from Palestine and Anatolia are so numerous, compared to the species from Europe, that a casual contamination or a pollen-transport from the Near East by storms in different seasons cannot be responsible for their presence as I have explained in several conferences and publications. The predominance of these pollens must be the result of the Shroud's stay in such countries where these plants form part of the normal

Max Frei - Master Palynologist (contd)

vegetation. A transport by migrating birds or a contamination with desert plants by pilgrims can be excluded because they had no possibility of a direct contact with the Shroud.

8. None of the pollens so far detected on the Shroud has been produced by plants which nowadays are extinct. Many of the varieties represented on the Shroud have been found by Israeli scientists, embedded as microfossils in the mud at the bottom of the Dead Sea and Lake Gennesareth

9. The pollen-spectrum as described leaves no room for the hypothesis of a medieval fake painted in France. On the contrary, the pollen deposits are a most valuable confirmation of the theory that the Shroud travelled from Palestine through Anatolia to Constantinople, France and Italy.

And so Max Frei is dead. For fifteen years one of the most important links in the world chain of Shroud researchers, his contributions to the literature and study of the Holy Shroud of Turin have been of considerable significance.

Fortunately we have the results of his work in printed and photographic form and we have at least the sequences in THE SILENT WITNESS of this sanguine man working and describing his work for posterity thus there remains a visual and aural record of him.

For myself, I shall remember the morning in 1980 when I climbed the steep hill in the beautiful little town of Thalwil near Zurich to Frei's home in Seehaldenstrasse in Switzerland's crisp and clear air, unmatched anywhere else in the world. I was not to meet him that day or, through various circumstances, during my subsequent visits to Switzerland.

As he wrote to me in 1980: "I would certainly have liked to discuss the whole problem of the Shroud with you."

How I wish this had been possible and how I am sure everyone in the worldwide Shroud circle hopes that someone will continue his work.

* * * * *

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CONTRIBUTIONS

Please feel free to write to SHROUD NEWS with any comment about the newsletter itself or about the subject of the Holy Shroud of Turin. The newsletter goes to interested people all over Australia and to several other countries of the world.

FUTURE ISSUES

We have in hand much scientific and other material to provide copy for future issues. We receive the latest information from many international sources and author REX MORGAN draws on his frequent overseas visits for personal contact with people and institutions devoted to the study of the Holy Shroud.

LECTURES

Rex Morgan is happy to lecture (free of charge) to any group interested in the Holy Shroud. Contact Sydney 981 4633.

PUBLICATION

All information and opinion published in this newsletter is given in good faith to pass on to interested persons, matters concerning the Holy Shroud of Turin. It is edited (and mainly written) by REX MORGAN, author of PERPETUAL MIRACLE, and published by:

THE RUNCIMAN PRESS, Box 86, P.O., MANLY, 2095, NSW, Australia