



DNA Mixture Interpretation Workshop | Professor Jules Epstein

March 15, 2011

***The Law, Ethics, and
DNA Interpretation***



NIJ Disclaimer

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SWGAM Interpretation Guidelines for Autosomal STR Typing by Forensic DNA Testing Laboratories

[View printable version \(pdf\)](#)

Scientific Working Group on DNA Analysis Methods (SWGAM)

The Scientific Working Group on DNA Analysis Methods, better known by its acronym of SWGAM, is a group of approximately 50 scientists representing federal, state, and local forensic DNA laboratories in the United States and Canada. During meetings, which are held twice a year, subcommittees discuss topics of interest to the forensic DNA community and often develop documents to provide direction and guidance for the community. A mixture interpretation subcommittee was formed in January 2007 and worked for several years to provide a guidance document on autosomal short tandem repeat (STR). This document was presented to the full SWGAM group and received approval in January 2010.

This document provides guidelines for the interpretation of DNA typing results from short tandem repeats (STR) and supersedes the Scientific Working Group on DNA Analysis Methods (SWGAM) Short Tandem Repeat (STR) Interpretation Guidelines (2000). The revised guidelines are not intended to be applied retroactively. Guidance is provided for forensic casework analyses on the identification and application of thresholds for allele detection and interpretation, and appropriate statistical approaches to the interpretation of autosomal STRs with further guidance on mixture interpretation. Laboratories are encouraged to review their standard operating procedures and validation data in light of these guidelines and to update their procedures as needed. It is anticipated that these guidelines will evolve further as future technologies emerge. Some aspects of these guidelines may be applicable to low level DNA samples. However, this document is not intended to address the interpretation of analytical results from enhanced low template DNA techniques.



Forensic Analysis

- Cryptanalysis Racketeering
- Latent Print
- Questioned Documents

Scientific Analysis

- CODIS
- Chemistry
- DNA-Nuclear
- DNA-Mitochondrial
- Trace Evidence
- Firearms/Toolmarks

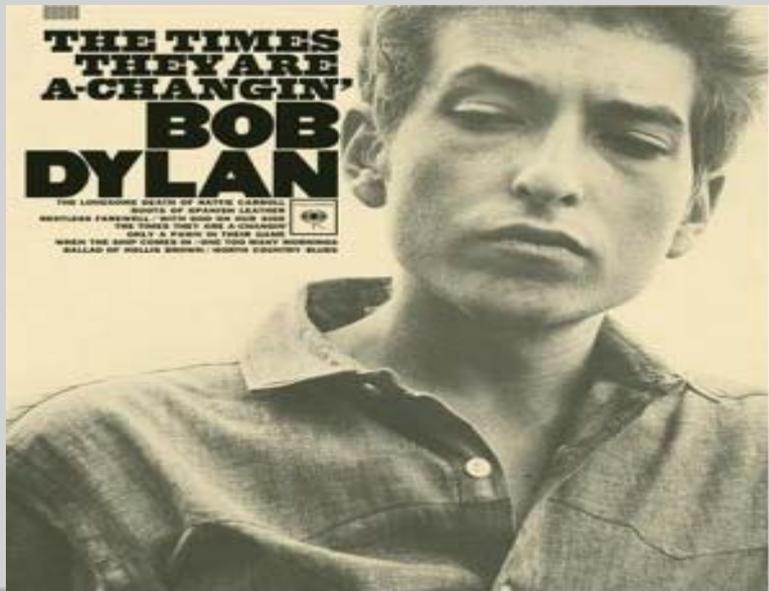
Operational Response

- Chemical Biological Sciences
- Explosives
- Evidence Response Team
- Hazardous Material Response
- Photographic & Imaging

SCIENTIFIC ANALYSIS

What's the Problem?

- “New” SWGDAM Mixture Interpretation Guidelines
- Does this undercut earlier testimony/reports?



What's The Problem

- **There were interpretation guidelines prior to these, but they were not detailed enough to provide good guidance to the community.**
- **The new guidelines go into considerable detail to include practical examples.**

What's The Problem

- **There is nothing new or novel about the new guidelines; rather, this is how the community should have been handling mixtures all along.**

What's The Problem?

- Some labs are now recognizing that they may have **REALLY** overestimated the rarity of DNA profiles (statistical calculations)



An Initial Inquiry: What authority does a SWGDAM standard have?

