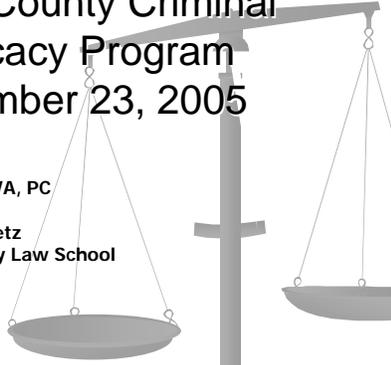


How to Work With Experts
Wayne County Criminal
Advocacy Program
September 23, 2005

Mark A. Satawa
KIRSCH & SATAWA, PC

Professor Ron Bretz
Thomas M. Cooley Law School



**Some Basic Principles
of Science**

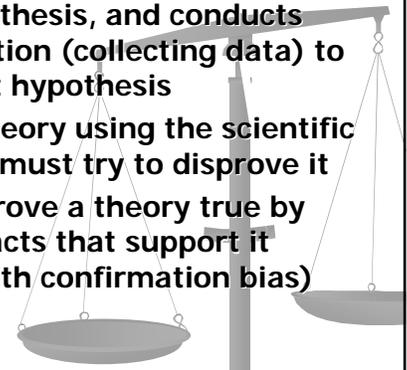


Examining Forensic Science



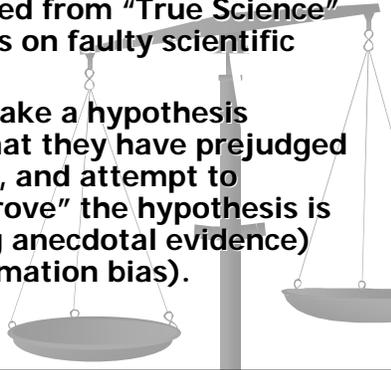
The “True” Scientific Process

- Takes a hypothesis, and conducts experimentation (collecting data) to *disprove* that hypothesis
- To prove a theory using the scientific process, you must try to disprove it
- You do not prove a theory true by looking for facts that support it (problems with confirmation bias)



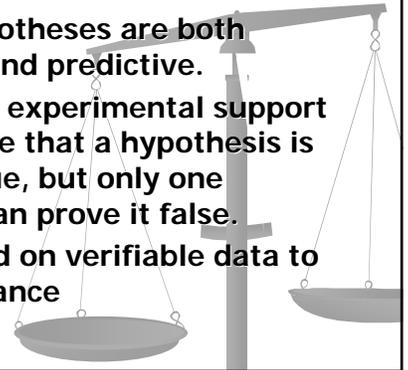
Junk Science

- Is distinguished from “True Science” in that it relies on faulty scientific methodology
- Researchers take a hypothesis (frequently that they have prejudged to be correct), and attempt to confirm or “prove” the hypothesis is correct (using anecdotal evidence) (again, confirmation bias).



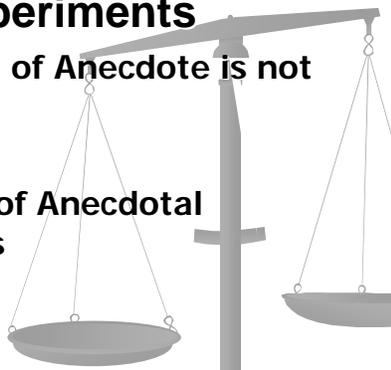
Science 101

- Scientific hypotheses are both explanatory and predictive.
- No amount of experimental support can ever prove that a hypothesis is absolutely true, but only one experiment can prove it false.
- Must be based on verifiable data to show significance



The Danger of Non-Scientific “Anecdotal” Experiments

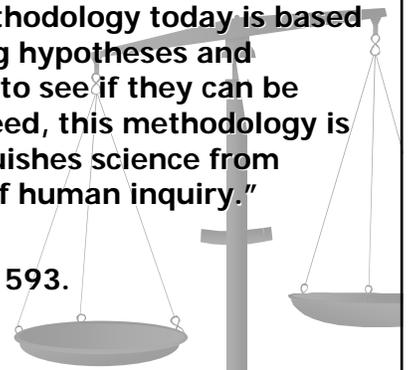
- “The Repeat of Anecdote is not Data”
- Illustration of Anecdotal Experiments



Daubert v Merrell Dow

“ Scientific methodology today is based on generating hypotheses and testing them to see if they can be *falsified*; indeed, this methodology is what distinguishes science from other fields of human inquiry.”

