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Publication Review

Toxic Torts: Science, Law and the Possibility of Justice

Carl Cranor

Reviewed by Liz Fisher

Subject: Torts

***P.L. 817** At first sight Carl Cranor's new book, *Toxic Torts: Science, Law and the Possibility of Justice* is not an obvious candidate for a book review in *Public Law*. Not only its subject-matter very much private law in nature--the admissibility of expert testimony in tort litigation--but it ***P.L. 818** also focuses on a US phenomenon--toxic torts. Yet there is much for Commonwealth and European public lawyers in this fine book. In particular, this book is a valuable read because it is a template for how research into the law/science interface should be done and as such highlights the need for all lawyers, public and private, to take a more nuanced approach to thinking about this interface.

Cranor's focus is on the trial court application of a trilogy of US Supreme Court cases concerning the admissibility of expert evidence in tort cases: *Daubert v Merrell Dow Pharmaceuticals* 509 U.S. 579 (1993); *General Electric Co v Joiner* 522 U.S. 136 (1997); and *Kumho Tire Co v Carmichael* 526 U.S. 137 (1999). The first of these cases is well known and much written about. It established the principle that a trial judge must engage in a "preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether the reasoning or methodology properly can be applied to the facts in issue" (*Daubert* at 592-593). Since *Daubert*, its application has seemingly resulted in the number of summary judgments before trial doubling and judges being far less likely to admit all proffered expert testimony (Cranor, p.5). A consequence of this is that these admissibility rules which are really only meant to serve a crude gatekeeping function are now a substantial barrier to plaintiffs being able to bring toxic tort actions. Cranor argues that this state of affairs is not due to some sinister ideological plot but, because the way that the *Daubert* test has been applied has led to a legal construction of science which bears little relationship to how scientists understand science, the test privileges certain types of science over other types, and the test can be applied very differently. Thus he shows that the problems with the *Daubert* test are neither simple nor obvious but rather are to do with the way the test is embedded in US legal culture.

Cranor is writing for a wide audience and his book is accessible to both lawyers and non-lawyers. With that said this is not a book of generalisations nor over-simplifications. Rather, Cranor is engaging in a careful analysis and showing his readers that it is only through mastering the detail that we can really understand problems to do with expert testimony and how to deal with them. As he rightly points out, understanding the issue of admissibility of expert evidence in tort cases requires understanding 'two "complex" institutions: science and the law' (p.7) and the interaction between them. The argument of his book is that:

"... [W]e live in a scientific and technological society but we have not yet fully developed sufficient institutional expertise, norms and procedures to ensure science and the law will function well together and to give injured parties the realistic possibility of justice." (p.3)

He follows this through by showing that many of the problems with the *Daubert* test are to do with a failure of judges and commentators to understand the scientific and legal issues involved.

In the introductory chapter Cranor introduces his argument as well as giving an overview of the type of cases involved. Chapters 2 and 3 are a succinct analysis of the expert admissibility rules in their legal context in which he examines procedure, institutional aspects of the court system and substantive tort law. This is incredibly valuable because as Cranor shows, an important aspect of understanding *Daubert* is to understand how it operates in practice, particularly the trial court context. Law is only one part of the story however and in Chapter 4 Cranor provides a pithy analysis of different forms of toxicity studies and the different ways that they are reasoned from. Here Cranor is opening up the "black box" of science and showing that scientific studies and scientific reasoning are not monolithic or universal concepts. Chapter 5 extends this analysis by examining in detail the way in

which science deals with issues to do with scientific uncertainty. As Cranor rightly points out, legal actors often have a poor understanding of the persistent and problematic nature of scientific uncertainty and Cranor's argument is that this problem is acute in relation to *Daubert*. This is because the evidence was particularly strong in that case and so in formulating doctrine the Supreme Court were not thinking about, or engaged with, issues to do with scientific uncertainty. Chapter 6 is a detailed study of the interface between law and science in the context of toxic tort litigation in which Cranor analyses conflicts between scientific and legal understandings of evidence and proof in particular circumstances, and in relation to specific types of evidence. In this chapter he deftly builds up a picture of the way in which courts have promoted unrealistic and incorrect assumptions about science (see pp.279-282 for a summary of these). Chapter 7 considers the ways in which the *Daubert* test could ***P.L. 819** be interpreted in a more nuanced manner so that more accurate evidence is admitted into testimony and there is less bias against plaintiffs. The important point made here is that judges do have choices in how they interpret the law. Chapter 8 reflects more generally on how and whether law can be reformed so that science better informs our decisions.