- **Is this *one* approach?**
- **Is this *the* approach?**
- **Are no other approaches “generally accepted?”**
- **Are no other approaches “reliable?”**

What Does SWGDAM “Say?”

- [T]o provide a **guidance** document on autosomal short tandem repeat (STR).
- This document provides **guidelines** for the interpretation of DNA typing results from short tandem repeats (STR) and supersedes the Scientific Working Group on DNA Analysis Methods (SWGDAM) Short Tandem Repeat (STR) Interpretation Guidelines (2000).
- **The revised guidelines are not intended to be applied retroactively.**

Retroactivity

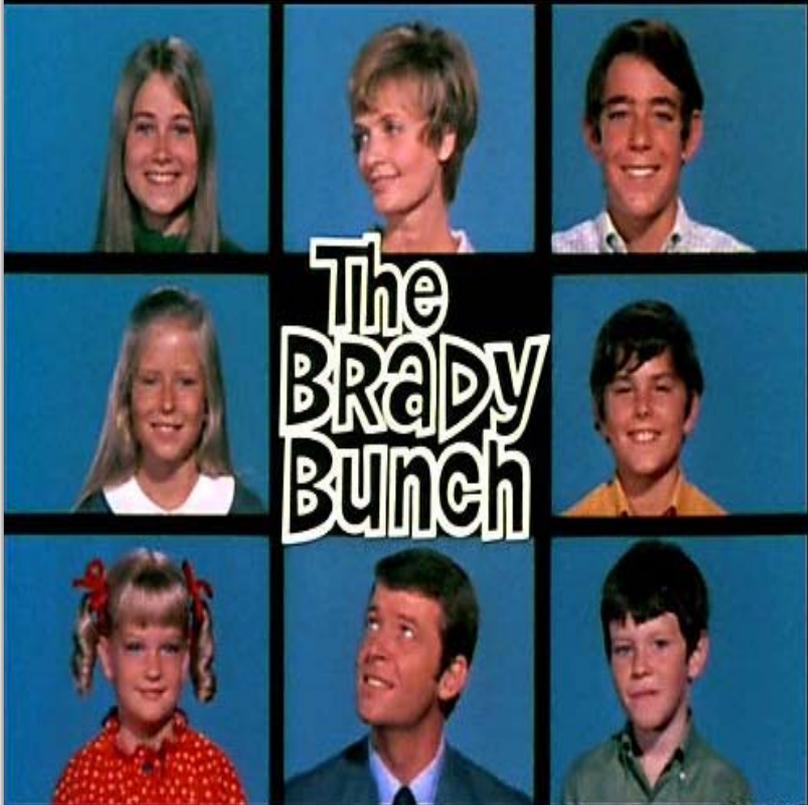
- **The revised guidelines are not intended to be applied retroactively.**
- **Epstein: This statement has no legal relevance whatsoever.**

Retroactivity - The legal questions are:

- **Would this possibly make a difference in a case?**
- **Is the information “material?”**
- **Are the duties constitutional, statutory, or ethical?**



What is the Law - Constitutional



The Brady Obligation - I

- A prosecutor **may not conceal** from the accused information or evidence that could **negate guilt** or reduce the crime or punishment, evidence termed **“exculpatory.”**

The Brady Obligation - II

- **“Exculpatory” includes “impeachment” evidence, *i.e.*, evidence that could be used to undercut the credibility of a prosecution witness or evidence**

