

Causal Proofs Concerning the Particular Case in Toxic Torts and Forensics

Joseph Sanders, University of Houston

I. The Issue: Causation in the particular case

- A. Two areas where this is often problematic
 - 1. Toxic torts (did substance or drug X cause injury Y in the plaintiff's case?)
 - 2. Forensics (did partial print X come from the finger of defendant Y?)
- B. Interestingly, the causation "problem" is a relatively new one. Or to put it more precisely, until recently few perceived that there was a specific causation problem.
- C. Why is the problem more frequently recognized today? The short answer is *Daubert*. Changing and more stringent admissibility standards have placed a spotlight on specific causation problems. But *Daubert* is not the only thing at work. A brief review of particular causation in torts and forensics will provide some background.

II. Torts

- A. In torts, one way to define the "problem" is to note that the plaintiff must prove causation at two levels, what are today commonly called "general causation." (Can the defendant's wrongdoing cause harm to anyone?), and "specific causation" (Did the defendant's wrongdoing cause harm to the plaintiff?)
- B. Until the rise of toxic torts, the issue of causation in the case at hand rarely arose and indeed this very bifurcated understanding of causation was rarely even discussed.
- C. In part this was because in many cases there really was no problem.
- D. Consider, for example a typical car wreck in which an expert is prepared to testify that the wreck causes the plaintiff to suffer a head injury. The testimony, which is, after all, specific causation testimony, is based on two unstated premises
 - 1. Implicit General causation – crashes do cause this type of head injuries (armchair epidemiology)
 - 2. Specific causation – this particular head injury was caused by the crash
 - a. Temporal order (was not injured before)
 - b. Implicit differential diagnosis (no other apparent cause of the head

injury)

- E. Note that on rare occasions all of this can be challenged: egg shell skull claims, more typically egg shell psyche cases, or pre-existing injury cases.
- F. The *Daibert* trilogy is not the only reason that proof of specific causation is a more apparent problem in tort law today. An equally important factor is the greatly increased number of situations where the presence of existence of general and/or specific causation is not obvious. A Prime example of this is in the area of toxic and drug related injuries.
 - 1. General causation often problematic (does silicone in implants cause autoimmune disease)
 - 2. Specific causation is also problematic (did exposure to asbestos cause this lung cancer?)
 - 3. Parties (and courts) sometimes fail to recognize that evidence on both levels is required.ⁱ
- G. The interaction between these two factors
 - 1. These two factors (admissibility rules and the changing nature of injuries) often go hand-in-glove.
 - 2. The heightened rules have sharpened our sensitivity to the problems surrounding specific causation testimony.
 - 3. Note that in some *Frye* states the general causation/ specific causation distinction is not acknowledged or is disregarded.ⁱⁱ

III. Forensics

- A. Before *Daubert* many types of forensic evidence were admitted with little or no judicial review for reliability.
- B. At least since *Daubert* numerous areas have come under greater scrutiny although scrutiny has not translated into exclusion of expert testimony.
- C. Even more than in the toxic tort area, expert testimony is sometimes based on questionable assumptions.
 - 1. General causation is often assumed (sometimes with considerable justification, e.g. fingerprints, and sometimes with very little justification, e.g. bitemarks).
 - 2. Many experts assume that reliable specific causation by employing what is sometimes called the Individualization Fallacy.ⁱⁱⁱ The fallacy leads to statements such as a firearms examiner's testimony that he is able to identify an unknown weapon "to the exclusion of every other firearm in

the world.”^{iv} Such statements are problematic at both a general level, there is little science supporting the assertion, and at the particular level, that in a given case the expert can discern unique features. As a result, specific (particularistic) causation sometimes rests on very weak evidence.

D. Here are a few recent examples

1. Handwriting^v
2. Bitemarks^{vi}
3. Even Fingerprints^{vii}

E. What toxic torts and forensics share is the fact that often there is little scientific systematic, objective evidence supporting assertions about the particular case.

IV. **Comparing toxic injuries and forensic identification.** There are **two** underlying problems giving rise to concerns about specific (particularistic) testimony

A. The most fundamental problems occur when an area has little or no scientific underpinnings at all.

1. This is the problem in some (but far from all) forensics areas.
2. In these areas there is limited support for even general causation assertions and thus all testimony relating to the particular case is suspect

B. Even when there is a substantial body of evidence, the generalized nature of scientific inquiry in many areas limits the ability to make precise objective statements about individual cases. We can say with some certainty that there is a general relationship, but we are limited in our ability to make specific causal attributions.

1. Toxicology and epidemiology provide valuable information on general causation but they are limited in what they can say about specific causation (There are exceptions. For example, specific causation attributions are much easier when relative risks are high or when there is a “signature disease.”)
2. Similar statements may be made about some areas of forensics.

C. In sum, although individualized forensic identifications are the subject of a substantial body of criticism from the academic community, similar critiques may be made concerning many expert pronouncements on specific causation in the toxic tort area.

1. In both areas, case specific causal assertions (the defendant’s substance caused the plaintiff’s injury / the defendant’s hand left the latent print at

the crime scene) are based on the clinical judgment of the expert.

2. Often there is little systematic research based on strong probabilistic evidence in support of the proposition being asserted.

