F20 Science and Law: Ships Passing in the Night

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After attending this presentation, attendees will have a better understanding of the ongoing reluctance of the judicial system to accept scientific conclusions about faulty forensic science evidence and appreciate the basic conflict between the scientific search for truth and the legal reliance on precedent and *stare decisis*.

This presentation will impact the forensic science community by demonstrating how the legal system functions so differently than the scientific community and by informing how and why the courts are so resistant to change.

Nearly eight years ago, the National Academy of Sciences (NAS) found that, with the exception of DNA, the scientific basis for most forms of forensic science evidence had never been established. Nevertheless, most criminal courts continue to routinely admit almost all prosecution expert testimony. For the most part, judges, trial or appellate, do not weigh the scientific validity of evidence, as *Daubert* mandates. Most judges simply rationalize admissibility based on the prior admission of such evidence by other judges. The typical analysis is *stare decisis*, rather than the scientific inquiry required by *Daubert*. Why this disconnect between science and the law? Why do judges ignore scientific conclusions about faulty evidence that can, and does, lead to the conviction of innocent people?

One explanation may be the basic pedagogical differences between legal training and scientific study. The scientific method is a method of research in which a problem is identified, relevant data are gathered, a hypothesis is formulated from these data, and the hypothesis is empirically tested. It is designed to detect error and to rule out theories that are not true. Science seeks to explain reality on the basis of objective verification rather than subjective opinions, then to repeatedly verify that explanation.

On the other hand, American legal training is based on the concept of precedent and *stare decisis*, that the answer to present questions can always be found by looking to the past. For every legal issue, lawyers are taught not to seek the answer objectively based on the available information, but rather to simply ask how judges have answered the question in the past. When lawyers become judges, they utilize that same method that they were taught and that they have honed as practicing attorneys. The law is a search for certainty while science is a search for truth.

One hundred fifty years ago, Tocqueville observed that "Americans have retained the law of precedents; that is to say, they continue to found their legal opinions and the decisions of their courts upon the opinions and decisions of their predecessors. In the mind of an English or American lawyer a taste and a reverence for what is old is almost always united with a love of regular and lawful".[1] Oliver Wendell Holmes said: "It is revolting to have no better reason for a rule of law than that it was laid down in the time of Henry IV. It is still more revolting if the grounds upon which it was laid down have vanished long since, and the rule simply persists from blind imitation of the past".[2]

There are reasons for the law's reliance on precedent. It fosters stability and predictability. But, it also reflects a cognitive bias originating in our human tendency to prefer the status quo and to develop simple explanations for observed problems.[3]

These conflicting approaches to discovering truth and error come into stark conflict in the latest scientific revelations about forensic science. *Daubert* places the gatekeeping responsibility for the admission or barring of allegedly scientific evidence on judges who are not trained, or inclined, to look beyond what other judges have done in the past. Relying on opinions by judges yesterday who did not have the information that is available today, most of the judiciary continues to admit whatever has been admitted in the past. In some cases, courts even take "judicial notice" of the reliability and admissibility of forensic science evidence because many prior judges have admitted it.

With the mounting wrongful convictions attributed to faulty forensic science evidence, the law's relationship to science and technology is critical. Small changes are being made, mostly from the legislative and administrative sectors. Those piecemeal changes are not fundamentally affecting court admissibility decisions in any meaningful way nor does the adversarial system seem capable of convincing judges to even question the reliability of government evidence.

Reference(s):

1. Alexis de Tocqueville. *Democracy in America*. Ch. 16 (1840).
2. Oliver Wendell Holmes, Jr. T*he Path of the Law*. 10 Harvard Law Review 457 (1897).
3. Goutam U. Jois. *Stare Decisis is Cognitive Error*. 75 Brooklyn L. Rev. 63 (2009).

Science and Law, Admissibility, Legal Precedent