

Understanding Science and Scientific Methods:

An Overview for Lawyers

SUMMARY – 21 November 2005

Class on 14 November 2005 3.d. on the Syllabus

William Daubert et al. v. Merrell Dow Pharmaceuticals, Inc. 1993.

A. Bendectin:

1. The expert testimony on behalf of the plaintiffs did not pass the Frye -- “general acceptance by the scientific community” – standard.
2. The experts employed by the lawyers for the plaintiffs in the various Bendectin trials relied upon animal evidence, chemical structure (“test tube”) analysis, and reanalysis (meta-analysis) of the published studies.

B. Questions that the Supreme Court was called upon to Resolve: (1) Is the Frye standard superseded by Rule 702 of the Federal Rules of Evidence? (2) If Frye still holds then does it require that expert scientific testimony to have been peer reviewed (the meta analyses).

1. **Answer to (1): Yes (Hence (2) moot). Instead of "general acceptance" in the scientific community, the new**

test requires an independent judicial assessment of reliability.

2. The New Standard (7 Justices agree) – Scientific

Knowledge that will assist the trier of fact -- Whether the testimony's underlying reasoning or methodology is scientifically valid and properly can be applied to the facts at issue. Some Criteria:

- a. Whether the theory or technique in question can be (and has been) tested?**
- b. Has the scientific theory or technique been subjected to peer review and publication?**
- c. What is the known or potential error rate?**
- d. What is the expert's qualifications and stature in the scientific community?**
- e. Can the technique and its results be explained with sufficient clarity and simplicity so that the court and the jury can understand its plain meaning?**

C. Rehnquist's Dissent – The problem is that few judges have the necessary scientific background to make these decisions.

D. Questions Raised by the Decision

1. What is *Scientific Knowledge* especially with respect to expert testimony?
2. Does Scientific Knowledge have a Special Status?
3. Can there be Certainty in Science?
4. What is Scientific Consensus and who is Qualified to State What it is?

- E. **“Virtually every knowledgeable observer now agrees that the overall practical effect of the Supreme Court’s *Daubert* opinion was to tighten the standards for “scientific” evidence offered in federal courts.”**

(F&H, p.265)