V. **Commonalities between forensic and toxic tort case specific testimony**

- A. In both areas, this testimony tends to come from “clinicians” rather than from “scientists.”
- B. The clinicians are much more comfortable basing an assessment on subjective, ill-defined characteristics, even when this methodology comes under attack as it has in the forensic area and to a lesser degree in medicine (the empirical medicine movement)
- C. Groups more devoted to a scientific approach may be less willing to express specific causation views.
- D. An example is the testimony of most experts in eyewitness identification cases. Most experts recognize that research on eyewitness identifications offers general information on factors affecting the accuracy of identifications, but offers relatively little insight as to whether a particular witness is correct.^{viii}

VI. **Responses to the specific causation problem**

- A. Do nothing and permit experts to testify based on their clinical judgment in all cases.
 1. This is the apparent solution in many forensic cases
 2. It is also the solution in toxic tort cases in some *Frye* states.^{ix}
- B. Allow clinical testimony but attempt to filter out the least reliable assertions.
 1. This is the basic solution in toxic tort cases in federal courts where *Daubert* and *Kumho Tire* are used to exclude what are thought to be the least reliable assertions.
 2. There remains the question of whether in the hands of the judiciary this is a good filter and whether it overreaches (or underreaches) in its exclusions.
- C. Permit experts to make general causation statements, but not specific assertions dealing with the case at hand
 1. This solution mimics most eyewitness identification testimony
 2. It is the half-way solution adopted by a number of troubled judges in the forensic context.^x

VII. The merits of these and other solutions

- A. From one point of view, the problem is the same in both the forensic and toxic tort area: Clinicians, employing their standard subjective methods, overreach
- B. One is tempted to adopt the eyewitness expert solution. However, this solution itself has problems.
 - 1. In some forensics contexts this may be a reasonable solution.
 - 2. It may throw the good out with the bad. There are many situations where we can tie the individual to a crime using forensic evidence.
 - 3. It ignores the reality that specific causation evidence is an essential part of the plaintiff's legal burden in tort cases (although there have been a number of proposals to relax or reverse the burden of proof on specific causation in some set of cases)
 - 4. Such general testimony simply casts the burden of deciding on the jury and there is some evidence from eyewitness research that general causation evidence of this type is not very helpful to juries in deciding cases.
- C. Thus the best among some not very good choices seems to be to use a reliability filter to weed out the worst testimony.
- D. And there are two other steps that might prove to be helpful.
 - 1. Educate clinicians on the limits of their ability and their expertise.
 - 2. Best of all, develop better individual causation science. In the tort area, for example, the field of toxigenomics holds out some hope that we will be able to say with greater precision that a plaintiff's particular injury was or was not caused by the defendant's product.

VIII. Conclusion

- A. The law should be sensitive to the nature of what passes for knowledge in the relevant expert communities that routinely present evidence in court
- B. A particularly difficult problem is presented when a group of "clinicians" stand prepared to opine on specific causation based on ill defined, subjective judgments
- C. Wherever this problem emerges, courts must be sensitive to the limits of such knowledge.
- D. However, they must also be sensitive to the practicalities of the situation and search for solutions that balance a variety of competing interests.
- E. Those interests include at least the following

1. The parties' need for the evidence
2. The ability of judges to sort out more and less reliable testimony.
3. The ability of juries to reach accurate decisions given different admissibility rules.

Endnotes

i. *Becker v. National Health Prods., Inc.*, 896 F. Supp. 100, 102 (N.D.N.Y. 1995); *McCulloch v. H.B. Fuller Co.*, 61 F.3d 1038, 1043 (2d Cir. 1995).

ii. See *Marsh v. Valyou*, --- So.2d ----, 2007 WL 4124744. (Marsh is an interesting case because it combines traditional accidents (a car wreck) and newer injuries (fibromyalgia).

iii. See Michael J. Saks & Jonathan J. Koehler, *The Individualization Fallacy in Forensic Science Evidence*, 61 *Vanderbilt L. Rev* 199, 205 (2008). Saks and Koehler define the fallacy as "placing an object in a unit category that consists of a single unit. Individualization implies uniqueness."

iv. *United States v. Green*, 405 F.Supp.2d 104, 107 (D. Mass, 2005).

v. *United States v. Starzeczyzel*, 880 F.Supp 1027 (S.D. N.Y. 1995); *United States v. Hines*, 55 F. Supp.2d 257 (D. Mass 1999); *United States v. Fujii*, 152 F. Supp.2d 939 (N.D. Ill. 2000).

vi. Courts seem to be reluctant to reject bitemark evidence even in the face of research indicating the error rate for such testimony is quite high.. But see *Egge v. Uukins*, 380 F.Supp.2d 852 (E.D. Mich. 2005).

vii. See *United States v. Llera-Plaza*, 179 F.Supp.2d 492 (E.D.Pa. 2002) and *United State v. Llera-Plaza*, 188 F.Supp.2d 549 (E.D. Pa. (2002).

viii. *But see United States v. Mathis*, 264 F.3d 321, 334 (3d Cir. 2001). The case is discussed in Faigman, et al., 4 *Modern Scientific Evidence* 473 (2007-08).

ix. See *Kuhn v. Sandoz Pharmaceuticals Corp.*, 270 Kan. 443, 14 P.3d 1170 (2000).

x. *United States v. Hines*, 55 F. Supp.2d 257 (D. Mass 1999).