

THE CONTROVERSIAL COMMENT C

DRAFT

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Paper Prepared for the Symposium on the Third Restatement of Torts

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April 2-3, 2009

A. INTRODUCTION

Section 28 of the Restatement (Third) of Torts: Physical and Emotional Harms sets forth what would appear to be a very non-controversial position on burden of persuasion with respect to causation.<sup>1</sup>

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<sup>1</sup>. Here is the Black Letter of Section 28:

**(a) Subject to Subsection (b), the plaintiff has the burden to prove that the defendant's tortious conduct was a factual cause of the plaintiff's physical harm.**

**(b) When the plaintiff sues all of multiple actors and proves that each engaged in tortious conduct that exposed the plaintiff to a risk of physical harm and that the tortious conduct of one or more of them caused the plaintiff's harm but the plaintiff cannot reasonably be expected to prove which actor caused the harm, the burden of proof, including both production and persuasion, on factual causation is shifted to the defendants.**

Subsection (a) reestablishes one of the most fundamental principles in tort law. The plaintiff has the burden of persuasion on each element of the tort, in this case the element of cause in fact. And subsection (b) reiterates a position which is less fundamental but hardly controversial: the burden of proof is placed on the defendants in the *Summers v. Tice*<sup>2</sup> indeterminate defendant situation. One might have thought, therefore, that the comments explicating this Section would have been equally non-controversial. In one instance, this was not the case. Comment *c* on toxic substances and disease was arguably the single most controversial text in the project.<sup>3</sup>

The controversy is interesting in its own right. More importantly, however, the controversy, and indeed Comment *c* itself are interesting because of what they reveals about how legal approaches to questions of causation changed in the years between the second and third restatement.

Section B discusses the two aspects of the Comment that were most controversial: how one should conceptualize the causal question in toxic tort cases, and the perceived intermingling of the law of tort and the law of evidence. I note that with respect to each of these sources of controversy, for good or bad the section tracks changes in tort law that occurred between the Second and Third Restatements.

Section C builds on the previous section. Here, I argue that the specific controversies

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<sup>2</sup> *Summers v. Tice*, 33 Cal.2d 80, 199 P.2d 1 (1948).

<sup>3</sup> Some have compared the controversy to the controversy surrounding the alternative feasible design requirement in the Restatement (Third) of Torts: Products Liability project in the mid-1990s.

may be viewed as the effects of a set of larger trends in the way tort law addresses the causal question in response to the types of tort claims that come before the courts. I discuss four interrelated changes: a) the meshing of admissibility and sufficiency, b) the increased role of the judiciary, c) the increasing role of scientific understandings in defining how we understand causation, and d) the emergence of truth seeking as the primary goal of adjudication.

I conclude with a brief summary.

## B. THE CONTROVERSY

The controversy surrounding Comment *c* primarily turned on two issues: how to conceptualize the causal question in toxic tort cases and the perception that the comment inappropriately addressed issues best left to the law of evidence.

### 1. The causal question in toxic torts.

At the time the Second Restatement was promulgated in the 1960s, the era of toxic torts had not emerged nor had the causal difficulties it engenders.<sup>4</sup> Section *c* is the restatement's first pronouncement on this topic. Controversy arose because to some it appeared that the comment divided the cause-in-fact question into two separate elements: general causation and specific causation.<sup>5</sup> Clearly, the Comment discusses causation in terms of these two components but the

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<sup>4</sup> Arguably, the rise of toxic torts began with the landmark *Borel v. Fiberboard Paper Prods. Corp.*, 493 F.2d 1076 (5th Cir.1973) cert. denied, 419 U.S. 969, 95 S.Ct. 127, 42 L.Ed.2d 107.

<sup>5</sup> These terms did not appear in legal opinions until after the promulgation of the Second Restatement. The first use of the terms that I could find in a Westlaw search occurred in a 1983

controversy arose as to whether these were separate elements in the sense that the plaintiff must prove each by a preponderance of the evidence. On this point, Comment *c* takes the following position. Here is what it says:

The plaintiff must prove by a preponderance of the evidence that, but for the defendant's tortious conduct with respect to the toxic substance, the plaintiff would not have suffered harm. When group-based statistical evidence is proffered in a case, this means that the substance must be capable of causing the disease (“general causation”) and that the substance must have caused the plaintiff's disease (“specific causation”). In other cases, when group-based evidence is unavailable or inconclusive, and other forms of evidence are used, the general and specific causation issues may merge into a single inquiry. In any case, plaintiff's exposure to the toxic agent must be established.

Thus, courts often address “exposure,” “general causation,” and “specific causation.” Nevertheless, these items are not “elements” of a plaintiff's cause of action, and in some

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Agent Orange opinion.

In that light, the term “general causation” is to be understood in contrast to “specific causation”, the latter term being addressed to whether exposure to Agent Orange did in fact cause a particular condition suffered by a particular plaintiff. The former term is addressed to the common question of whether exposure to Agent Orange in the manner that it was used in Vietnam could cause the kinds of injuries that plaintiffs claim to have suffered.

In re Agent Orange, 570 F.Supp. 693, 695 (E.D.N.Y. 1983).

cases may not require separate proof. So long as the plaintiff introduces admissible and sufficient evidence of factual causation the burden of production is satisfied. A court in a particular case may conclude that reasonable minds cannot differ about proof of factual causation under the general test *because* reasonable minds cannot differ on whether the plaintiff was exposed to the agent, whether the agent is generally capable of causing the disease, or whether the agent caused the plaintiff's disease in the specific case. These categories function as devices to organize a court's analysis, not as formal elements of the cause of action.