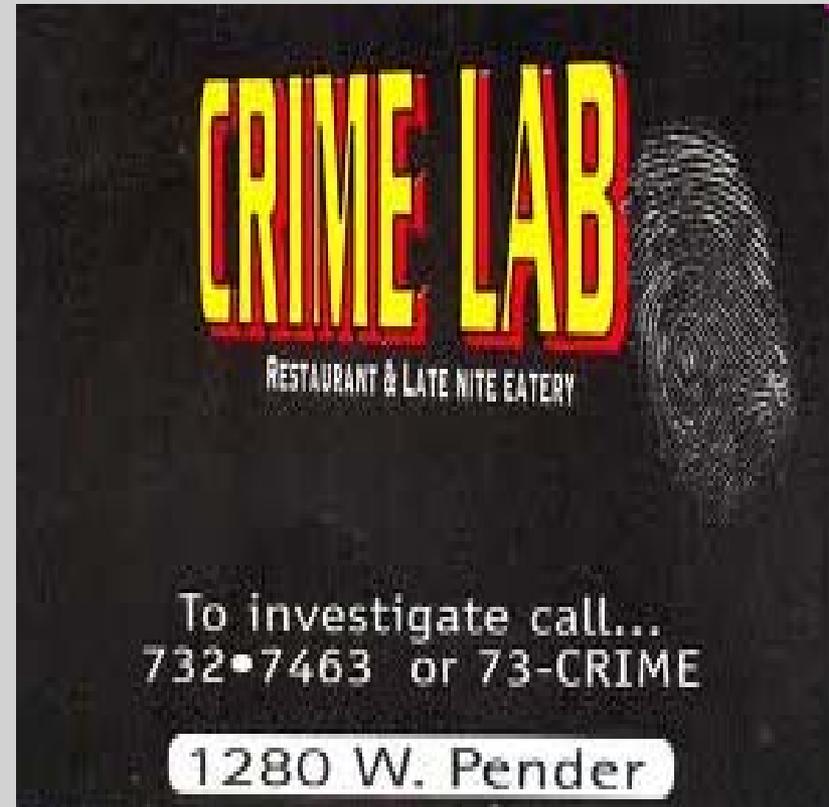


The Brady Obligation - III

- **The prosecutor may not knowingly make use of false testimony.**
- **Where a prosecutor knows that false testimony has been presented, he/she must correct it.**

The Brady Obligation – IV: Who Has the Duty

- The duty of disclosure extends to police agencies involved in the investigation and prosecution of the case, even where the prosecutor is personally unaware of the evidence



So, Is This Brady?

- **The existence of new [clearer] guidelines**
- **The existence of new guidelines means(?) the old interpretation might have been done wrong.**
 - **Does it matter *how* wrong?**

When Does Brady Apply?

- **1976:** At trial this duty is enforced by the requirements of due process, but **after a conviction** the prosecutor also is bound by the ethics of his office to inform the appropriate authority of after-acquired or other information that casts doubt upon the correctness of the conviction

When Does Brady Apply?

- **2009:** [A post-conviction defendant's] right to due process is not parallel to a trial right, but rather must be analyzed in light of the fact that he has already been found guilty at a fair trial, and has only a limited interest in post conviction relief. Brady is the wrong framework

When Does Brady Apply?

- **Pre-trial – certainly**
- **Post-trial, pre-sentence – certainly**
- **Post-sentence, on appeal – probably**
- **Post-appeal (either post-conviction or after all proceedings) – unresolved**

Retroactivity and Brady

- **The revised guidelines are not intended to be applied retroactively.**
- **Under Brady, it **may** be that the duty to disclose is not retroactive (at least to post-conviction cases).**

Beyond Brady - I



***Beyond Brady –
Model Rules for **Prosecutors**:***

- (g) When a prosecutor knows of new, credible and material evidence creating a **reasonable likelihood that a convicted defendant did not commit an offense** of which the defendant was convicted, the prosecutor shall:

Beyond Brady – Model Rules for **Prosecutors**:

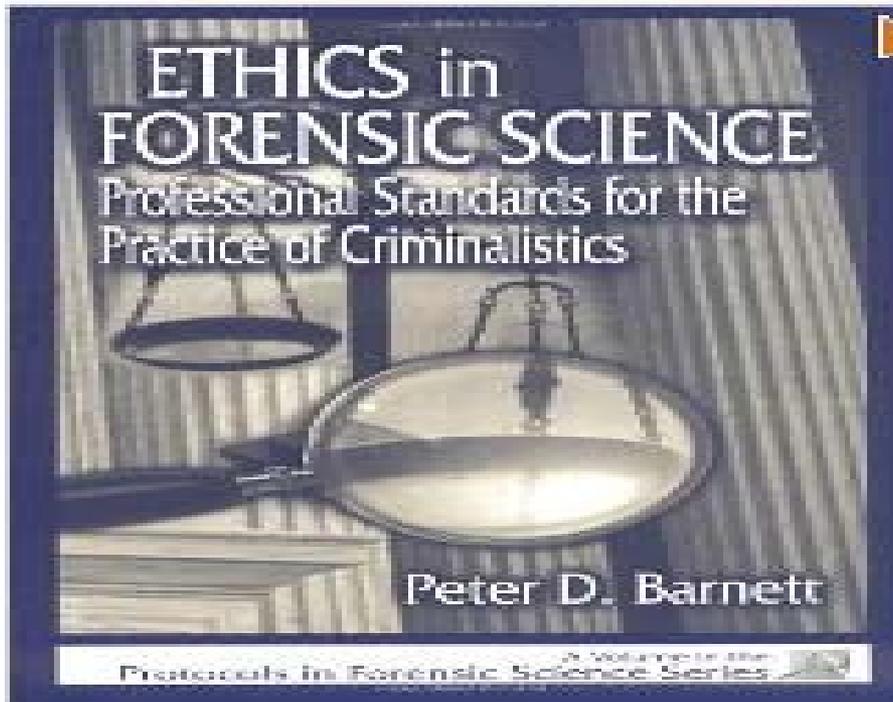
- (i) promptly disclose that evidence to the defendant unless a court authorizes delay, and
- (ii) undertake further investigation, or make reasonable efforts to cause an investigation, to determine whether the defendant was convicted of an offense that the defendant did not commit.

