

Walter C. McCrone and the Max Frei Sticky Tapes of 1978: A Background Study

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On p. 231 of Joseph Marino's book "Wrapped up in the Shroud" Walter C. McCrone makes the following statement in an e-mail of 5 April, 1998 to Joseph Marino:

I have carefully examined microscopically all 26 of Max Frei's tapes and I saw no more pollen on them than I did on my 32 STURP tapes. Max, himself, told me he saw only about one pollen grain per square centimeter of tape. There are additional reasons why Max was dealing in subterfuge. For example, many of his reported pollen sources were insect pollinated [sic] and would not be dispersed by the wind to reach the Shroud.

This brief paper is dedicated to providing some background to Dr. McCrone's response to Joseph Marino.

In advance of ASSIST's acquisition, there was solid reason to try to ensure that the collection be verified for scientific research. There were many skeptics who would question the veracity and integrity of the tapes if we did not take steps to guarantee this foundation for future research. Thus, it was highly important that this first examination take place. I requested that Dr. Walter C. McCrone briefly study each tape in the presence of Dr. Alan D. Adler. Our meeting took place on Saturday, July 23, 1988 at the Philadelphia Academy of Natural Sciences. It was hosted by the late Dr. Benjamin C. Stone, chairman of the Dept. of Botany and who also was one of our team members traveling to Zurich, Switzerland to acquire the Max Frei Collection. Both scientists had studied the STURP tapes and could therefore certify whether or not the tapes did, in fact, come from the Turin Shroud. At the end of the Saturday exam both Dr. McCrone and Dr. Adler stated that all 26 tapes represented the kinds of material and particulates also found on the STURP tapes.

The above "careful examination" occurred at the venue noted above following the return of the ASSIST Team's trip to Switzerland to bring back the acquired Max Frei Collection of pollen studies. That return occurred the day before, Friday, July 22, 1988 Our team actually traveled to Thawil, where Frau Gertrud Frei-Sulzer lived on the outskirts of Zurich, Switzerland. The tape collection contained a total of 27 tapes and the Philadelphia meeting studied all 27 of the sticky tapes in the Frei collection and lasted several hours. McCrone mentions only 26 because tape no. 27 probably came from the inside of a reliquary and was not directly taken in 1978 from the Turin Shroud. I had already made this determination sometime previously because Frau Frei-Sulzer kindly loaned 5 of the 27 tapes to ASSIST in 1986. McCrone agreed with my assessment.

Among about some 25 attendees of that examination, in addition to Dr. Stone, were Dr. Allen D. Whanger and his wife, Mary, who videotaped the entire proceedings. Moreover, what McCrone could

personally see under the microscope was also preserved on tape due to a video mount atop the microscope (a Nikon Optiphot kindly loaned to us by Dr. David Wright of the clinic at North Penn Hospital, Lansdale, PA) McCrone used to examine each tape. Everyone in the room could view the contents of the tape by watching the video monitor. Also attending were Dr. Allan D. Adler, The Rev. Albert R. "Kim" Dreisbach (who was on our team traveling to Thawil, Switzerland and who was representing both the interests of the Atlanta International Center for the Continuing Study of the Shroud of Turin (AICCSST), and the Holy Shroud Guild (HSG) on behalf of Fr. Adam J. Otterbein, president of the HSG), Prof. William Meacham and his wife, from Hong Kong, Dr. Jeannette M. Cardamone, textile chemist, as well as Dr. Stuart Fleming, Director of MASCA (Museum Applied Science Center for Archaeology) of the University Museum, of the University of Pennsylvania. I was the coordinator of both the trip to Switzerland and the ensuing examination meeting at the Academy of Natural Sciences, and was accompanied by my wife, Lois. Unfortunately, due to other circumstances, Dr. Frederick T. Zugibe, president of ASSIST, was not able to attend.

The collection of tapes Dr. McCrone examined was limited only to the 1978 tapes. We did not acquire the 1973 tapes which Frau Gertrud Frei-Sulzer speculated might still be in Vercelli, Italy. These were the "12" tapes Dr. Frei first took from the frontal end of the Shroud in 1973 and on which he based the some 54 plant species he had proposed as having identified as being present on the Shroud. It is important to state here, unequivocally, Dr. Frei did not take any pollen samples from the 1978 tapes. They were all completely intact when we received them. For a fuller account of the history behind Dr. Frei's study one may consult my paper "A Contribution toward a History of Botanical Research on the Shroud of Turin," published in the **Proceedings of the 1999 Shroud of Turin International Research Conference, Richmond, Virginia**, edited by Bryan J. Walsh, 2000, Magisteriam Press, (pp. 241-266).

