



Task Number: 2016-003

Article Title: Toward Evidence-Based Evidence: Supporting Forensic Knowledge Claims in the Post-Daubert Era

Origin: Tulsa Law Review 263. 2007; Volume 43, Issue 2, Article 5

Date Published: 2007

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Article's Subject Matter:

- The author argues that the application of Daubert's gate keeper requirements in criminal law is problematic, particularly in regards to forensic evidence such as fingerprint evidence. Whereas the issue as to whether or not the evidence is in fact evidence based, the courts for the most part continue to allow this type of evidence when it fact it does not meet the specific requirements for inclusion under Daubert.

Key Points in Article

- Cole speaks to Daubert and the admissibility of evidence:
 - Trial judges operating under the Daubert regime are extremely unlikely to exclude expert evidence provided by the government in criminal cases, and in civil cases they are far more likely to exclude expert evidence provided by plaintiffs than by defendants.
 - In weighing the evidence supporting competing factual claims, the court might simply assume that all evidence is equally trustworthy. Clearly, however, this is not necessarily the case. Therefore, one must ask: How do we evaluate the relative truth of the evidentiary claims themselves?
 - Cole describes what constitutes evidence-based evidence.
 - The question of fact to be decided in a Daubert inquiry is the trustworthiness or, to use the Court's term, the "reliability" of the item of evidence that will then be inserted into the larger trial that envelops the Daubert inquiry as evidence in support of some larger question of fact, such as criminal culpability or civil liability. The court is asked to decide the question of the reliability of evidence by reference to evidence – evidence about the reliability of the evidence. Daubert holds that the court must find that the evidence supporting the claim that the evidence is reliable before allowing the evidence to be inserted into the enveloping trial.
- Cole describes and uses the analogy of Evidence-Based Medicine:



- Medicine has evolved from providing treatment based solely on clinical knowledge to that where evaluation of the effectiveness of treatment is paramount in what is known as Evidence-Based Medicine (EBM).
- EBM is defined as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients."
- By emphasizing "evidence," proponents of EBM sought, when possible, to substitute the results of empirical studies, or what promoters of EBM tend to call "external evidence", for clinical experience. By "external evidence," EBM meant, most of all, the randomized clinical trial (RCT). Ideally, when possible, meta-analysis (one of the forms of evidence at issue in Daubert itself) could be used to aggregate the results of evidence produced by all credible RCTs.
 - Clinical experience retains a role in EBM in conjunction with evidence derived from studies,
 - EBM proposes a "hierarchy of evidence" with RCTs at the apex and clinical experience at the base, and
 - That evidence from controlled studies, when available, not be ignored in favor of clinical assessments.
- Cole proposes the application of the Evidence-Based metaphor to law:
 - EBM's hierarchy of evidence might prove useful in helping factfinders weigh the relative value of different types of evidence.
 - This goes to the root of the issue; admissibility rather than weight of the evidence.
 - This process of producing knowledge about the efficacy of certain treatments is, I would suggest, analogous, not to the trial, but to the Daubert inquiry, in which the court adjudicates, not a factual dispute, but the reliability of an item of evidence intended to be used in a factual dispute.
 - In EBM, this is done by evaluating the available evidence concerning the treatment's efficacy, and it would seem that in a Daubert inquiry the process the Supreme Court envisioned would be much the same: Evaluating the available evidence concerning the reliability of the item of evidence at issue.
- Cole discusses applying the notion of Evidence-Based Evidence to forensic evidence:
 - Numerous areas of forensic evidence have been subjected to vigorous admissibility.
 - Numerous challenges in the wake of Daubert.



- **United States v. Llera Plaza I:** the court restricted the scope of expert testimony about latent print evidence, based on it failing all the Daubert factors save "general acceptance."
 - The outcome of this ruling was later reversed but many of its findings stood, including the finding that latent print evidence failed two of the Daubert factors.
 - **Virgin Islands v. Jacobs:** the court ruled latent print evidence inadmissible under Daubert after the government neglected to make any evidentiary showing in response to the defendant's Daubert motion.
 - **United States v. Crisp:** one Fourth Circuit judge wrote that the trial judge's admission of latent print evidence despite failing to comply with Daubert was an abuse of discretion.
 - **United States v. Sullivan:** the court found latent print evidence inadmissible despite finding that it was untested and therefore failed the "testing" prong of Daubert, arguably the most important prong.
 - Several other cases quoted with similar rulings.
- The vast majority of challenges have been unsuccessful at rendering latent print evidence inadmissible.
- **Cole inquires as to whether or not latent print identification qualifies as Evidence-Based Evidence:**
 - The role of the latent print examiner, friction ridge skin and the examination/determination as to the origin of a latent print (mark).
 - Comparison made from known inked prints, not the friction skin itself.
 - Finding of consistency; what is a finding of consistency?
 - The claim, after all, is not that they are identical, but that they derive from a common source.
 - What evidence allows a court to assess the reliability of this evidence?
 - Some sort of measurement of the accuracy of these opinions is necessary and it has to be based on simulation in which ground truth can be controlled by the experimenter and not from casework where ground truth knowledge is unknown.
 - Do different levels of latent print quality affect accuracy?
 - The government has put forward a global claim that latent prints source attributions are reliable for all items of evidence from which latent print examiners choose to make source attributions.