509 US 579, at 593.



Forensic Science

The Problems

What is the significance of a DNA match?

What does it really mean?

Apparent Causes of Erroneous Convictions

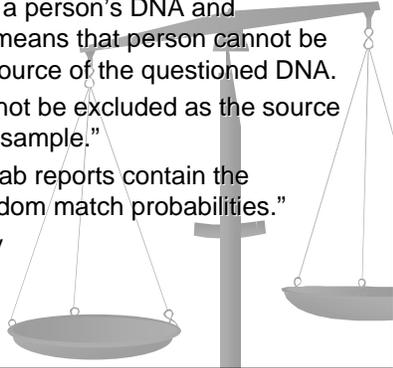
- Eyewitness errors 74%
- Forensic science
 - Erroneous 66
 - Fraudulent/Exaggerated 31
- Police misconduct 44
- Prosecutorial misconduct 40
- Bad Lawyering 28
- False confessions 19
- Dishonest informants 17
- False witness testimony 17

DNA Testing

- DNA Testing is a test of exclusion.
- DNA Testing can definitively exclude a person as the source of questioned DNA.
- DNA Testing can NOT definitively conclude that a person is the source of DNA (even if the test finds a match between the person and the questioned DNA).

A Match.

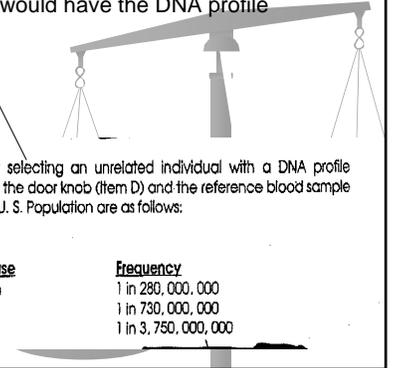
- A match between a person's DNA and questioned DNA means that person cannot be excluded as the source of the questioned DNA.
- "The suspect cannot be excluded as the source of the evidentiary sample."
- This is why DNA lab reports contain the "statistics" or "random match probabilities."
- See *People v Coy*



The statistics DO NOT give the probability that Person E is the source of the DNA found in Item D. The statistics give the probability that a person selected at random would have the DNA profile found in Item D.

The probabilities of randomly selecting an unrelated individual with a DNA profile consistent with the blood taken from the door knob (Item D) and the reference blood sample from ██████████ (Item E) in the U. S. Population are as follows:

<u>Population Database</u>	<u>Frequency</u>
African American	1 in 280, 000, 000
Caucasian	1 in 730, 000, 000
Hispanic	1 in 3, 750, 000, 000



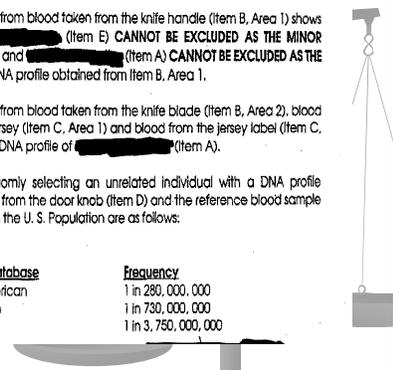
The DNA profile obtained from the door knob (Item D) shows evidence of a mixture. Mr. ██████████ (Item E) **CANNOT BE EXCLUDED AS THE MAJOR CONTRIBUTOR** to the DNA profile obtained from Item D. There is insufficient information regarding the **MINOR CONTRIBUTOR** to the DNA profile obtained from Item D to offer a conclusion.