Thus, according to the restatement causation is a unitary concept. When courts divide it into component parts this is simply an organizational device, not the creation of a separate elements. Sometimes the plaintiff must explicitly make separate proofs concerning general causation and specific causation, but other times this won't be necessary.<sup>6</sup> This position is clearly correct. It is correct, however, not because the causal question in toxic tort case is unique. Every tort case requires proof of both general and specific causation but in many situations both are proven by the same evidence. Comment *c* explicitly recognizes this fact in the following paragraph.

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<sup>6</sup> For this paper, I will set aside the question of “exposure” and whether it does or does not stand on equal footing with general and specific causation. For a useful recent discussion of exposure by a preeminent toxicologist, see Bernard D. Goldstein, *Toxic Torts: The Devil is in the Dose*, 16 *J.L. & Pol'y* 551 (2008).

In most traumatic-injury cases, the plaintiff can prove the causal role of the defendant's tortious conduct by observation, based upon reasonable inferences drawn from everyday experience and a close temporal and spatial connection between that conduct and the harm. Often, no other potential causes of injury exist. When a passenger in an automobile collision suffers a broken limb, potential causal explanations other than the collision are easily ruled out [i.e. specific causation]; common experience reveals that the forces generated in a serious automobile collision are capable of causing a fracture [i.e. general causation].

By proving that one's leg was broken in an automobile accident one has proven both general and specific causation. Quite often in toxic tort cases this "unitary proof" is not adequate. Because there may be substantial doubt as to whether a substance or a drug harms anyone (or harms any one at the dosage experienced by the plaintiff) there is a question of general causation. And because even known causes may explain only a fraction of the incidence of a disease, courts ask for a separate proof that a given substance or drug caused the plaintiff's illness. Thus, in these cases, it is somewhat formalistic to say that general and specific causation are not each elements of the tort. For all practical purposes, in the case where courts attend to both, both are necessary and the causal question has become bifurcated in the sense that the plaintiff must make an explicit proof as to both causal questions.<sup>7</sup> The very fact that Comment c

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<sup>7</sup> The difficulties plaintiffs face with respect to proving causation has caused some to advocate a relaxed causation standard in toxic torts. See, e.g., Margaret A. Berger, Eliminating General Causation: Notes Towards a New Theory of Justice and Toxic Torts, 97 Colum. L. Rev.

even obliquely recognizes this reality is one reason it is controversial.

## 2. *Daubert* and the new admissibility rules

A second objection to Comment *c* is that it co-mingles questions of tort law, which are properly within the scope of this restatement and questions of evidence law in the form of *Daubert* rulings, which are not. Comment *c* makes a valiant effort to address this concern by drawing a distinction between admissibility rulings under the law of evidence and substantive sufficiency rulings under the law of torts. It purports to restrict its discussion to the issue of sufficiency.

The requirement of causation, the elements of agent-disease causation that are sometimes required when group studies are employed as proof, and the sufficiency of the evidence to meet the burden of production on causation are matters of substantive tort law, and they are addressed in the Restatement.

However, as Comment *c* notes, the two issues overlap. Indeed, they overlap in so many ways that disentangling them is impossible. First, the modern evidence rules surrounding the admissibility

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2117, 2117 (1997) (“The causation model is blind to the realities of scientific uncertainty and corporate behavior, and is inconsistent with notions of moral responsibility underlying tort law.”). For a rebuttal see Jonathan C. Mosher, A Pound of Cause for a Penny of Proof: The Failed Economy of an Eroded Causation Standard in Toxic Tort Cases, 11 N.Y.U. Envtl. L.J. 531 (2003).

of expert testimony were, to a large extent creatures of toxic tort and drug cases.<sup>8</sup> The earliest pre-*Daubert* cases, such as *Ferebee v. Chevron Chemical Co.*<sup>9</sup> adopted a hands off position with respect to the expert testimony.<sup>10</sup> However, as time went by, courts began develop various tests by which they might exclude expert testimony under Federal Rule of Evidence 702 or 703. One early influential case was Judge Jack Weinstein’s opt-out opinion in the Agent Orange Litigation, in which he excluded expert testimony and dismissed the cases of opt-out plaintiffs.<sup>11</sup>

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<sup>8</sup> The developing case law that lead up to *Daubert* included, *Christophersen v. Allied-Signal Corp.*, 939 F.2d 1106 (5<sup>th</sup> Cir. 1991) (exposure to fumes containing particles of nickel and cadmium); *Viterbo v. Dow Chem.*, 826 F.2d 420, 422 (5th Cir.1987) (exposure to chemical herbicide); *Ferebee v. Chevron Chemical Co.*, 736 F.2d 1529 (D.C. Cir. 1984) (same); *Ambrosini v. Labarraque*, 966 F.2d 1464 (D.C. Cir. 1992) (exposure to the drug Depo-Provera); *In re Agent Orange Product Liability Litigation*, 611 F.Supp. 1223 (E.D.N.Y. 1985) (Agent Orange); and the numerous cases involving the drug Bendectin, including *Daubert*.

Of course, not every important admissibility decision involved a toxic tort. See e.g., *United States v. Downing*, 753 F.2d 1224 (3<sup>rd</sup> Cir. 1985) (eyewitness identification).

<sup>9</sup> *Ferebee v. Chevron Chemical Co.*, 736 F.2d 1529 (D.C. Cir. 1984) (Plaintiff alleged that alleging that he contracted pulmonary fibrosis as a result of long-term skin exposure to dilute solutions of paraquat, a herbicide.)

