



The Real Role of the Forensic Scientist is to Uncover the Truth

What do America's number one hit TV series *Crime Scene Investigations*, *Crossing Jordan* and *New Detectives* have in common? They are all prime time television programs that feature forensic science or forensic scientists as primary characters. Each show, in its own way, positively presents forensic science while focusing on catching the bad guy.

According to Skip Palenik, founder of Microtrace, Inc. in Elgin, Illinois, "Although these shows tend to present forensics in a positive manner, they focus far too much in the prosecutorial direction." Skip continues, "The real role of the forensic scientist is to uncover the truth. It is just as important to relate evidence to a suspect as it is to eliminate an individual as a suspect. The forensic evidence should give the jury something to base their decision on."

Skip began using microscopes at the tender age of eight. He started his career in microscopy with the McCrone Research Institute in Chicago more than 25 years ago. After years of developing his craft in microscopy, he founded Microtrace, Inc. It is one of the few private laboratories that specializes in trace evidence examinations. During his tenure he has worked on many high profile cases including the 1993 World Trade Center bombing and the Wayne Williams abduction case in Georgia. Because Microtrace is a private lab, Skip's jurisdiction is the entire globe, and he can work for the defense or the prosecution.

One of his most recent cases did not involve a criminal act. An entrepreneur had convinced the famous baseball player Joe DiMaggio to autograph a limited number (1000) of replica NY Yankee jerseys. A small quantity (250) run was made to test the market. After initial success, a second batch of jerseys was signed. However, after only a few weeks the signatures on the second batch of jerseys began to run. Everything with the first batch was still fine, but an even bigger problem had arisen. Joe DiMaggio had died. There was no going back to get more signatures.

Skip was called to investigate the cause of the running signatures. Using a variety of techniques including polarized light microscopy, SEM, and spectrophotometry, Skip determined that although the material used in both batches was the same, the finish

coat on the material differed. These coatings are responsible for texture, shine, and sometimes softness of the material. The coating on the second batch had a fatty acid ester base that was soluble in the ink that was used. In this case the entrepreneur risks a substantial monetary loss that the courts are currently reviewing at the time of writing this article.

Skip feels two major concerns face trace evidence analysis in forensics today. First is the increased dependence on DNA analysis and the associated funding in forensic labs. Some labs have lost the ability to analyze trace evidence in favor of DNA analysis. DNA evidence relies on comparison of collected data against a known sample. However, there are many cases where samples for DNA cannot be recovered. And, if material containing DNA is recovered it might be from the victim and will not lead to any evidence that helps solve the crime. Thus, comparison microscopy remains a valuable tool in forensics but has limitations.

Secondly, Skip says, "For trace evidence analysis, which largely depends on microscopy and microscopic methods, to continue to survive or even flourish, it will be necessary to have people who are highly trained in laboratories as analysts and not just mere comparators." According to Skip, "This does not diminish the importance of comparison – it is a very important and legitimate function."

Skip refers to himself as a microscopist first rather than a trace evidence expert. He feels truly blessed that he has been able to take his first love and passion for microscopy and use these tools in his work every day. > WB

Skip Palenik, founder of Microtrace Inc. His laboratory has specialized in trace evidence analysis.



Photos by John Houde, Calico Press