The DNA profile obtained from blood taken from the knife handle (Item B, Area 1) shows evidence of a mixture. ██████████ (Item E) **CANNOT BE EXCLUDED AS THE MINOR CONTRIBUTOR** to the DNA profile and ██████████ (Item A) **CANNOT BE EXCLUDED AS THE MAJOR CONTRIBUTOR** to the DNA profile obtained from Item B, Area 1.

The DNA profile obtained from blood taken from the knife blade (Item B, Area 2), blood from the right shoulder of the jersey (Item C, Area 1) and blood from the jersey label (Item C, Area 2) **IS CONSISTENT WITH** the DNA profile of ██████████ (Item A).

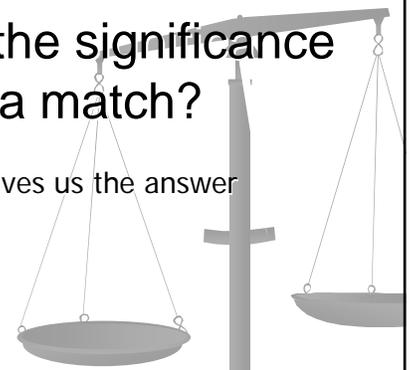
The probabilities of randomly selecting an unrelated individual with a DNA profile consistent with the blood taken from the door knob (Item D) and the reference blood sample from ██████████ (Item E) in the U. S. Population are as follows:

<u>Population Database</u>	<u>Frequency</u>
African American	1 in 280, 000, 000
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Hispanic	1 in 3, 750, 000, 000



What is the significance of a match?

Data gives us the answer



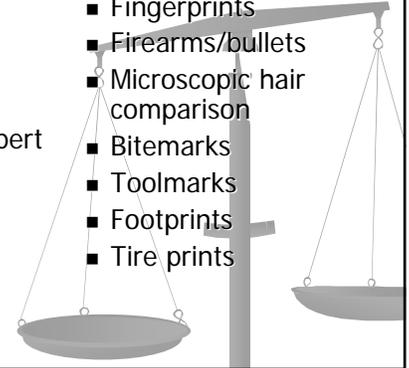
Know where you are!!!

How reliable or "scientific" is the expert/science in your case?



Where can Experts help?

- DNA
- Shaken Baby Syndrome
- Defense "Carehouse" Expert
- Child Abuse Accomodation Syndrome
- Handwriting
- Fingerprints
- Firearms/bullets
- Microscopic hair comparison
- Bitemarks
- Toolmarks
- Footprints
- Tire prints



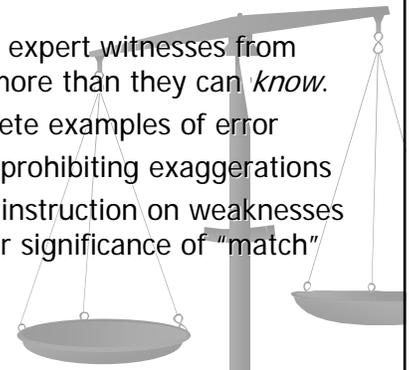
Working With Experts

Some Practical Tips



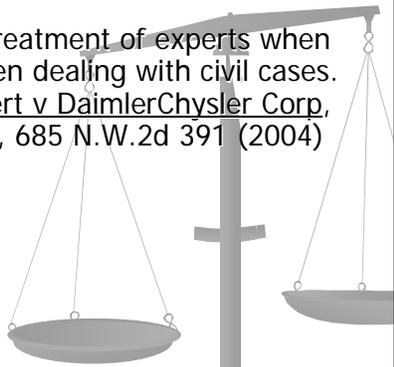
In arguing for exclusion of prosecutors expert

- Goal: Prevent expert witnesses from testifying to more than they can *know*.
- Provide concrete examples of error
- Obtain ruling prohibiting exaggerations
- Obtain a jury instruction on weaknesses of "science" or significance of "match"



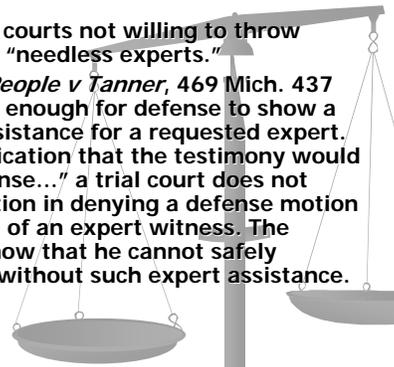
In arguing for exclusion of prosecutors expert