<sup>10</sup> “The case was thus a classic battle of the experts, a battle in which the jury must decide the victor.” *Id.* at 1535.

<sup>11</sup> *In re Agent Orange Product Liability Litigation*, 611 F.Supp. 1223 (E.D.N.Y. 1985).

Over the next several years, with some notable exceptions,<sup>12</sup> courts hearing toxic tort case often excluded expert testimony. Needless to say, two of the three cases in the *Daubert* trilogy, *Daubert* and *Joiner* also involve drugs or toxic injuries as do many post-*Daubert* opinions.<sup>13</sup>

Second, the central concepts in Comment *c* are the product of admissibility decisions. majority of cases that even discuss the concepts of general causation and specific causation are admissibility decisions. A clear majority of all reported tort cases that discuss general causation and specific causation involve questions of admissibility.<sup>14</sup>

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<sup>12</sup> See *Ambrosini v. Labarraque*, 966 F.2d 1464 (D.C. Cir. 1992) (exposure to the drug Depo-Provera).

<sup>13</sup> See *In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717 (3<sup>rd</sup> Cir. 1994) (exposure to polychlorinated biphenyls (PCBs)); *General Electric v. Joiner*, 522 U.S. 136, 118 S.Ct. 512, 139 L.Ed.2d 508 (1997) (same).

<sup>14</sup> Within the Westlaw “allfeds” database, I searched for cases with the terms “tort” and “general causation.” I then included or excluded the terms “Daubert” and “702.” The results produced 184 cases when the latter two terms were included and 109 cases when they were excluded. A substantial number of the 109 cases involved litigation under National Vaccine Injury Act, 42 U.S.C. §§ 300aa-1 to -34 (2000 & Supp. II 2003). When I also excluded the term “vaccine,” only 86 cases remained.

I repeated the analysis using the term “specific causation” instead of “general causation.” The results were similar. Sixty-five cases use the term when “Daubert” and “702” are excluded while 189 cases use the term when they are included.

Repeating the search using the “allstates” database (and adding the term “Frye”) produces

Third, these opinions do not restrict themselves to narrow issues of admissibility. Many of the substantive legal discussions of the causal proof needed to prevail in a toxic tort cases are to be found in opinions whose primary purpose is to resolve admissibility controversies.<sup>15</sup> In the process they create the law that makes Comment *c* possible.

Finally, many of these cases are like *Daubert* and *Joiner* in the sense that the result of the admissibility decision is outcome dispositive. The pattern is all too familiar. The trial court assesses plaintiff's causal proof in terms of both general and specific causation; it excludes the testimony on one or both of these causal grounds, and finally it enters a summary judgment for

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less dramatic results but it remained true that for both sets of analyses, cases including the terms outnumber cases excluding the term.

The results are even more one sided if one searches only those cases that include the terms "toxic" and "tort."

<sup>15</sup> For example, the court in *In re Breast Implant Litigation*, 11 F.Supp.2d 1217, 1224 (D.Colo.1998) offered the following assertion concerning plaintiff's burden on causation.

Causation in toxic tort cases is discussed in terms of general and specific causation. See e.g., *Raynor v. Merrell Pharmaceuticals, Inc.*, 104 F.3d 1371, 1376 (D.C.Cir.1997).

General causation is whether a substance is capable of causing a particular injury or condition in the general population, while specific causation is whether a substance caused a particular individual's injury.

In order to establish their claims, Plaintiffs "must show both general and specific causation-that is, that breast implants are capable of causing" the conditions complained of, and that "breast implants were the cause-in-fact" of the specific conditions.

the defense because the plaintiff no longer had any admissible evidence on the causal question.<sup>16</sup> Whenever this occurs, the line between the evidentiary question of admissibility and the tort question of the sufficiency is at best blurred. And as I discuss below, the line has become even more blurred in the wake of *Kumho Tire* and the revisions to Federal Rule of Evidence 702.

Comment *c* does co-mingle tort and evidence issues. How could it be otherwise? The law it discusses is a creature of admissibility rulings and the Comment's attempt to finesse the problem by distinguishing between admissibility and sufficiency is at best a formal response.

In sum, those who criticize Comment *c* on these two grounds have a point. Despite its protestations to the contrary, the Comment does lend some credence to the idea that the causal question may be bifurcated and that in the area of toxic torts it is very difficult to define the separate domains of evidence law and tort law. However, the fault, if there is fault to be

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<sup>16</sup> See e.g. *Viterbo v. Dow Chem.*, 826 F.2d 420, 422 (5th Cir.1987) (exposure to chemical herbicide); *Christophersen v. Allied-Signal Corp.*, 939 F.2d 1106 (5<sup>th</sup> Cir. 1991) (exposure to fumes containing particles of nickel and cadmium); and the many cases involving the drug Bendectin: *Lynch v. Merrell-National Lab., Inc.*, 830 F.2d 1190 (1st Cir.1987); *Richardson v. Richardson-Merrell, Inc.*, 857 F.2d 823 (D.C.Cir.1988), cert. denied, 493 U.S. 882, 110 S.Ct. 218, 107 L.Ed.2d 171 (1989); *Brock v. Merrell Dow Pharmaceuticals, Inc.*, 874 F.2d 307, modified, 884 F.2d 166, reh'g denied, 884 F.2d 167 (5th Cir.1989); *Ealy v. Richardson-Merrell, Inc.*, 897 F.2d 1159 (D.C.Cir.1990); *DeLuca v. Merrell Dow Pharmaceuticals, Inc.*, 911 F.2d 941 (3rd Cir.1990); *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 951 F.2d 1128 (9th Cir.1991); *Turpin v. Merrell Dow Pharmaceuticals, Inc.*, 959 F.2d 1349 (6th Cir.1992).

assigned, is not in the Comment but in changes in the law itself. Indeed the changes run much deeper than the previous discussion suggests.