To provide further background, it is important to state that Dr. Frei made a number of assumptions which he surely must have shared with Dr. McCrone at one of the microscopy meetings sponsored by McCrone. First, Frei assumed that all of the pollen grains he found on the Shroud were wind transported and deposited. Frei made no attempt to distinguish between anemophilous and entomophilous deposited materials. Second, Frei was strictly focused on the pollen grains themselves and did not offer any suggestions as to their differentiation historically. His goal was to go on seven journeys to collect materials to build a collection of diagnostic material so that he could identify the plant species each represented.

As my paper makes quite clear, the fact that some plant species were NOT wind deposited but, as noted to me by the atmospheric palinologist, Dr. A. Orville Dahl, these must have been laid on the Shroud in a liturgical act sometime during the Shroud's history. I took this human activity a further step by suggesting another possible event, the burial in a tomb and the laying of flowers on the deceased's corpse as a symbolic act of respect and grieving for the departed. Eastern Orthodox religious studies and archaeological evidence from first century Jerusalem, support both A. Orville Dahl's and my own proposals to explain the clear findings of some 32 floral botanical types (traces of floral debris including the pollen grains) found on the Turin Shroud. (See my paper, p. 242f and the attendant photomicrographs of plant debris).

According to Dr. McCrone, Frei told him that he [Frei] was finding, at most, one or two pollen grains per square centimeter. (!). And McCrone, echoed this observation during his exam of the tapes on July 23, 1988. However, with my wife holding one end of a giant photo-mosaic of the lead end of the Frei 1978 tape 6 B/d, and I holding the other end, I informed the entire group at that meeting that I had found some 300 + pollen grains on that sticky tape alone!!! The total size of the photo-mosaic was approximately 3 feet by 5 feet! Additionally, I had made individual photomicrographs of each pollen grain at 200x. Even the late Giovanni Riggi di Numana (during my meeting with Prof. Gonella on Saturday, Nov. 21, 1987 at the Ryetown Hilton, Ryetown, NY) questioned me closely about the accuracy of this observation. But when I told him that each of the pollen grains he was looking at in the Kodak transparencies were taken at 200x he was completely satisfied in my identification—i.e. that they were pollen grains, not spores. Thus, how are we to explain Dr. McCrone's observation that both he and Frei were seeing about 1 or 2 grains per square centimeter?

Permit me to describe how microscopists tend to work. It is easier to start out at a low power and increase that power to a higher point. I have done this myself. Walter McCrone did exactly that at our meeting in Philadelphia. And there is solid evidence on the 1978 tapes that Dr. Frei probably followed exactly the same procedure. Some of the tapes, for example 1978 Frei tape D 1/d, has a circle surrounding an item. But that circle has been crossed off by Frei. (See photo in fig. 17 in my paper). It is very easy to assume that Frei also began his study of this 1978 tape at 10 power and then raised it to—say—50x or higher to discover that the item of potential interest was only an air bubble in the tape. In fact, when I started my own study of these tapes I, similarly, found interesting items only to discover that they were an air bubble or a non-pollen related particle revealed at a higher power under the scope.

But I used an entirely different organized approach to my own microscopy to create the photo-mosaic. I started out at the higher power and moving the stage in tenths of a micrometer over from one side to the other, then down a tenth, to produce the composite photomicrograph I showed to our group on that Saturday, July 23, 1988. McCrone was there. He saw the photo-mosaic. He heard me explain my technique. It is clear that he had already committed himself psychologically to a preconception and my photo-mosaic and my explanation had “no bearing” at all on the paradigm he was now assuming. Indeed, had he accepted my photo-mosaic and explanation as a fresh piece of scientific information, it would have undermined the assumption that was now “gospel” in his own mind.

