



Jurisprudence Section – 2010

E36 Don't Cut Off Your Nose to Spite Your Trace

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After attending this presentation, attendees will have a better understanding of the significance and importance of non-DNA evidence for the investigation of criminal activities.

This presentation will impact the forensic science community by providing an important discussion on the relevance of fingerprints, shoeprints, firearms, tool marks, and trace evidence for use not only as inculpatory evidence but also exculpatory.

The report that everyone has been waiting for has finally been released. It has been just about one full year since the National Academy of Sciences has spoken and the effects of the report have yet to be fully realized. By now, the recommendations contained therein are certainly known to a vast majority to those who might be interested in its results. Forensic scientists have poured over it to see if their respective fields are above and beyond the recommendations contained therein and if not, they have been hard at work making strides to abide by any suggestions. The legal community is also hard at work figuring out how best to use the words contained within to either defend their clients or see to it that the best techniques available were used to bolster their cases.

Two particular areas of forensic analysis appear to be shouldering the greatest burden: the so-called identification sciences and trace evidence. Long regarded to be infallible and well established in the law enforcement community, both of these analytical disciplines have been under attack as to the efficacy of their scientific validity for some time now. The challenges that have been proffered significantly pre-date the report and in fact may have provided some of the impetus for the National Academy of Sciences (NAS) inquiry. Amongst these challenges there has been a disheartening trend in which many members of the legal community are going to great lengths to exclude the use of potentially valuable types of evidence. Some of the hardest hit areas include fingerprints, shoeprints, firearms, tool marks, and the various disciplines of trace evidence, most notably hair examinations.

It is argued that these disciplines all provide relevant information in a scientific fashion. They are valid, certainly more so than eyewitness testimony, and it would therefore be irresponsible to throw out these disciplines in their entirety. That being said, there is certainly a need for greater scrutiny on what is being written in reports and presented in courts of law. As valid as the findings may be, there is great responsibility in offering such results. This responsibility falls on all of those that are involved in this process, the scientists performing the work and the attorneys either presenting the information or those questioning it.

During the course of this presentation, it will be argued that were it not for a diminutive minority of cases, there would be no basis for attacking these disciplines. High profile missteps and biased analyses of data are leading to the false impression that these forensic disciplines are entirely unreliable. If the data were looked at in their entirety, any individual should undoubtedly find that such evidence has been used in far greater numbers to exculpate potential suspects than it has to falsely imprison them. Additionally, in those cases involving false imprisonment, the forensic evidence often played a minute role that, in many circumstances should have been completely overshadowed by investigative misconduct and coerced confessions. It could even be argued in some cases that there was exculpatory forensic evidence that was ignored because it did not fit a prosecutorial scenario.

Unbeknownst to some, there are already several mechanisms in place that are continually increasing the scientific rigor involved in these various disciplines. Some such mechanisms include accreditation, standardization, and certification. Numerous groups exist within the forensic community who are concerned with increasing the level at which forensic scientists operate. Some of their primary concerns include the assurance that quality work is being produced, accepted methods are being utilized, scientists performing the work are at an acceptable level of knowledge and that knowledge is maintained, and reports are not overstating the value of any given evidence. Some of these groups include the American Society of Crime Laboratory Directors (ASCLD), the various working groups including but not limited to the Scientific Working Group on Materials Analysis (SWGMA), and the Technical Working Group for Fire and Explosives (TWGFEX), ASTM International's E-30 committee on the forensic sciences, and the American Board of Criminalistics.

Attorneys hold great sway over what is and is not let into courts of law. Given the current climate towards the identification sciences and trace evidence, the potential exists to do irreparable damage. Instead of proceeding down such a dangerous path, attendees should use any of the numerous constructive routes they can follow to ensure that quality forensic science is being utilized. By educating themselves on the caveats of the various disciplines, enlisting their own experts for review, and questioning opposing experts on their personal and/or their laboratories level of participation in accreditation, standardization, and certification; they should be able to determine if the science that is being presented is worthy of the courtroom. These are surely better ways to raise the forensic bar than haphazardly tossing aside potentially relevant evidence.

It cannot be forgotten that the American legal system is here for all of our sake. It would be a travesty if



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the application of fingerprints, shoeprints, firearms, tool marks, and trace evidence were excluded from use. All of these disciplines have been used to both inculcate and exculpate an uncountable number of participants in the legal system. From the litigious perspective, one never knows when such evidence will help or hinder the cause of either side. It would therefore be wise to exercise caution when considering the wholesale expulsion of such time- tested disciplines. As with any scientific endeavor, the more data that is collected, the more one can be certain that any given hypothesis is true. This author would not want to be a participant in any system that does not look at all of the facts, especially those of a physical nature when deciding innocence or guilt.

NAS, Identification Sciences, Trace Evidence