- Contrast the treatment of experts when the courts when dealing with civil cases. See e.g., *Gilbert v DaimlerChrysler Corp*, 470 Mich. 749, 685 N.W.2d 391 (2004)



Difficulty in obtaining funds from trial court

- Expensive: Trial courts not willing to throw money away for "needless experts."
- Legal hurdles: *People v Tanner*, 469 Mich. 437 (2003): It is not enough for defense to show a possibility of assistance for a requested expert. "Without an indication that the testimony would benefit the defense..." a trial court does not abuse its discretion in denying a defense motion for appointment of an expert witness. The defense must show that he cannot safely proceed to trial without such expert assistance.



Working With Experts

Some Practical Tips



Catch 22

- Defense often cannot show how expert testimony can help the defense without an opinion from expert.
- Defense must retain expert to find out whether and how expert can assist.



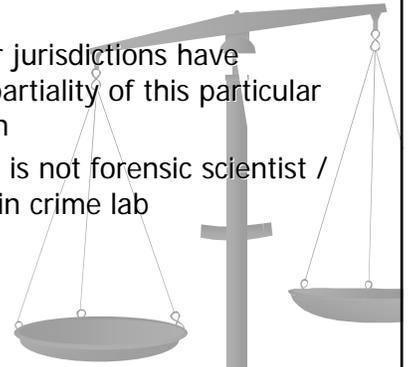
Solution?

- Try 2-step approach.
- Ask Court to permit Defense a minimal amount for consultation.
- Then if after consultation, Defense can show appropriate nexus between expert's opinion and ability to safely proceed to trial, then ask Court to authorize more funds.



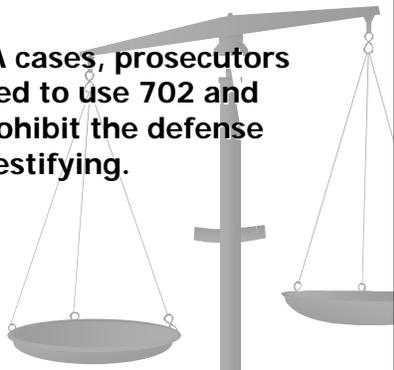
Specifics of attack

- Judges in other jurisdictions have questioned impartiality of this particular expert's opinion
- Defense expert is not forensic scientist / does not work in crime lab



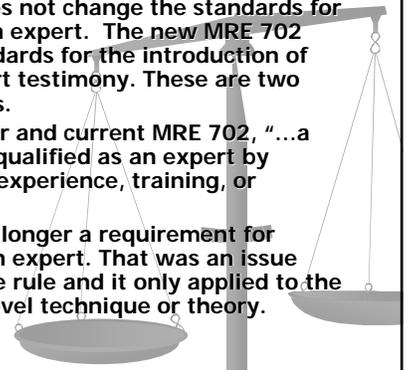
Attacks on defense experts

- In recent DNA cases, prosecutors have attempted to use 702 and *Daubert* to prohibit the defense expert from testifying.



Neither of these attacks has any merit under 702

- new MRE 702 does not change the standards for qualification of an expert. The new MRE 702 changes the standards for the introduction of scientific or expert testimony. These are two different concepts.
- Under both former and current MRE 702, "...a witness [can be] qualified as an expert by knowledge, skill, experience, training, or education...."
- Impartiality is no longer a requirement for admissibility of an expert. That was an issue under the old Frye rule and it only applied to the proponent of a novel technique or theory.