In the light of the information I provided in my 1999 paper at Richmond, Virginia and in light of the above discussion, permit me to deconstruct Dr. McCrone's statement provided in this brief presentation. I shall break the paragraph down into enumerated remarks by McCrone:

1. “I have carefully examined microscopically all 26 of Max Frei's tapes”

MY COMMENT: The exam was limited to our time together on that Saturday of July 23, 2014. Dr. McCrone could have had no other time to examine these tapes. Moreover, the examination was only an attempt to verify the particle spectrum to see if they were consistent with what McCrone already knew were on the STURP tapes. I would therefore have to say that his

“careful” examination was only on that Saturday. He did not have time to spend on the tapes that he had already spent on the STURP tapes. One may suggest that the word “careful” is a bit of an exaggeration.

2. “ and I saw no more pollen on them than I did on my 32 STURP tapes. Max, himself, told me he saw only about one pollen grain per square centimeter of tape. “

MY COMMENT: As per my discussion published in my 1999 Richmond, Virginia paper we can easily explain that both McCrone’s and Frei’s statements, themselves, are the results of their microscopy technique—NOT the results of a minute exam conducted at higher microscopic power on an organized observational basis.

3. “There are additional reasons why Max was dealing in subterfuge. For example, many of his reported pollen sources were insect pollinated [sic] and would not be dispersed by the wind to reach the Shroud.”

MY COMMENTS:

A. Initially I do not think Dr. McCrone had assumed that Dr. Frei was dealing in “subterfuge.” Dr. McCrone, I believe, was strongly influenced by Steven Shafersman who actually published his own thoughts in a letter about Frei’s dealings in McCrone’s own journal, **The Microscope**. (See issue no. 30, 1983, pp. 344-352). Since Shafersman’s remarks nicely fit into McCrone’s own now well developed paradigm, McCrone has subsumed it into his own opinion about what happened.

B. His use of non-wind pollinated types as “evidence” for the “subterfuge” by Max Frei shows that McCrone did not know about the research I had conducted showing the discovery of not only entomophilous pollen on the Shroud, but the evidence supporting how they got there by human activity. The wind would not have deposited such high concentrations of botanical debris (anther, filament, cellular material, plant hairs, etc.) in such a relatively small area without the human activity proposed by A. Orville Dahl. My own paper on the history of Max Frei’s studies was not published until 2000, well after the 5 April, 1998 date of Dr. McCrone’s e-mail to Joe Marino.

C. Was Max Frei dealing in “subterfuge”? As the first person in the United States to study the entire Frei Collection extensively in context with the history of his study I can categorically state that there *is absolutely no evidence in the entire collection that Dr. Frei was attempting to be dishonest*. In my published paper I not only allude to the 58 plant species proposed by Frei, I also pointed out (Maloney, 1999, p. 242) that Frei had actually created a research oriented study of a total of some 76 plants he thought might be represented on the Shroud. But, Frei made no

published case for the other 18 plant types. This demonstrates that Frei, the scientist, was careful and cautious about publishing something he felt he needed to do more research on. Also, a hand written note in the Frei collection listed some 7 additional plant types that he thought he wanted to research further into before going public. This is evidence for scientific enquiry, NOT “subterfuge.” Additionally, he had created pink colored 5 x 7 index cards on which to make his organized notes. A person dealing in “subterfuge” does not need to go to such lengths to be dishonest! But a scientist, wishing to be organized in his study, does, indeed, need such an approach. Additionally, the fact that Frei had not recognized the entomophilous category of the 32 pollen grains he found, demonstrates that Frei had no nefarious goals in mind. Although Frei had done his doctorate thesis in palynology, Frei was not a professional palinologist. He was a criminal expert—a forensic microscopist with an entirely different perspective than a professional palinologist would have had. It had remained for a professional palinologist, Dr. A. Orville Dahl, to bring this to my attention.

We may thus draw the conclusion that Dr. McCrone’s statement, sent to Joe Marino on 9 April, 1998 is a conflation of ideas that formed in Dr. McCrone’s mind over the years. My own reading of Dr. McCrone’s responses to Joe Marino’s e-mails convinces me that even if McCrone had had access to my published study, it would not have changed his mind (as evidenced by McCrone’s terse statement to Joe Marino on 19 April, 1998 (**Wrapped up in the Shroud**, p. 239)—any more than the large photo-mosaic had any effect on McCrone’s thinking on Saturday, July 23, 1988. Some may prefer to believe that this was dishonesty on McCrone’s part. I prefer to think that this conflated statement ceased to represent the science of the Shroud and had become a personal opinion that would not, could not be changed. To have done so would have meant that McCrone could not “save face” for his stance toward the Shroud developed very early on in his messages to STURP.