I believe that the controversy surrounding Comment *c* is only partly due to these specific critiques. It is also a response to what the Comment stands for in a more general sense. The Comment stands as a marker for fundamental ways in which legal approaches to questions of causation have changed in the years between the second and third restatement.

### C. CHANGES IN OUR APPROACH TO CAUSATION.

The rise of toxic torts and the judicial response in terms of heightened admissibility rules and bifurcation of the causal question are part of some basic changes in the way we handle causal questions. In this section, I touch on four components of this change: a) merging admissibility and sufficiency, b) shifting the balance of power away from juries and toward judges, c) the increasingly important role of science in resolving causal questions, and d) the increasing dominance of truth as the central adjudicative goal. I discuss each of these in turn. Before I do so, however, I should emphasize that all of this has occurred gradually and is at most a matter of degree. There is much about tort law's approach to the causal question that remains the same. In this paper, however, I emphasize change.

#### 1. Admissibility and Sufficiency

Comment *c* attempts to compartmentalize the causal question in tort from the causal question in evidence by drawing a distinction between sufficiency and admissibility. But, as I noted above, the comment recognizes that this is a difficult line to draw and in fact it has become increasingly blurred over time. To see why this is so, requires a brief review of *Daubert* and the

two Supreme Court cases that followed, *Joiner* and *Kumho Tire*.

In hindsight, one can see that *Daubert v. Merrell Dow Pharmaceuticals*<sup>17</sup> presented two separate ways of addressing the question of the admissibility of scientific evidence. On the one hand, it offered a list of four non-exclusive factors one may use in considering whether an expert's testimony was sufficiently reliable to be admissible. The now well known factors are falsifiability, error rate, peer review and publication and general acceptance. However, the opinion also discussed a second consideration. This part of the opinion began with a quote from Judge Becker's opinion in *United States v. Downing*.<sup>18</sup>

"An additional consideration under Rule 702-and another aspect of relevancy-is whether expert testimony proffered in the case is sufficiently tied to the facts of the case that it will aid the jury in resolving a factual dispute. The consideration has been aptly described by Judge Becker as one of "fit...." "Fit" is not always obvious, and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes.<sup>19</sup>

The court then proceeded to provide an example.

The study of the phases of the moon, for example, may provide valid scientific "knowledge" about whether a certain night was dark, and if darkness is a fact in issue, the knowledge will assist the trier of fact. However (absent creditable grounds supporting such a link), evidence that the moon was full on a certain night will not assist the trier of

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<sup>17</sup> 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993).

<sup>18</sup> *United States v. Downing*, 753 F.2d 1224, 1242 (3<sup>rd</sup> Cir. 1985).

<sup>19</sup> 509 U.S. 579, 591.

fact in determining whether an individual was unusually likely to have behaved irrationally on that night.<sup>20</sup>

The example was unfortunate. Not only is it trivial, it presents a situation where there is no evidence of general causation: moonlight causing insanity and thus focuses the reader's attention on the general situation, not the details of a given case. A much more relevant example would have focused on the case at hand. For these reasons and perhaps others, attention was deflected away from a "fit" analysis and the first wave of opinions following *Daubert* based their analysis almost entirely on the four factors.

The situation began to change four years later with the Supreme Court's decision in *General Electric v. Joiner*.<sup>21</sup> In a passage, perhaps made more memorable with the use of a piece of law-Latin, the court reinvigorated the fit analysis and by example clarified that it applied to questions of specific causation as well as those of general causation.

[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered. That is what the District Court did here and we hold that it did not abuse its discretion in so doing.<sup>22</sup>

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<sup>20</sup> 509 U.S. 579, 591.

<sup>21</sup> *General Electric Co. v. Joiner*, 522 U.S. 136, 118 S.Ct. 512, 139 L.Ed.2d 508 (1997).

<sup>22</sup> *General Electric v. Joiner*, 118 S.Ct. 512, 518 (1997).

Two years later, in *Kumho Tire v. Carmichael*,<sup>23</sup> without ever using the word, the court placed the fit analysis front and center. *Kumho Tire* involved a tire failure that the plaintiff attributed to a manufacturing defect. In a key passage concerning whether the plaintiff's expert's testimony supported this conclusion, the court said:

[C]ontrary to respondents' suggestion, the specific issue before the court was not the reasonableness *in general* of a tire expert's use of a visual and tactile inspection to determine whether over deflection had caused the tire's tread to separate from its steel-belted carcass. Rather, it was the reasonableness of using such an approach, along with Carlson's particular method of analyzing the data thereby obtained, to draw a conclusion regarding *the particular matter to which the expert testimony was directly relevant*. That matter concerned the likelihood that a defect in the tire at issue caused its tread to separate from its carcass. The tire in question, the expert conceded, had traveled far enough so that some of the tread had been worn bald; it should have been taken out of service; it had been repaired (inadequately) for punctures; and it bore some of the very marks that the expert said indicated, not a defect, but abuse through over deflection.... The relevant issue was whether the expert could reliably determine the cause of *this* tire's separation.<sup>24</sup>

In the aftermath of *Joiner* and *Kumho Tire*, federal court admissibility decisions focus

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<sup>23</sup>526 U.S. 137, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999).

