Overview of Daubert

"From the bar, attorneys are more likely to challenge expert testimony by filing motion in limine and objecting more often at trial to limit or exclude testimony from an opposing expert ... When successful, these efforts often lead to motions for summary judgment. Attorneys also report that Daubert has prompted them to take a more proactive approach in selecting their own experts and preparing for trial testimony..." (McAuliff & Groscup, in *Psychological Science in the Courtroom: Consensus and Controversy* by Jennifer L. Skeem, Kevin S. Douglas and Scott O. Lilienfeld, May 8, 2009, p. 27)

Judge is Gatekeeper: The task of "*gatekeeping*" or assuring that scientific expert testimony truly proceeds from "scientific knowledge", rests on the trial judge.

Relevance and Reliability: This requires the trial judge to ensure that the expert's testimony is *"relevant to the task at hand"* and that it rests *"on a reliable foundation".* Put simply, courts applying *Daubert* are encouraged to ask two questions of experts: "*Why should we believe you?*" and "*Why should we care?*" (Dvoskin and Kane, *Evaluation for Personal Injury*, [2011]. Oxford University Press.)

Scientific knowledge = scientific method/methodology: *Scientific knowledge* qualifies if it is the product of sound "*scientific methodology*" derived from the scientific method. The Court defined "*scientific methodology*" as the process of formulating hypotheses and then conducting experiments to prove or falsify the hypothesis, and provided a nondispositive, nonexclusive, "flexible" test for establishing its "*validity*":

A. Empirical testing: the theory or technique must be falsifiable, refutable, and testable.
B. Subjected to peer review and publication.
C. Known or potential error rate.
D. The existence and maintenance of standards and controls concerning its operation.
E. Degree to which the theory & technique is generally accepted by a relevant scientific community.

A. Formulating Hypotheses and Falsifiability
(See the next section on Rule 702 for these topics)

B. Subjected to Peer Review and Publication

C. Known or Potential Error Rate
Validity and Reliability. Psychologists emphasize both "**validity**" and "**reliability**" when talking about research studies or psychological testing.

Test validity concerns the test and assessment procedures used in psychological testing and the extent to which these measure what they purport to measure. Although classical models divided the concept into various "validities," such as content validity, criterion validity, and construct validity, the modern view is that validity is a single unitary construct.

Repeatability or **test-retest reliability** is the variation in measurements taken by a single person or instrument on the same item and under the same conditions. A less-than-perfect test-retest reliability causes **test-retest variability**. Such variability can be caused by, for example, intra-individual variability and intra-observer variability. A measurement may be said to be *repeatable* when this variation is smaller than some agreed limit.

Error Rate. When talking about "error rates", scientists use different **Significance Levels**. For instance – a particular scientific study uses a significance level of at least <.05. That means that less than 5 times in a hundred attempts to replicate the test will produce different results. The reverse of this equation is

the **error rate**. Setting an acceptable error rate accounts for confounding variables or chance. A consultant can help on this.

D. Standardized Controls

Psychological Testing

The use of psychological testing moves the evaluation closer to a scientific standard.

- Reliability is built into the instrument
- Evidence of construct validity
- Standardizes the assessment process
- Idiosyncratic contributions of interviewer are minimized
- Correlated with specific psycho-legal issues in a body of research as opposed a single study
- Clinical prediction, diagnoses, and classifications governed by same decision rules

E. General Acceptance

II. Shifting to a New Standard: <u>Rule 702</u>

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

Three different reliably tests were identified by *Merrell Dow Pharm., Inc. v. Havner*, 953 S.W.2d 706, 714 (Tex. 1997). Reliability requires the trial court to scrutinize not only the principles and methods used by the expert, but also whether these principles and methods have been properly applied to the facts of the case and any data, studies, or facts that underlie, or form the foundation of, the expert's opinion.

A. The testimony is based upon sufficient facts or data (collecting the dots)
B. The testimony is the product of reliable principles and methods (the dots are authentic)
C. The witness applied principles & methods reliably to the facts of the case (connecting the dots).