As already noted, Cranor's book is a book concerned with detail--he gets into the details of the cases, the science and the reasoning. It will frustrate those who want a formula for the application of the law and a shopping list for reforms. Rather, the overall thrust of Cranor's book is that we need to take a broader and more sophisticated approach to understanding the way in which science and law interact and that there is no better way to do this than to engage in the detail. Thus this book emphasises the importance of trial court practice and reasoning--an activity often below the radar of legal scholars. Likewise, Cranor's analysis of the science is not a definitive guidebook to what science is but rather a thoughtful analysis of the intellectual problems that arise from specific types of scientific practice and uncertainty. He wants both lawyers and scientists to think hard about what they do. In regard to the latter, this book is important because too often law is treated in a "plug and play" fashion by non-lawyers who think that the law is just an instrument for delivering certain results.

While Cranor is immersed in the detail of US toxic tort litigation his analysis does have implications for scholars, lawyers and judges working in other areas of the law, particularly public law. Not only is Cranor's book a paradigm of taking an intelligent and methodological approach to the science/law interface but in so being he highlights just how poorly this interface has been understood by both lawyers and legal scholars. The end result is that the well-meaning are often making bad law. It is worth giving two examples from public law here.

First, terms such as "risk assessment", "scientific proof" and "scientific reasoning" are often used by public lawyers with little understanding of what these terms mean. In particular there appears to be little awareness that concepts of risk assessment are regulatory constructs that have evolved in different institutional settings. As the Committee to Review the OMB Risk Assessment Bulletin of the National Research Council notes, "risk assessment is not a monolithic process or a single method".¹ Yet legal actors presume that it is. A case in point is the Commission's *Communication on the Precautionary Principle* COM (2001) 1 final which requires a risk assessment to be done before applying the precautionary principle. Not only is the Communication based on the presumption that a singular definition of "risk assessment" operates in WTO law when it does not,² but the Communication also provides two different definitions of risk assessment (p.14 and Annex III). One of these definitions has been derived from health risk assessments but it is presumed it will apply to ecological risk assessment as well without any awareness that assessment of environmental impacts requires different methods and processes.³ The Communication also discusses the concept of "comprehensive", "full" and "complete" risk assessments (pp.4, 18, 24) but never defines what that actually means. There also seems to be no awareness that few risk assessments will indeed be "full" or "complete". Needless to say the case law of the European Court of Justice and Court of First Instance on the issue has been cryptic in setting down tests for compliance with the principle.⁴ The end result is that while the precautionary principle is about enabling environmental protection measures, this Communication and its application does quite the opposite

A second example of where the lack of understanding of the law/science interface can be seen among public lawyers is in the number of times I have read or heard scholars, lawyers and judges say that *Daubert* either applies in administrative law cases or that they think it should. Admittedly this suggestion often has an ideological slant but what it reveals is a complete lack of understanding of the nature of *Daubert* and that the role of scientific evidence in an administrative law case is very different from in a tort case. As Cranor's analysis makes clear, *Daubert* is playing a preliminary gate-keeping role in relation to expert ***P.L. 820** testimony in jury trials where such testimony is establishing the facts of whether a particular substance caused harm. In contrast, in an administrative law case the central issue is whether action on the part of public administration is legally valid in that it

was within power or complied with certain legal principles. Science is playing a very different role in each.

The only criticism I have of the book is a very pedantic one. Cranor describes tort law in terms of “the tort law”--a phrase I find odd for two reasons. First, I can find no other general use of the term. Secondly, this book contradicts the very idea of there being “the” tort law in that Cranor's analysis is based on a far more nuanced, multidimensional and contextual understanding of law. His book is a demand to think beyond simplistic ideas such as “the law” and “the science” to a richer understanding of both. In particular, in chapters such as Chapter 6 and Chapter 7 he is pointing to the need for lawyers to pay far more attention to language.

With that said, this is an excellent book and a must read for anyone who is trying to engage with the science/law interface in any context. Moreover, next time someone tells me *Daubert* should be applied in public law cases I will tell them to read this and then tell me what they think.

Liz Fisher⁵

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1. *Scientific Review of the Proposed Risk Assessment Bulletin from the Office of Management and Budget* (Washington DC: National Academy of Sciences, 2007).
 2. See E. Fisher, *Risk Regulation and Administrative Constitutionalism* (Oxford: Hart, 2007), Ch.5.
 3. National Research Council, *Understanding Risk: Informing Decisions in a Democratic Society* (Washington DC: National Academy Press, 1996).
 4. *Pfizer Animal Health v Council* (T-13/99) [2002] E.C.R. II-3305.
 5. Corpus Christi College, Oxford.

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