<sup>24</sup> *Kumho Tire*, 526 U.S. at 153-54.

less on the *Daubert* factors<sup>25</sup> and more on a fit analysis.<sup>26</sup> The central question in these opinions is whether there too large and analytical gap between the evidence available to the expert and the conclusion the expert wishes to draw. Federal Rule of Evidence 702, as revised in 2000 reflects this shift as well. Among other things, the proponent must show that the expert's "testimony is based up sufficient facts or data" and that expert "has applied the principles and methods reliably to the facts of the case."<sup>27</sup> An admissibility decision along these lines moves even closer to a

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<sup>25</sup> This intuition that non-Daubert factors have played an increasingly important role is supported by a recent Rand study on the effect of Daubert. Dixon and Gill note that, "after Daubert, challengers and judges initially focused on the Daubert factors when challenging and evaluating reliability... As time passed, however, and judges gained experience in evaluating reliability and appellate court opinions reinforced their authority, challengers and judges would have felt less compelled to address each Daubert factor and instead paid increasing attention to more general factors important to assessing reliability." Lloyd Dixon and Brian Gill, *Changes in the Standards for Admitting Expert Evidence in Federal Civil Cases Since the Daubert Decision*, 8 PSYCHOLOGY, PUBLIC POLICY AND LAW 251, 284-85 (2002).

<sup>26</sup> This is my assessment based on reading most of the admissibility decisions dealing with issues of toxicology, epidemiology and differential diagnosis for a treatise on scientific evidence.

<sup>27</sup> The full text of Rule 702 reads:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of

sufficiency analysis. For better or worse, with respect to toxic torts the law of tort and the law of evidence overlap more than ever.<sup>28</sup>

2. Shifting the balance of power away from juries and toward judges.

Civil jury trials are in long term decline.<sup>29</sup> The decline began long before the *Daubert* revolution and has many causes.<sup>30</sup> Simultaneously, judicial power has been on the rise. The

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an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

<sup>28</sup> See Bobak Razavi, Admissible Expert Testimony and Summary Judgment, 29 J. Legal Med. 307 (2008).

<sup>29</sup> The definitive work on this decline is by Marc Galanter. See Marc Galanter, The Vanishing Trial: An Examination of Trials and Related Matters in Federal and State Courts, 1 J. Empirical Legal Studies 689 (2004); Marc Galanter, The Hundred-Year Decline of Trials and the Thirty Years War, 57 Stan. L. Rev. 1255 (2005). Some believe that the trend is almost certain to continue. See Lawrence Friedman, The Day Before Trials Vanished, 1 J. Empirical Legal Studies 689 (2004).

<sup>30</sup> Professor Galanter cites many of these causes in the articles cited above. The decline continues apace. Deborah R. Hensler, Jurors in the Material World: Putting Tort Verdicts in Their Social Context, 13 Roger Williams U. L. Rev. 8, 11 n. 9 (2008) ( From 1995 to 2002, the total number of civil jury trials in state courts of twenty-two states decreased 25% (from 23,453 to 17,617)).

emergence of managerial judging,<sup>31</sup> and the increasing importance of devices such as summary judgement<sup>32</sup> have reshaped the judicial task. The decline in trials and the changes in the judicial role sweep across nearly all areas of law but the impact is perhaps most strongly felt in torts because that is where most civil jury trials occur.<sup>33</sup>

Toxic torts comprise a very small percentage of all tort cases and no more than a few percent of all tort jury trials.<sup>34</sup> And perhaps surprisingly, when compared to automobile cases and premises liability, a larger percentage of toxic tort cases go to trial.<sup>35</sup> Nevertheless, the

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<sup>31</sup> See Judith Resnik, *Managerial Judges*, 96 Harv. L. Rev. 374, 382 (1982); Judith Resnik, *Trial as Error, Litigation as Injury: Transforming the Meaning of Article III*, 113 Harv. L. Rev. 924 (2000).

<sup>32</sup> Arthur R. Miller, *The Pretrial Rush to Judgment: Are the "Litigation Explosion," "Liability Crisis," and Efficiency Cliches Eroding Our Day in Court and Jury Trial Commitments?* 78 N.Y.U. L. Rev. 982 (2003).

<sup>33</sup> Research from the early 1990s indicate that nearly 80% of the jury trials in state courts were tort cases. The federal situation is not quite as skewed, but here as well tort cases predominate, at least within the diversity jurisdiction. Neil Vidmar, *The Performance of the American Civil Jury: An Empirical Perspective*, 40 Ariz. L. Rev. 849, 851-52 (1998).

<sup>34</sup> Two-thirds of the tort cases that went to a jury in state courts involved automobile accidents or and premises liability. Neil Vidmar, *The Performance of the American Civil Jury: An Empirical Perspective*, 40 Ariz. L. Rev. 849, 851-52 (1998).

<sup>35</sup> In the study cited by Vidmar, Automobile negligence and slander/libel cases resulted in jury trials only 1.9% of the time, whereas medical malpractice suits went to the jury 8.2% of the

interaction between judges and juries is particularly stark in these cases because the reduction in jury trials is a direct result of judicial admissibility rulings rather than settlements.

Of course, the exclusion of one or more experts, or restrictions on what they may say on the stand, is not always fatal to the plaintiff's lawsuit. However, in the area of toxic torts this is frequently the case.<sup>36</sup> As I noted above, the exclusion of the plaintiff's expert means that the plaintiff can not offer any qualified evidence on the causal question and as a result the court grants the defendant's motion for a summary judgment. Prior to the *Daubert* revolution nearly all of these cases would have gone to the jury.

