Law and Science

READING:

Legal Basics:

In general, legal cases are of two types: Criminal and Civil. In criminal cases, science is usually introduced as part of the evidence. Some examples are DNA forensics, fingerprints and autopsy results. A criminal case usually results in a conviction or acquittal. When a defendant is convicted he or she will receive jail time or something similar.

Civil cases (tort cases) are different. These cases are one person suing another for a wrong, either intentional or because of negligence. The result of a successful civil case is usually an amount of money, called damages, given to the plaintiff by the defendant.

Some civil cases have a number of plaintiffs suing one defendant (called class action suits). These have much larger damages (sometimes in the millions) and can effect litigation for many years to come. Science in civil cases presents itself as part of malpractice, in accident cases, wrongful death or wrongful life cases.

Courts:

Most states have three types of courts: trial courts, appeals courts and supreme courts (in some states the names are slightly different). In NY, the name of the trial court is actually superior court.

In criminal cases, because of double jeopardy, most cases are not appealed. If a defendant is found guilty, he or she cannot appeal unless there is an error in the trial proceedings. If a defendant is found not guilty, he or she cannot be tried again, under double jeopardy.

In Civil cases, however, the appeals process is different. If any person, either the plaintiff or defendant, is not happy with the result they can appeal to a higher court. This is what has happened in many of the cases presented here. If an appellate court or a supreme court did not take a case, the original result would hold.

How to Read a Legal Cite:

Legal cases are cited (or footnoted) by using a notation similar to the following:

19 Cal Rpt 494 (1993)

First number (14, in this example) is the volume number
Abbreviations (Cal Rpt, in this example) is what book and state found in
Second number (494 in this example) is the page number
then the year the case was decided is in parenthesis

Sometimes a number of states cases are bound in a single volume... this is indicated by using an area as indicator such as, SO (south) or NW 2d.

Some states have their own volumes such as California and New York...ex: NY 2d...etc.

Cases heard by the Supreme Court of the United States indicate such by adding US to either their cite or the title of their case. In Frye v US, however the US indicates that the case was heard in the Washington, DC jurisdiction, which is not a state.

Law and Science:

Scientific evidence, whether in a criminal, civil or class action case, can be very compelling and important to both sides of the litigation.

The argument that new scientific evidence is not "verifiable" has been in contention in courts for years. (Best known for being applied to DNA testing, specifically in the case of Simpson v CA.) Usually, a new scientific advance needs to pass a guide-line called the "Frye test" based from a case called US v Frye. This case sets guidelines so that so-called "flighty science" could not be delivered to a jury as "real" science. In Frye, the court determined four questions that needed to be answered to determine if a piece of scientific evidence can be admissible. The questions are:

1. To which scientific field does the evidence belong?
2. Is the scientific evidence generally accepted in this field?
3. What constitutes general acceptance?
4. Are there proper laboratory procedures?

Most courts use the Frye test, but another, more reasonable test is also used. This, so-called, relevancy test, leaves what is relevant up to the court or jury in each individual case. This test has been used with validity in many states.

It has always been questionable as to whether new science should be admissible in court. There are many examples of science that was not accepted years ago, and is now considered good testimony. Once, courts rejected the physicians testimony that asbestos was dangerous to workers in certain plants. That was in 1966, now, it is accepted in all medical circles.

On the other hand many question the difference between "good" science and "generally accepted" science. In 1950, Barbara McClintock was laughed at for writing a paper saying genes "jumped" around on chromosomes. In 1983, she won the Nobel prize for the discovery.

Often courts cannot determine ?accepted? science, they use publications and experts to corroborate validity but recently some Harvard professors, Stephen J. Gould and Everett Mendelsohn, filed papers in a Supreme Court case. They argued that courts incorrectly feel that if an article is published in a journal it is, therefore, "generally accepted?. Many journals publish shoddy papers and refuse papers that later are shown to be Nobel material.

