Increasing Legal Challenges to Science and Technology

- Fingerprints
- Tool marks
- Digital Image Enhancement
- Handwriting
- Trace Evidence (Hairs; Fibers)
Confluence of Events
Regarding Fingerprints

• Misidentifications have occurred (US and Int’l) Mayfield, McKie, Cowans
• Intense media scrutiny – Science, The New Yorker, Chicago Tribune, Boston Globe, Seattle Times, ABA Criminal Justice
• NAS Forensic Science Committee convened and holding hearings
• State commissions being formed; state legislation
• Jurors expect to see the proper use of scientific evidence in order to have confidence in the evidence and the system
• CSI Effect
• Lawyers will not cease being advocates and testing expert testimony. There is a more educated defense bar
• Need to insure reliability of methodology and examiners
A Report on the Erroneous Fingerprint Individualization

- Journal of Forensic Identification 706/54 (6) 2004
- Electronic images
- IAFIS correlation
- Confirmation bias
- Failure in the application of the ACE-V methodology
- Corrective actions taken
Frye v. United States, 293 F. 1013 (D.C. Cir. 1923)

- Must be sufficiently established to have gained general acceptance in the particular field in which it belongs.

Judges have “gatekeeping” role.

The court must assess whether the underlying reasoning or methodology is scientifically valid.

The court must consider factors including, but not limited to:

1. Tested and testable?
2. Peer review publication?
3. Error Rate?
4. Standards?
5. Widespread acceptance?
Even if no Daubert/Frye hearing is granted by court, all the same issues/questions are fair game on cross-examination.
Jurors Perceptions of Fingerprint Evidence
Issues to Discuss

• What information are judges using to determine that fingerprint analysis/identification is a science?

• Is admissibility no longer a significant issue?

• If not, how can we strengthen the methodology?

• Will having statistical probabilities attached to fingerprint evidence strengthen the discipline and its utility in court?

• What other issues will the examiners be facing, e.g., challenges to education, board certification and other qualifications?

• Are jurors demanding more evidence? What is the effect on forensic science (e.g., collection and analysis) and legal proceedings (procedure and presentation in court)?
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