A. The Testimony is Based Upon Sufficient Facts or Data (Collecting the Dots)

<u>Knowing the Case</u>

First-and-foremost, the expert has to know about the specific case they are testifying about. Are there details about the case that make it categorically different than the studies being referenced?

<u>The **Null Hypothesis**</u> (The foundation of science and the American legal system.)

The practice of science involves formulating and testing *hypotheses*, assertions that are capable of being proven false using a test of observed data. The **null hypothesis** typically corresponds to a default position. For example, in a forensic assessment the null hypothesis might be that there is no mental health condition that influenced the instant event. From that position, the evaluator sets out to disprove the null with alternate hypotheses ("*The defendant has a long-standing thought disorder that is reflected in collateral sources. This condition was evident at the time of the instant event*.").

"*<u>Confirmatory Bias</u>*"

Psychological science has found that **researchers tend to find what they "expect" to find**. This goes by different names: "*Confirmatory Bias*", the "*Rosenthal Effect*" ("*Pygmalion Effect*"), the "*Rosenhan Effect*" ("*Sane in Insane Places*"), "*Mental Set*", "*Primacy Effect*", or "*First Impressions*" dynamic. The forensic evaluator needs to demonstrate they are cognizant of this phenomenon that adversely affects objective decision-making and show reasonable steps have been taken to avoid the various pitfalls. For example - the tendency for information gathering to be influenced by first impressions. There is a natural (albeit it unintentional) tendency to accept

the essential accuracy of the fact pattern as it is provided by the retaining attorney or by the defendant. Some questions to ask of the expert:

- Did the gathering of psychological data systematically rule out rival explanations? What contradictory points of data were found?
- Did the forensic evaluator believe retaining counsel told him/her the factual truth about these events? (1st contact bias?)
- There should be evidence that the expert planned what data to gather from which sources. This corroboration could take the form of signed consent forms for collateral contacts, asking for contacts that might have a different story to tell, or asking the subject of the evaluation to bring certain sources of data to the evaluation session.
- What percent of the time does the evaluator produce an opinion/report that is not helpful to the retaining attorney or doesn't fit the theory of the case?

B. The Product of Reliable Principles & Methods (The Dots are Authentic)

Are the methods used by the expert sufficient to support the opinion offered in a given case? There are three primary sources of principles & methods:

1. Has the forensic evaluator applied the principles of Science?

Physical Sciences vs. Social Sciences

Physical sciences take direct measurements while social sciences measurements are almost always "proxies" for the desired information. Human behaviors involve complex multi-factorial causation. Control over all the relevant variables is difficult at best.

Falsifiability

From Renaissance times the idea of falsifiability has been refined; it means, "*Can you show that your idea is wrong?*" From that emphasis comes the modern method of beginning with the **null hypothesis**. In order to be valid, expert testimony must demonstrate this "show me" attitude in the process of the investigation. To comply behaviorally with the concept of falsifiability, the expert must show an active search for information that might refute the position of the retaining attorney.

2. Is there an adequate review of research and use of psychological testing?

Acts of *Omission* vs. Acts of *Commission*

Often what is missing from the evaluation is more important than what is present. Which studies were not listed? Are there objective psychological tests that could have been applied? Why are these absent from the evaluation? This is where professional consultation can help.

Review of Research

- As mentioned in the previous section; access "PsychINFO" and scholar.google.com for a review of the professional literature on a subject. A consultant can help on this.
- Who were the subjects? How were they obtained? Random sampling?
- Do these subjects adequately resemble the defendant or victim?
- What was the level of ecological validity? How generalizable are the results of each study?
- Has a study been replicated?

3. Professional training and experience

Professional training and experience can be a strong guide for the forensic evaluator. But this can also be a source of significant bias. Remember, witch hunters and recovered "memory" experts had years of training and experience.