- Latent print identification is accurate for those latent prints which examiners believe are identifiable, thus accuracy is assured.
- Should be a graduated scale of measurement to account for the varying amount of information in latent prints.
- Existing accuracy data (evidence) is quite poor: proficiency tests and studies using trainees during instruction in latent print analysis.
 - Not ideal conditions; uncontrolled variables.
- Error rates: how low before it is deemed admissible?
- One can conceive of latent print analyses as that of clinical judgments in medicine.
- Cole discusses latent print evidence in trial court Daubert inquiries:
 - As far as courts are concerned, there is no accuracy data for latent print source attributions.
 - There is no evidence, of the sort that practitioners of EBM would consider "evidence," as to the accuracy of this form of evidence.
 - For each evidentiary claim, he explains why it does not constitute evidence of reliability of latent print analysis.
 - Evidence of Legal Admission and Use of Latent Print Evidence.
 - A legal finding of reliability cannot be considered scientific evidence of unreliability, unless the legal finding is based upon some sort of scientific evidence of reliability.
 - The legal findings of reliability are assertions devoid of any reference to a scientific study or data.
 - Evidence that Latent Print Identification Has Been Used in Court for around a Century.
 - United States v. Havvard: the Southern District of Indiana stated, "the methods of latent print identification can be and have been tested. They have been tested for roughly 100 years. They have been tested in adversarial proceedings with the highest possible stakes."
 - This was criticized in United States v. Llera Plaza I: Such assertions cannot serve as evidence of the reliability of latent print identification because the ground truth in casework is not known. Although we know that latent print evidence was used in a large number of criminal cases over the last hundred years, we do not know the frequency with which it produced correct



- results. This constitutes evidence that the latent print evidence was used, not evidence that it was used correctly and there have been cases where it has produced incorrect results (erroneous identifications).
- **Testimonial Claims That One Laboratory (the FBI Laboratory) Was Not Aware of Having Rendered any Erroneous Conclusions of Individualization.**
 - Since ground truth is not known in casework, practitioners' unawareness of having made errors cannot reasonably be treated as evidence of their not having committed errors.
 - This claim can no longer be claimed – Madrid Train Bombing.
 - **Latent Print Conclusions Can Be Verified by Other Experts.**
 - Some courts supported their conclusions that latent print evidence is reliable by reference to the fact that latent print conclusions were subject to review by additional experts.
 - This only supports the conclusion that experts' opinions are consistent, not that they are accurate.
 - As there is no empirical measurement of the accuracy rate for latent print examiners' claims, latent print evidence is not evidence-based evidence.
 - **Trial Court Rulings Finding an Absence of Evidence Supporting the Reliability of Latent Print Evidence.**
 - A minority of trial court admissibility rulings have acknowledged that latent print evidence is not evidence-based evidence.
 - *United States v. Sullivan*: While ACE-V appears to be amenable to testing, such testing has yet to be performed but this concern does not render fingerprint evidence unreliable for the purposes of Daubert, as lack of testing went to the weight, not the admissibility, of the evidence.
 - In the case of the *United States v. Rose*, there was a blanket exclusion of the latent print evidence. Also, it was determined that there are no studies of the ACE-V method to determine the reliability of the methodology.
 - **Daubert demands evidence of reliability; it does not allow for the assumption of reliability.**
 - Many forensic techniques, however accurate they may actually be, simply lack evidence concerning their accuracy.
 - Daubert demands exclusion even of evidence that may turn out to be highly accurate, until such time as evidence of its accuracy is amassed.



Fallacies and or Issues

- There is a significant disparity in the application of the principles of Daubert across civil and criminal law proceedings.
- This pattern is particularly clear in regard to fingerprint evidence in which numerous courts have found the evidence admissible, despite a body of legal literature that overwhelmingly states the opposite.
- Daubert insists that expert evidence must be found to be reliable before being used in a trial.
 - Any finding of reliability must be based on evidence.
- Daubert might usefully be conceived as a demand in law for evidence-based evidence, just as other disciplines have adopted this concept, such as evidence-based medicine, evidence-based policing, etc. This is particularly important when dealing with the admissibility of fingerprint evidence under Daubert.
- Although almost all courts find latent print evidence admissible, almost all the legal scholarship finds it inadmissible.
 - Latent print evidence does not constitute evidence-based evidence.
- Clinical judgments that have been presented to their consumers as something more accurate and precise.
- There are known cases in which both verification and defense review failed to detect erroneous results. This supports the notion that our exposure mechanisms are far from perfect and we are only aware of what we are aware of.
- Courts have made the argument that courts should treat as a correct identification each deployment of latent print analysis that is not exposed as a misidentification.
- Cole asserts that the government appears unable to muster any evidence of reliability for latent print identification.
- Daubert demands exclusion even of evidence that may turn out to be highly accurate, until such time as evidence of its accuracy is amassed.