

PHIL 245 - Science, Evidence and the Law

UC San Diego

PHIL 245

Winter 2015

Friday, 1-3:50 pm, HSS 7077

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For decades philosophers of science tried to solve the theoretical “demarcation” problem, the question of what in principle separates science from pseudo-science. The Positivists, Popper, and Lakatos each offered notable answers. More pressing than this theoretical problem, however, is the *practical demarcation problem* faced daily in the courts. Who can count as an expert witness? How do and should judges decide? What types of evidence are permitted? Fingerprints? Lie detectors? How should courts react when the science itself is especially uncertain, e.g., in so-called shaken baby syndrome. What kind of intellectual property can be patented? How does the law decide whether to allow patents for chemical processes, computer code, or novel organisms? A law may require ‘due diligence’ or instead spell out a number of concrete obligations. Can work in philosophy of science help us see advantages and disadvantages of each practice? The law must regularly decide issues of causation, for instance, in toxic torts. How is this handled, and can philosophy of science help? All of these questions are tremendously important to individuals and society. Individual criminal convictions, massive consequences in business, medical procedures, and large scale public policy all hang in the balance.

This seminar will confront these questions and others. We'll read work in philosophy of science, epistemology, law reviews, science studies, and a few landmark Supreme Court decisions. To help us through some of the specialties, we may invite a few experts in law and philosophy to visit.

Grading and Expectations

Students should be prepared to discuss the material assigned each seminar. They

should also actively pursue questions of interest at the intersection of science, evidence and the law and present in N (tbd) meetings. Students should expect to do presentations on some of the topics below, but they are not constrained to these. Eyewitness testimony fingerprinting, patenting genes, living organisms, body parts, agriculture, and issues surrounding life, death, and sex all offer great additional topics.

Grades will be determined by tbd...

For graduate students in Philosophy, this seminar can be counted toward the Philosophy of Science distribution requirement.

Readings

The list of topics is tentative and their order is TBD (except for the Introduction in week 1).

• Introduction (week 1):

- Resnick, "A Pragmatic Approach to the Demarcation Problem". [[LINK](#)]
- Jasanoff, "The Law's Construction of Expertise", in *Science at the Bar*. [[PDF](#)]
- Haack, "Irreconcilable Differences? The Troubled Marriage of Science and the Law", in *Evidence Matters*. [[PDF](#)]

• Expert Testimony I:

- Daubert v. Merrell Dow Pharmaceuticals. Be sure to read both the majority and dissenting opinions. [[LINK](#)]
- Haack, "Trial and Error: Two Confusions in Daubert", in *Evidence Matters*. [[PDF](#)]
- Solomon and Hackett, "Setting Boundaries Between Science and Daubert v. Merrell Dow Pharmaceuticals, Inc." [[LINK](#)]

• Expert Testimony II:

- Bernstein, "Expert Witnesses, Adversarial Bias, and the (Partial) Failure of the Daubert Revolution", [[LINK](#)]
- Cranor, "The Dual Legacy of Daubert v. Merrell-Dow Pharmaceuticals: Replacing Junk Science with Insidious Science". [[PDF](#)]
- Background: Murrie et al., "Are Forensic Experts Biased by the Side That Retained Them?". [[LINK](#)]

• Peer Review and Conflict-of-Interest Policies:

- Haack, "Peer Review and Publication: Lessons for Lawyers". [[PDF](#)]

- Elliott "Financial Conflicts of Interest and Criteria for Research Credibility". [\[LINK\]](#)
- Background: Jefferson et al., "Editorial Peer Review for Improving the Quality of Reports of Biomedical Studies". [\[LINK\]](#)
- **Shaken Baby Syndrome:**
 - Squier, "Questioning Shaken Baby Syndrome; An Institutional Response to Scientific Uncertainty". [\[PDF\]](#)
 - Tuerkheimer, "The Next Innocence Project: Shaken Baby Syndrome and the Criminal Courts". [\[PDF\]](#)
 - Tuerkheimer, "Criminal Justice at a Crossroads: Science-Dependent Prosecution and the Problem of Epistemic Contingency". [\[PDF\]](#)
 - Tuerkheimer, "Science-Dependent Prosecution and the Problem of Epistemic Contingency: A Study of Shaken Baby Syndrome". [\[PDF\]](#)
- **Abstraction I:**
 - Lucy, "Abstraction and the Rule of Law". [\[LINK\]](#)
 - O'Neill, "Abstraction, Idealization and Ideology". [\[LINK\]](#)
 - O'Neill, "The Power of Example". [\[LINK\]](#)
 - Background: Winther, "The Limits of Abstraction: Theory and Practice in the Natural and Moral Sciences". [\[PDF\]](#)
- **Abstraction II:**
 - O'Neill, "Justice, Gender & International Boundaries". [\[PDF\]](#)
 - Smith Freehills and Truesdale, "Resistance is Futile: Co-operation, Enforcement and Principles Based Regulation". [\[LINK\]](#)
 - Black, Hopper and Band, "Making a Success of Principles-based Regulation". [\[PDF\]](#)
- **Toxic Tort and Causation:**
 - Cranor, "How the Law Promotes Ignorance: The Case of Industrial Chemicals and Their Risks". [\[PDF\]](#)
 - Cranor, "The Science Veil over Toxic Tort Law: How Should Scientific Evidence Be Used in Toxic Tort Law?". [\[LINK\]](#)
 - Haack, Selection from chapters 9, 10, 11. [\[PDF\]](#)
 - Jasanoff, "Toxic Torts and the Politics of Causation". [\[PDF\]](#)
- **Intellectual Property Law and Science:**
 - Guest Visit: Susan Payne, patent attorney.
 - Eisenberg, "Biotech Patents: Looking backward While Looking Forward". [\[LINK\]](#)