***Beyond Brady –
Model Rules for **Prosecutors**:***

- **Has your state adopted the ABA model rule?**
 - **As of early 2010, only one state [Wisconsin] had formally adopted these portions of Rule 3.8.**
- **So what (in terms of a **lab's** duty)?**

Beyond Brady II ***Ethics***

Click to **LOOK INSIDE!**



Beyond Brady II Ethics

- **No forensics organization's code has any rule regarding post-conviction responsibilities.**

What, Me Worry?



Beyond Brady II

Ethics

- **“[e]nsure that a full and complete disclosure of the findings is made to the submitting agency.” -
American Board of Criminalistics**
- **to seek justice “at all times” -
AFTE Code of Ethics**

Beyond Brady II

Ethics

- **2.1 No member of ASCLD shall engage in any conduct that is harmful to the profession of forensic science including, but not limited to, any illegal activity, **any technical misrepresentation or distortion**, any scholarly falsification.**
- **Does this cover past testimony/reporting?**

Looking Forward, Not Backward: The Guidelines and New Cases



An Initial Question?

- **Are the new interpretation guidelines:**
 - 1. Solely a narrowing of earlier ones?**
 - 2. Materially distinct procedures?**

An Initial Question:

- **Why do we care?**
- **The more novel, the more different, the more likely the need for admissibility hearings.**



Looking Forward in Frye States: Must you show “general acceptance?”

- **The question...is whether the interim and future methods of statistical calculation proposed by the NRC report **will be generally accepted by population geneticists**. If...this question is answered in the affirmative in a future *Kelly-Frye* hearing, then DNA analysis evidence will be admissible in California. [1992]**

***Looking Forward in Frye States:
Must You Show General Acceptance?***

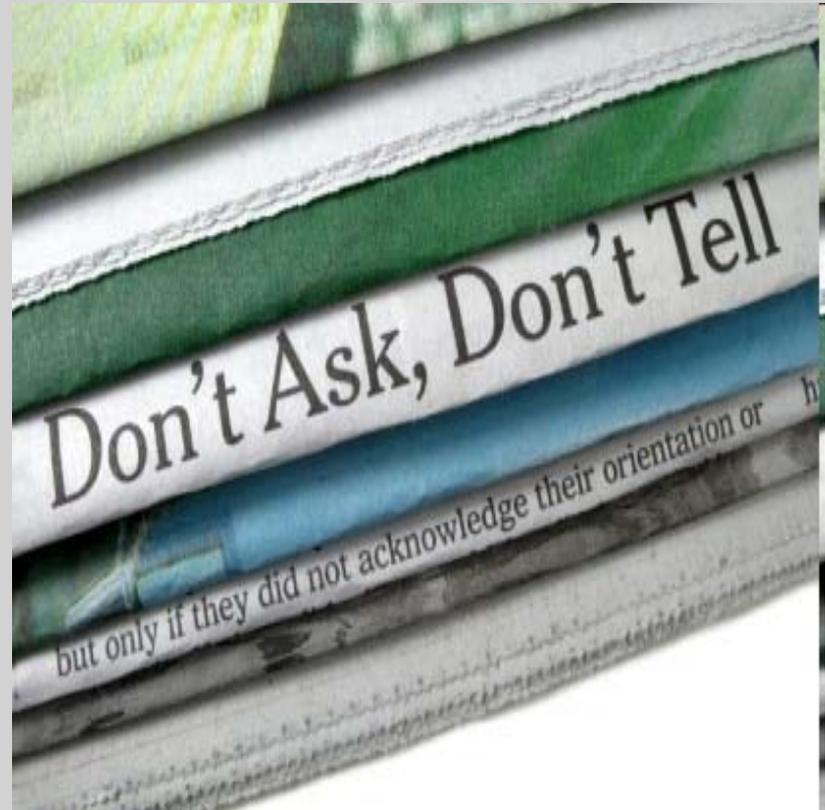
- **Brim v. State, 695 So. 2d 268 (Fla. 1997) (requiring *Frye* hearing on changes between NRC 1992 and NRC 1996).**