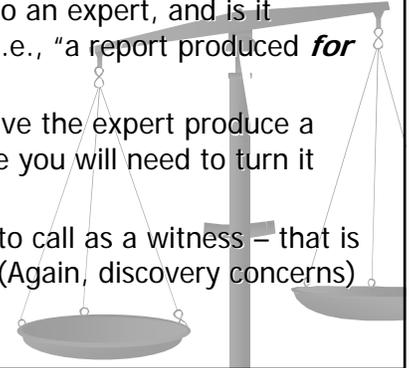
A Good Resource

Faigman, Kaye, Saks & Sanders:
Modern Scientific Evidence (West,
4 volumes, 2005)



Things to consider

1. What to give to an expert, and is it discoverable? I.e., "a report produced **for** an expert"
2. Should you have the expert produce a report, because you will need to turn it over?
3. To call or not to call as a witness – that is the question! (Again, discovery concerns)

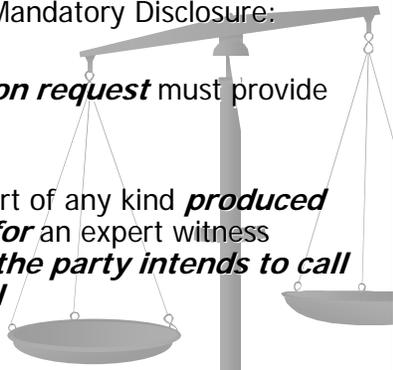


Remember Reciprocal Discovery requirement

■ MCR 6.201(A) Mandatory Disclosure:

. . . a party **upon request** must provide other parties:

- (3) any report of any kind **produced by or for** an expert witness whom **the party intends to call at trial**



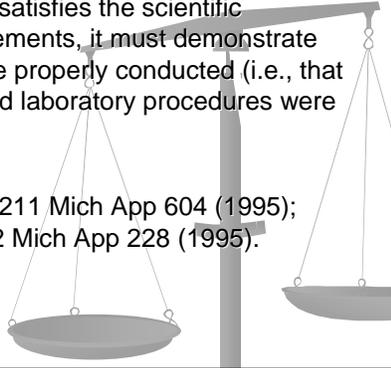
DNA Expert Issues



DNA Test Properly Conducted?

Even if prosecution satisfies the scientific foundation requirements, it must demonstrate that the tests were properly conducted (i.e., that generally accepted laboratory procedures were followed).

People v Chandler, 211 Mich App 604 (1995);
People v Lee, 212 Mich App 228 (1995).



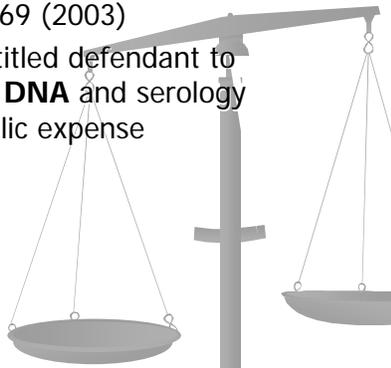
Tanner

- Eureka – Right?
- Wrong!!!!!!
- Caution is necessary



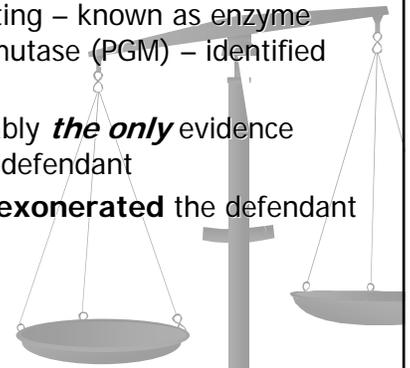
People v Tanner

- 255 Mich App 369 (2003)
- due process entitled defendant to appointment of **DNA** and serology **experts** at public expense



Tanner (the facts)

- Serological testing – known as enzyme phosphoglucosmutase (PGM) – identified the defendant
- This was arguably **the only** evidence identifying the defendant
- DNA evidence **exonerated** the defendant



Tanner

- Contains a very good summary discussion of the past case law on appointing DNA experts for indigent defendants
- Carefully distinguishes the facts of Tanner

Leonard

- the *Leonard* Court, after reviewing the case law from other jurisdictions, pointed out:
- "[A] defendant must demonstrate something more than a mere possibility of assistance from a requested expert; due process does not require the government automatically to provide indigent defendants with expert assistance upon demand. Rather, a fair reading of these precedents is that a defendant must show the trial court that there exists a reasonable probability both that an expert would be of assistance to the defense and that denial of expert assistance would result in a fundamentally unfair trial."