C. Applied the Principles & Methods Reliably to the Facts of the Case. (Connecting the Dots)

Law of Parsimony (Occam's Razor)

"*When you hear hoof beats, think horses not zebras*." **Occam's razor** (also written as **Ockham's razor**) is the law of parsimony, economy or succinctness. It is a principle urging the scientist to select amongst competing hypotheses which makes the fewest assumptions and thereby offer the simplest explanation of the effect. In applying the rule, one should proceed from simpler theories unless simplicity can be traded for greater explanatory power. A critical question becomes whether the expert adequately accounted for more obvious alternative explanations (i.e. the defendant was drunk at the time of the instant event as compared to a complicated theory involving PTSD and object-relations theory).

Inferential Leap

Forensic experts/evaluators don't have the tools to say specifically what happened in the past or to predict exactly what will be in the future. So they make inferential leaps based on the best research, testing, and professional experience.

III. Additional Direction on Daubert

The Advisory Committee on the Federal Rules of Evidence (2000) added five additional suggested areas of consideration based on court rulings after *Daubert:*

1. Whether experts are *"proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation, or whether they have developed their opinions expressly for purposes of testifying." Daubert v. Merrell Dow Pharmaceuticals, Inc.,* (9th Cir., 1995, p. 1317).
2. Whether the expert has unjustifiably extrapolated from an accepted premise to an unfounded conclusion.
3. Whether the expert has adequately accounted for obvious alternative explanations.
4. Whether the expert "is being as careful as he would be in his regular professional work outside his paid litigation consulting." *Sheehan v. Daily Racing Form, Inc.,* (7th Cir., 1997, p. 942).
5. Whether the field of expertise claimed by the expert is known to reach reliable results for the type of opinion the expert would give.

A leading forensic psychologist, Dr. Joel Dvoskin, shares the following:

> It should be noted that the Supreme Court, in *Barefoot v. Estelle* (1983), ruled that the testimony of a psychiatrist on the basis of clinical experience was admissible, because "*the rules of evidence generally extant at the federal and state levels anticipate that relevant, unprivileged evidence should be admitted and its weight left to the fact finder, who would have the benefit of cross-examination and contrary evidence by the opposing party*" (p. 898). Sales and Shuman (2005) suggested that a Texas federal court decision provides criteria that could be used in a *Daubert* analysis of clinical testimony [Antoine-Tubbs *v. Local 513 Air Transp. Div.* (N.D. Texas, 1998]:
>
> - personal examination of the plaintiff by the doctor;
> - personally taking a detailed medical history from the plaintiff;
> - using differential diagnosis and etiology;
> - reviewing tests, reports and opinions of other doctors;
> - reviewing other facts or data reasonably relied on by medical experts in forming opinions or inferences as to medical causation;
> - reference to medical literature; and
> - utilizing the doctor's training and experience.

Similarly, a forensic mental health expert would be expected to do a personal examination, take a detailed history, construct a differential diagnosis, review tests, reports and opinions of relevant clinicians, review information reasonably relied upon by psychological experts in assessing causation, referring to the psychological and medical literature, and utilizing the expert's training and experience.

The Gatekeeper. The Supreme Court made it clear in *Daubert* and its two progeny [General *Electric Company v. Joiner* (1997) and *Kumho Tire Co. v. Carmichael* (1999)] that trial court judges are to exercise their gatekeeping functions. It should be noted, though, that trial judges are not required to question expert testimony. It is up to attorneys to bring *motions in limine* [i.e., a motion to exclude "matters which are irrelevant, inadmissible and prejudicial" (Black's *Law Dictionary,* 1979, p. 914)] if they wish to have proposed testimony excluded, or to address the proposed testimony during trial testimony.

Put simply, courts applying *Daubert* are encouraged to ask two questions of experts: "*Why should we believe you?*" and "*Why should we care?*" The first speaks to the credibility, reliability, and validity of experts' opinions and the facts and logic upon which they are based. The second addresses the need for the expert to identify the relevance of the opinions to be offered to the specific questions at bar. Consistent with long traditions of Anglo-American law, this probative value must then be weighed against any prejudicial effects of the opinions to be offered (Dvoskin & Guy, 2008).

(Special thanks to Joel Dvoskin and Andrew Kane, *Evaluation for Personal Injury*, (2011). Oxford University Press. Personal communication to Dr. Simpson)