Looking Forward in Frye States: Must You Show General Acceptance?

- Is there a “material scientific distinction” between the methodology approved by the published case and that used in the case before the court; **materially distinct procedures must pass first-prong scrutiny independently. California, 2003**
- **Are the Guidelines “materially distinct procedures?”**

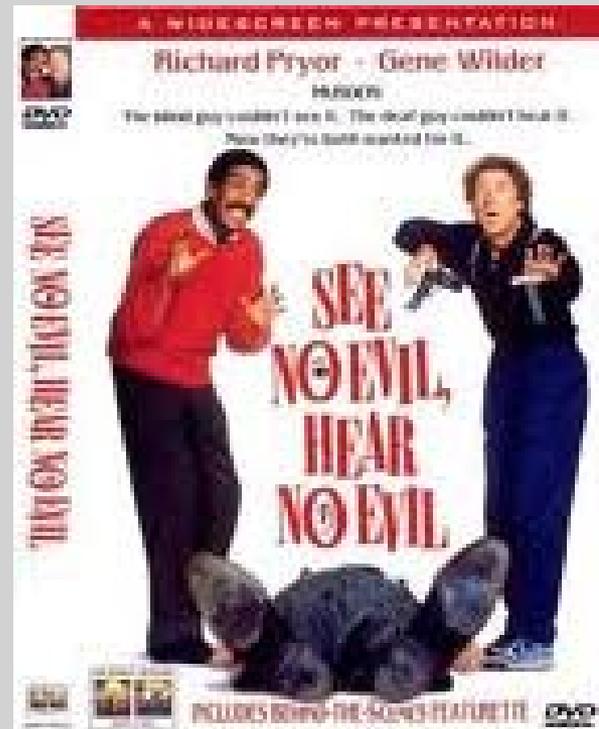
Looking Forward in Frye States: Must You Show General Acceptance?

- **Does the prosecution ask for a hearing, or wait to see if the defense challenges?**



Looking Forward in Frye States: Must You Show General Acceptance?

- Do you even tell the prosecutor about the guidelines being new?