Many commentators have noted this shift and a substantial number have reacted negatively.<sup>37</sup> They argue that admissibility decisions are incoherent. Judges use arbitrary criteria

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time. The trial rate for toxic substance torts was 6.5% and for product liability cases it was 2.9%. Neil Vidmar, *The Performance of the American Civil Jury: An Empirical Perspective*, 40 *Ariz. L. Rev.* 849, 851 (1998). Of course the low percentage of auto cases going to trial reflects settlement practices more than it does judicial intervention in the trial process.

<sup>36</sup> See Margaret A. Berger, *Complex Litigation at the Millennium: Upsetting the Balance Between Adverse Interests: The Impact of the Supreme Court's Trilogy on Expert Testimony in Toxic Tort Litigation*, 64 *Law & Contemp. Probs.* 289, 324 (2001).

<sup>37</sup> Among the critical articles are: Bobak Razavi, *Admissible Expert Testimony and Summary Judgment*, 29 *J. Legal Med.* 307 (2008); Allan Kanner and M. Ryan Casey, *Daubert and the Disappearing Jury Trial*, 69 *U. Pitt. L. Rev.* 281 (2007); Michel F. Baumeister, Dorothea M. Capone, *Admissibility Standards as Politics – The Imperial Gate Closers Arrive!!!*, 33 *Seton Hall L. Rev.* 1025 (2003); Carl F. Cranor & David A. Eastmond, *Scientific Ignorance and*

or apply their criteria arbitrarily and as a result do not do a good job of sorting reliable evidence from unreliable evidence. These arguments are often coupled with the complaint that judges have set the admissibility bar too high for plaintiffs in toxic tort cases.<sup>38</sup>

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Reliable Patterns of Evidence in Toxic Tort Causation: Is There a Need for Liability Reform?, 64 *Law & Contemp. Probs.* 5, 15 (2001); Margaret A. Berger, Complex Litigation at the Millennium: Upsetting the Balance Between Adverse Interests: The Impact of the Supreme Court's Trilogy on Expert Testimony in Toxic Tort Litigation, 64 (Sum) *Law & Contemp. Probs.* 289, 324 (2001); Lucinda M. Finley, Guarding the Gate to the Courthouse: How Trial Judges Are Using Their Evidentiary Screening Role to Remake Tort Causation Rules, 49 *DePaul L. Rev.* 335, 337 (1999).

Not all objections focus on causation. Some do not like a greater judicial role simply because they believe that jury decision making furthers other goals such as legitimating the judicial process or leavening harsh legal rules with the yeast of everyday social norms. See Paul Butler, The Case for Trials: Considering the Intangibles, 1 *J. Empirical Legal Studies* 627 (2004);

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Joseph Sanders, The Merits of the Paternalistic Justification for Restrictions on the Admissibility of Expert Evidence, 33 *Seton Hall L. Rev.* 881, 940 (2003); Joseph Sanders, A norms approach to jury 'nullification:' interest, values, and scripts, 30 *Law & Pol'y* 12 (2008).

<sup>38</sup> See Michel F. Baumeister, Dorothea M. Capone, Admissibility Standards as Politics – The Imperial Gate Closers Arrive!!!, 33 *Seton Hall L. Rev.* 1025, 1033-34 (2003); Allan Kanner

There is no gainsaying that the bar is higher than it once was. It could not be otherwise for before *Daubert* very few cases were concluded as the result of expert witness admissibility determinations.<sup>39</sup> Whether the bar is too high is, of course, a matter about which there is disagreement.<sup>40</sup> For good or ill judges use admissibility rulings to resolve innumerable cases and they do so using the analysis set forth in Comment *c*. They use the concept of general causation

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and M. Ryan Casey, *Daubert and the Disappearing Jury Trial*, 69 U. Pitt. L. Rev. 281, 283 (2007).

<sup>39</sup> The Bendectin litigation, of which *Daubert* is a part, is a good example. Almost all the 25 or so Bendectin cases that were heard on the merits were tried to either a judge or a jury. Although the plaintiffs never prevailed in any of these cases, this was the result of defense verdicts or judicial reversal of plaintiff verdicts. See Joseph Sanders, *Bendectin on Trial* (1998).

<sup>40</sup> There is some evidence that the probability that admissibility hearings would result in exclusionary decisions declined somewhat in the latter part of the 1990s but we have no systematic data about what has happened in the last 5 years or so. Dixon and Brian Gill, *Changes in the Standards for Admitting Expert Evidence in Federal Civil Cases Since The Daubert Decision*, 8 Psychol. Pub. Pol'y & L. 251 (2002).

There is the broader question of what we mean by “too high.” When commentators object that the case should have gone to the jury, they might mean that they think the case was wrongly decided. Or they may mean that the correct decision in the case is within a grey area and, therefore, if the case did get to a jury no matter what the jury decided, the verdict would withstand appeal on the merits. Or they may mean that even if the case was correctly decided in the admissibility proceedings, nevertheless there should have been a trial.

to resolve whole categories of toxic torts with very few trials. This has occurred for example with respect to silicone implant litigation,<sup>41</sup> most of the Parlodel litigation,<sup>42</sup> and claims based on multiple chemical sensitivity.<sup>43</sup> And they use the concept of specific causation to resolve a multitude of claims where the plaintiff could not present reliable evidence tying the drug or substance to the specific injury. In the process, of course, they created the law that makes Comment *c* possible.