People v Leonard

- 224 Mich App 569 (1997).
- "[u]nder the Due Process Clause, states may not condition the exercise of basic trial and appeal rights on a defendant's ability to pay for such rights." *quoting Ake v Oklahoma*, 470 U.S. 68 (1985)

Leonard

- [C]onsistent with the majority of courts, other than psychiatric experts, a defendant is entitled to the appointment of an expert at public expense only if he cannot otherwise proceed safely to trial without the expert. MCL 775.15. In other words, a defendant must show a nexus between the facts of the case and the need for an expert.

Leonard

- The *Leonard* Court found that the trial court erred in granting the defendant a new trial on the basis that the defendant was entitled to a **DNA expert**.
- Specifically, *Leonard* held that the trial court erred in finding that the defendant was entitled to a **DNA expert** simply because **DNA** evidence was being offered against him.

Tanner

- Used the Leonard rationale
- "To determine whether defendant is entitled to such expert assistance we first consider whether she could otherwise proceed safely to trial without these experts. If defendant could not do so, we then consider whether she was prejudiced and received a fundamentally unfair trial as the result of not having expert assistance. If defendant was so prejudiced, then reversal . . . of her conviction is required."

Leonard

- However, even assuming that the defendant was erroneously deprived of a **DNA expert**, *Leonard* stated that any error by defense counsel or the trial court in depriving an indigent defendant of the appointment of an expert is grounds for reversal only "if [the] defendant was prejudiced and received a fundamentally unfair trial as the result of not having expert assistance."

Tanner (the holding)

- "We believe that the trial court erred in depriving defendant of expert assistance in the areas of DNA and serology because she could not otherwise proceed safely to trial without such assistance."

Tanner

"As the parties recognized . . . , the DNA evidence excluded defendant as a contributor to the DNA found on the evidence samples. Moreover, there was expert testimony at trial that the blood found on the victim's shirt contained the DNA profile of an unknown female. Even though the DNA evidence exculpated defendant, the prosecution's experts determined that the serological evidence linked her to the crime scene because her blood type and PGM subtype were the same as those on the diluted bloodstain found on the sink behind the bar. In fact, this bloodstain, as interpreted by the prosecution's expert witnesses, was the only physical evidence that linked defendant to the crime scene. Thus, the prosecution's case against defendant rested very heavily upon the serological analysis and testimony of the prosecution's expert witnesses. . . .

SBS Experts

■ "Given the critical role of the DNA and blood evidence in this case, it was absolutely essential for defendant to have been provided with expert assistance in the areas of both DNA analysis and serology in order to have a meaningful opportunity in which to prepare her defense against the charges and to respond to the prosecution's three expert witnesses at trial."

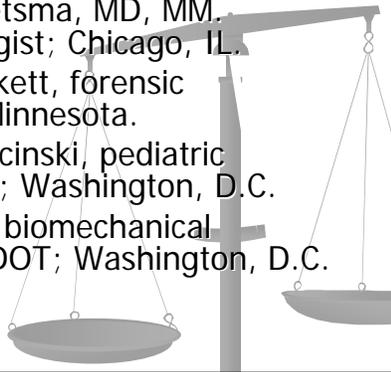
- The kind of expert you need largely depends upon if the child lived or died.
- If the child lived, you need an expert in head injuries, specializing in pediatrics (like a pediatric neurosurgeon).
- If the child died, you need a pathologist -- ideally a forensic, neuropathologist.
- Finally, in both cases you will likely need a radiologist to read scans (again, specializing in pediatric head injuries).

Tanner

SBS Experts

SBS Experts

- Dr. Jan E. Leetsma, MD, MM.
Neuropathologist; Chicago, IL.
- Dr. John Plunkett, forensic
pathologist; Minnesota.
- Dr. Ronald Uscinski, pediatric
neurosurgeon; Washington, D.C.
- Faris Bandak, biomechanical
engineer; USDOT; Washington, D.C.



Go Get 'Em

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