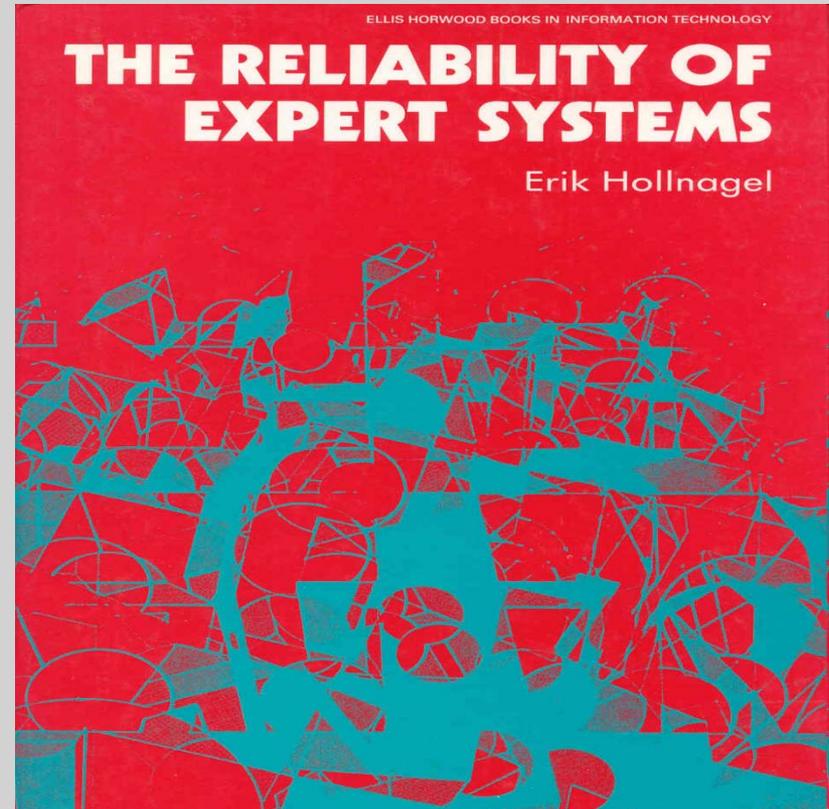


Looking Forward in Daubert Jurisdictions



Looking Forward in Daubert Jurisdictions

- “Reliability” challenges are always possible.



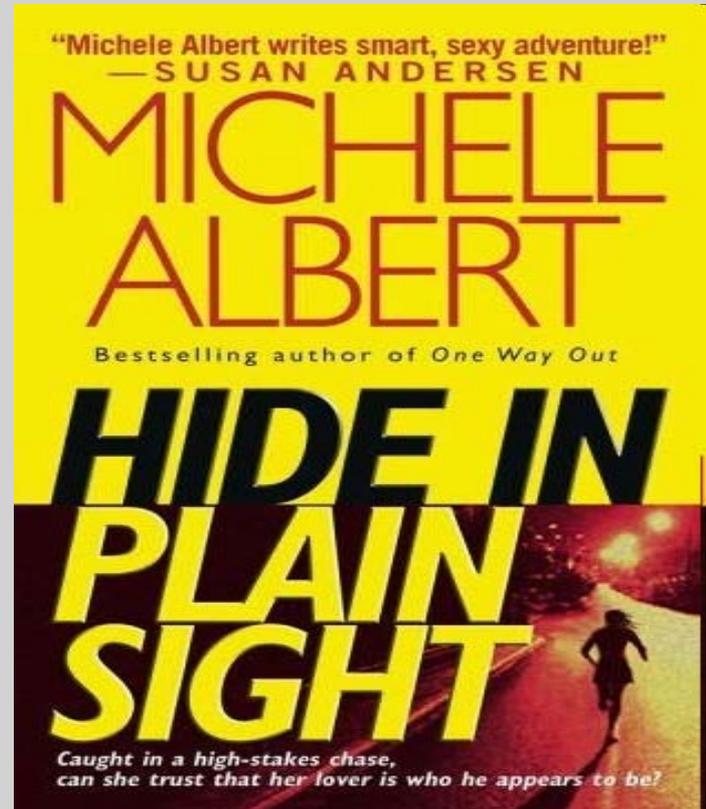
The “Do It Once, Right” Model

- Consider a consolidated Frye or Daubert hearing.



Report Writing

- Does your report mention what version of the Guidelines you used in your calculations?
- Let “the consumers” figure out what that means?



The Guidelines and Trial: Cross-Examination



Questions to Anticipate (after adopting Guidelines)

- **So, you are using new guidelines. That means you [or your lab] may have overstated results in cases in the past?**
- **And when you testified in those cases, you used the same language – to a reasonable degree of scientific certainty – as you did today?**

Questions to Anticipate (after adopting Guidelines)

- **So, you are using new guidelines. That means you [or your lab] may have overstated results in cases in the past?**
- **Have you notified anyone of those errors? [In other words, how will your lab look?]**

Questions to Anticipate (after adopting Guidelines)

- **And what, in fact *was* wrong with the old guidelines?**
- **Gee, if nothing was wrong, why new guidelines?**

Questions to Anticipate (after NOT adopting Guidelines)

- **Q: Tell the jury what SWGDAM is.**
- **Q: You agree, don't you, that it is a prestigious scientific group?**
- **Q: You agree, don't you, that it is the leading research and 'best practices' entity for forensic DNA in the U.S.?**

Questions to Anticipate (after NOT adopting Guidelines)