3. The increasingly important role of science in resolving causal questions.

The rise of toxic torts and the concomitant emergence of more stringent admissibility rules have altered our approach to causation in a third way, a way that in some ways is the most profound. Causation is increasingly understood through the lens of scientific understanding.<sup>44</sup>

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<sup>41</sup> See Faigman, et al, *Modern Scientific Evidence*, Vol 3. Ch. 28: Silicone Implants. (2007- 2008).

<sup>42</sup> See Faigman, et al, *Modern Scientific Evidence*, Vol 3. Sec. 21:6 (2007- 2008).

<sup>43</sup> See Faigman, et al, *Modern Scientific Evidence*, Vol 3. Sec. 22:12. (2007- 2008).

<sup>44</sup> See Federal Cts. Study Comm., *Report of the Federal Courts Study Committee* 97 (1990) (noting that “[e]conomic, statistical, technological, and natural and social scientific data are becoming increasingly important in both routine and complex litigation”); Gerald W. Boston, *A Mass-Exposure Model of Toxic Causation: The Content of Scientific Proof and the Regulatory Experience*, 18 *Colum. J. Envtl. L.* 181, 382 (1993) (emphasizing that courts are increasingly relying upon scientific evidence in toxic tort cases); Alani Golanski, *General Causation at a Crossroad in Toxic Tort Cases*, 108 *Penn St. L. Rev.* 479, 515 (2003)(“Litigants increasingly rely

Plaintiffs cannot prevail without the assistance of experts and performance defendants must defend with experts of their own.<sup>45</sup> Often, experts from more than one discipline are required, including toxicologists, epidemiologists and medical doctors from many specialties.

But it is not the mere presence of the experts that matters most. Rather, it is the way their disciplines, e.g. epidemiology and toxicology, understand and define the causal problem. The scientific turn in understanding causation has several dimensions. One centerpiece of this approach is the use of probabilistic reasoning and the use of statistics to confirm or disconfirm causal assertions. A marker for this shift is indicated by the use of the term “statistical significance” in judicial opinions. A Westlaw search of the term reveals that it appears in over 1100 opinions. However, the term appears in but a handful of cases prior to the 1970s. Nearly all the approximately 100 cases from that decade concerned employment discrimination.

Apparently, the first use of the term in a toxic tort context occurs in *Palmer v. A.H. Robins Co.*,  

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on scientific evidence, and its use in legal cases has grown exponentially...”).

<sup>45</sup> Precise recent data on the frequency of experts is hard to come by. What evidence we do have indicates that few tort cases go forward without experts. See Samuel R. Gross, *Expert Evidence*, 1991 *Wis. L. Rev.* 1113, 1120 (1991); Daniel W. Shuman, Elizabeth Whitaker and Anthony Champagne, *An Empirical Examination of the Use of Expert Witnesses in the Courts—Part II: A Three City Study*, 34 *Jurimetrics J.* 193 (1994); Carol Krafka, Meghan A. Dunn, Molly Treadway Johnson, Joe S. Cecil & Dean Miletich, *Judge and Attorney Experiences, Practices, and Concerns Regarding Expert Testimony in Federal Civil Trials*, 8 *Psychol. Pub. Pol’y & L.* 309, 318 (2002). For cases that do have experts, Krafka, et al. report that the mean number of experts in 1998 was 4.31 per trial. *Id.* at 319.

Inc.,<sup>46</sup> a Dalkon Shield case. This was followed a few months later by the use of the term in an Agent Orange opinion.<sup>47</sup> Today, statistical reasoning is commonplace in both civil and criminal cases.

The rise of probabilistic reasoning is accompanied by a greater concern with questions of validity as this term is commonly understood by scientific communities. In *Daubert* itself, the court noted in footnote nine, “In a case involving scientific evidence, evidentiary reliability will be based upon scientific validity.”<sup>48</sup> Validity, of course, is a complex concept, involving questions of both internal validity<sup>49</sup> and external validity.<sup>50</sup> Explicitly or implicitly, courts

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<sup>46</sup> *Palmer v. A.H. Robins Co., Inc.*, 684 P.2d 187 (Colo. 1984).

<sup>47</sup> *In re Agent Orange Product Liability Litigation*, 597 F.Supp. 740 (E.D.N.Y. 1984).

<sup>48</sup> *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 590, n. 9 (1993).

<sup>49</sup> Internal validity addresses our ability to infer that a relationship between two variables is causal or that the absence of a relationship implies the absence of causal relationship. Threats to internal validity usually can be thought of as specification errors. Specification errors occur when the researcher fails to consider a factor that mediates the observed effect between two variables, either because it explains changes in both the “cause” and the “effect” or intervenes between the “cause” and the “effect” and acts independently on the “effect.” Threats due to selection (a threat that groups being compared are composed of different types of individuals and, therefore, that observed differences are due to factors other than the treatment under investigation) are particularly important in this context. Joseph Sanders, *Scientific Validity, Admissibility, and Mass Torts After Daubert*, 78 *Minn. L. Rev.* 1387, 1401 (1994).

<sup>50</sup> External validity addresses our ability to generalize conclusions to particular persons,

frequently turn to these concepts in assessing evidence claims in toxic torts.<sup>51</sup> The concept of external validity has been particularly important in a number of opinions.<sup>52</sup> Again, one need look no further than the *Daubert* trilogy for an example. In *General Electric v. Joiner*, the Chief Justice eviscerated the plaintiff's causal claim by critiquing each of the animal and epidemiological studies in turn and then asserting that none of the studies met his implicit

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settings and times and to types of persons, settings and times. If a study uncovers a cause and effect relationship, the researcher must determine to which categories of individuals the relationship can be generalized. For example, if a laboratory study finds a causal relationship between a substance and a disease in laboratory animals, the researcher must determine whether the results can be generalized to humans. Joseph Sanders, *Scientific Validity, Admissibility, and Mass Torts After Daubert*, 78 Minn. L. Rev. 1387, 1404 (1994).