In Daubert v Merrill Dow Pharmaceuticals, the Dauberts claimed that Benedictin, a morning sickness drug made by Merrill Dow, taken by Ms Daubert during her pregnancy, caused their two children to be born with stunted limbs. Merrill Dow argued that in order to be admitted in evidence, scientific testimony should be ?generally accepted?, as demanded under Frye. They claimed that the evidence presented by the parents was ?anecdotal? and not peer reviewed. Their main argument against the evidence was that it was not published in reviewed journals.

The appellate judge ruled that the scientific evidence presented by the parents was not admissible because it used animal studies. Daubert appealed to the Supreme Court.

This case was the first time the Supreme Court considered the standard of how courts should deal with scientific evidence. In an amicus curiae brief to the court, Stephen J. Gould and Everett Mendelsohn of Harvard University said that good science is not equal to generally accepted science because every ?generally accepted? view today was once looked at as ?junk? or eccentric science. They were concerned that courts showed a ?grave misunderstanding of science.?

The Supreme Court agreed. The Court increased the judges role in deciding what would be admitted and not admitted. They called the judge the ?gatekeeper? and stated that the judge should be sure that ?any and all scientific evidence admitted is not only relevant but reliable?. But they never said how and didn?t clarify how far judges can go.

In Daubert, the court also gave the judges no way out of this job. They said that a judge cannot be excused from his/her ?gatekeeper job? because they have no knowledge or find the task too large. Along with this, the Court demanded that the

judges exercise special care in doing this job and independently assess the scientific merits of scientific testimony.

Interestingly, Daubert was not as favorable to the plaintiffs, as originally thought. This was because, since Daubert, judges have been rejecting more scientific evidence than ever before.

One such case, Joiner v General Electric and Monsanto Corporation, was recently heard by the Supreme Court. They reinforced their ruling in Daubert by underlining the importance of the judges role.

Joiner claimed that he contracted cancer by exposure to PCBs (chemicals) in the transformers made by GE. He worked around the transformers and had intimate contact with the fluids that were contaminated with PCB. The trial court threw out the testimony of two expert witnesses that cited epidemiology and animal studies with similar facts. The appeals court said that the trial court had overstepped its ?gate keeper? role.

The Supreme Court struck down the Appellate Court?s ruling, stating that the trial court judge had fulfilled his role as a ?gate keeper?, therefore strengthened the role of judges and their Daubert decision. Justice Stevens told judges to bring in their own experts.

Some creativity has resulted from these decisions. In a case recently heard in Oregon, Hall v Baxter Health Care Corporation, a Federal judge, Judge Robert E Jones, was one of the first to try a new technique. His case, a class action suit, involved silicon breast implants and autoimmune disease. It is thought that the model Judge Jones used will be a model for other high profile cases where scientific evidence is in dispute.

Jones was afraid that the magnitude of scientific testimony would be very complex and bore the jury. In order to avoid this and/or jury negation of evidence, he created a panel of experts that included an eminent immunotoxicologist, Mary Stenzel-Poole; a rheumatologist, Robert F. Wilkens; a polymer chemist, Ronald McClard and a epidemiologist, Merwyn Greenlick. They were asked to study the scientific evidence and each create a report for him. He used these reports to judge which evidence would be excluded or presented. This cut down the need for expert witnesses from both sides, some that might be contradictory. The reports gave the evidence mixed reviews.

From these reports Judge Jones agreed with the company?s request to exclude from the trial ?any expert testimony concerning a general causal link between silicone breast implants and systemic illness.?

Daubert and its subsequent cases are from Federal Courts, therefore, they have only limited effect on state courts. However, a number of state courts, frustrated by Frye and its implications, have been looking at Daubert.

For example, Georgia has rejected Daubert but recently its Supreme Court has shown displeasure in ?hired gun? experts. In Jordan v GA Power Company, the Supreme Court struck down the expert testimony in a case where a man clamed that use of his cellular phone caused a brain tumor. If this sounds strange to you, lets see what is found 10 years from now.