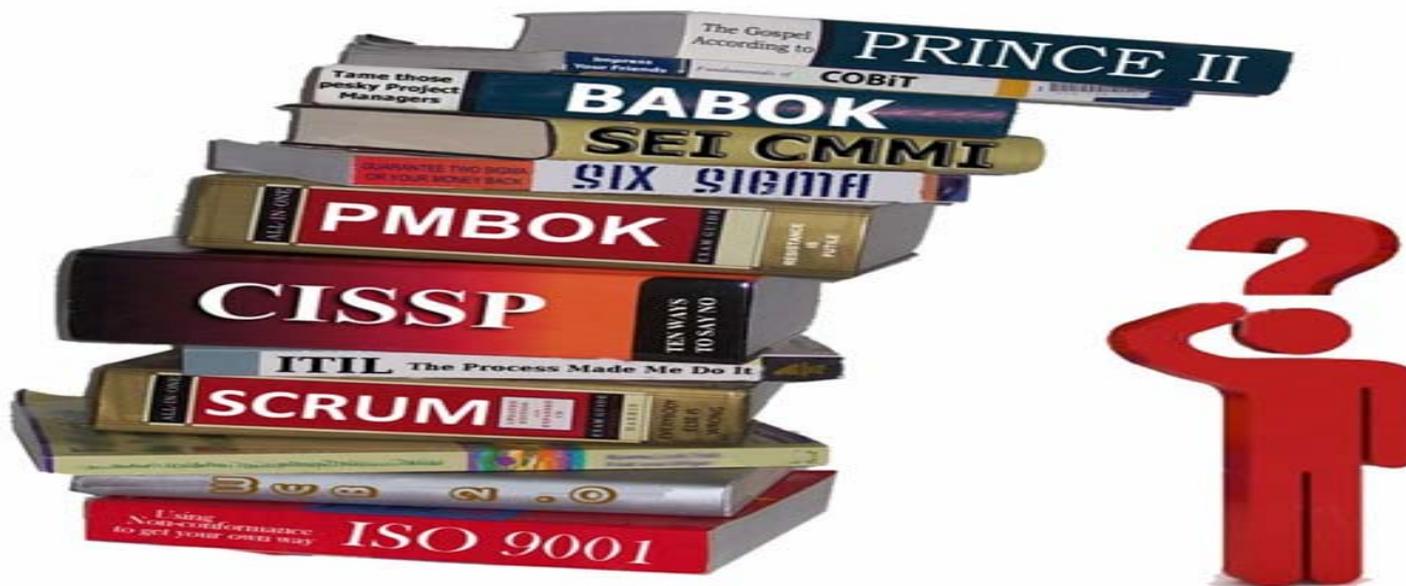
- **Q: That group adopted new [or better] guidelines for interpreting mixtures, correct?**
- **Q: Those guidelines were adopted after 3 years of study?**

Questions to Anticipate (after NOT adopting Guidelines)

- **Q: The F.B.I. lab uses them?**
- **Q: Other labs nationally are using them?**
- **Q: And your lab is not, correct?**

A Model Approach to Old Cases

BEYOND
BEST PRACTICES
COLLABORATION IN THE FACE OF WICKED PROBLEMS



A Model Approach to Old Cases

- **CBLA**



A Model Approach to Old Cases

- For years, if not for decades, FBI analysts testified in court to comparative bullet lead analysis (CBLA).



A Model Approach to Old Cases

- **In 2004, the National Research Council of the National Academy of Sciences released a study criticizing the reliability of CBLA.**
- **After reviewing the NAS findings the FBI discontinued such testimony.**

A Model Approach to Old Cases

- **The FBI immediately committed to begin notifying prosecuting authorities and police agencies.**

A Model Approach to Old Cases

- **A joint task force of the Innocence Project and the National Association of Criminal Defense Lawyers collaborate with the FBI**
- **to vet cases...and thereafter ensure that attorneys handling those cases had access to legal and forensic expertise to weigh the impact of the CBLA trial testimony**

A Model Approach to Old Cases that Involve Mixtures

- **The CBLA Model and the new Guidelines:**
- **Do you notify:**
- **Prosecutors?**
- **Police agencies?**
- **Defense counsel?**

Old Cases and “Newly Discovered Evidence” Time Limits

- **States often place a time limit on a convict’s ability to seek relief based on newly discovered evidence.**



Old Cases and “Newly Discovered Evidence” Time Limits

- **Some states ask – when *might* a defendant have found out about it?**
- **If it is in the newspaper, then is there notice?**
- **If it is on the web, is there notice?**

Summary

- **There may be cases where rarity of a profile has been overstated.**
- **The duty to ‘go back and check’ is an unresolved one in terms of Due Process or ethics.**
- **A model approach is to give fair notice to affected parties.**

Questions?

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