<sup>51</sup> The terms “external validity” and “internal validity” are only occasionally used in opinions. For example, the term “external validity” appears only in a little over 100 cases according to a Westlaw search of the term. However, the concept is used much, much more frequently.

<sup>52</sup> The idea of internal validity is used far less frequently and there is some evidence that judges have a more difficult time detecting this type of problem than they do detecting external validity threats. See Margaret Kovera & Bradley McAuliff, *The Effects of Peer Review and Evidence Quality on Judge Evaluations of Psychological Science: Are Judges Effective Gatekeepers?*, 85 J. Applied Psychol. 574 (2000); Joseph Sanders, *The Merits of the Paternalistic Justification For Restrictions on the Admissibility of Expert Evidence*, 33 Seton Hall L. Rev. 881, 926-28 (2003).

external validity criteria. That is, each study was sufficiently different from the circumstance of the plaintiff that their findings did not provide support for his claim.<sup>53</sup>

Justice Rehnquist's method of discussing each study in turn and demonstrating its flaws was criticized by Justice Stevens who argued that the procedure used by the Court of Appeals which assessed the "weight of the evidence" by looking at all the research simultaneously is preferable to the one-study-at-a-time method of the district court and the majority opinion.<sup>54</sup> Regardless of what one concludes on this issue, the larger point is that the question of causal proof is reduced to a question of "best scientific practice."

The concern with validity is accompanied with an increased concern with method. If there is a single watchword in admissibility decisions, it is methodology. The vast majority of admissibility decisions in *Daubert* jurisdictions discuss expert method. The language of causation is the language of the methodology used to support causal assertions. Again, the use of the term "methodology" is a recent addition to the judicial lexicon, at least when used to refer to expert testimony on causation.<sup>55</sup>

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<sup>53</sup> General Elec. Co. v. Joiner, 522 U.S. 136, 144-46 (1997).

<sup>54</sup> Id. at 153. For a sophisticated discussion of this issue that sides with Justice Stevens, see Susan Haack, Proving Causation: The Holism of Warrant and the Atomism of Daubert, 4 *Journal of Health and Biomedical Law* 273 (2008).

<sup>55</sup> Using the search term "tort" and "expert /2 witness /p methodology" in a Westlaw search produced 509 opinions. All but two were decided in the 1980s or later. A simpler search using the terms "methodology & causation & tort" generates 2043 cases, all but 26 of which were decided in the 1980s or later. Over 1850 of these opinions were decided in 1990 or later.

When the courts do discuss methodology they are usually referring to scientific methodology.<sup>56</sup> This fact highlights another aspect of the scientific turn. As courts rely more and more on a scientific view of causation, they tend to be less respectful of non-scientific evidence, especially clinical evidence that does not have an identifiable empirical base. One must not overstate the situation. Clinical judgments remain a central component of many if not most toxic tort cases. Most importantly, proof of specific causation is usually achieved through the use of experts who bring relatively little empirical data to bear when asserting that the plaintiff's injury was caused by the particular substance in the litigation.<sup>57</sup>

Courts generally label this process “differential diagnosis” and sometimes assert that

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The frequency of the term's usage can be measured in a different way. One can ask, “when courts talk about causation and expert witnesses in tort cases how frequently do they employ the term ‘methodology?’” A Westlaw search using the terms “causation & tort & ‘expert witness’ & methodology” generates approximately 1000 opinions decided in 1990 or after. A search that uses the first three terms but does not use “methodology” generates approximately 4,500 post- 1989 cases. Thus approximately 18% of all cases in this period of time use the term.

<sup>56</sup> Of the approximately 1000 post-1989 opinions that used the terms “causation & tort & ‘expert witness’ & methodology,” over 580 used the terms “scientific” in the same paragraph that they used the term “methodology.”

<sup>57</sup> Joseph Sanders and Julie Machal-Fulks, *The Admissibility of Differential Diagnosis Testimony to Prove Causation in Toxic Tort Cases: The Interplay of Adjective and Substantive law*, 64-Aut Law & Contemp. Probs. 107 (2001).

physicians are well trained in this endeavor. However, this assertion is often based on a confusion in terminology. When physicians use this term in their medical practice they are referring to the process of determining which disease produced a set of symptoms, not what caused the underlying disease. The latter exercise is better described by the term differential etiology. Increasingly, courts recognize the difference and in the process become more skeptical of medical assertions of cause without evidence that the expert is trained in this task and without empirical evidence supporting the conclusion.<sup>58</sup>

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<sup>58</sup> For example the judge in *Wynacht v. Beckman Instruments, Inc.*, 113 F. Supp. 2d 1205, 1209 (E.D. Tenn. 2000) made the following observation:

[T]here is a fundamental distinction between Dr. Ziem's ability to render a medical diagnosis based on clinical experience and her ability to render an opinion on causation of Wynacht's injuries. Beckman apparently does not dispute, and the Court does not question, that Dr. Ziem is an experienced physician, qualified to diagnose medical conditions and treat patients. The ability to diagnose medical conditions is not remotely the same, however, as the ability to deduce, delineate, and describe, in a scientifically reliable manner, the causes of these medical conditions.[FN12]

See also *Turner v. Iowa Fire Equipment Co.*, 229 F.3d 1202, 1208, *Prod. Liab. Rep. (CCH) P* 15900, 55 *Fed. R. Evid. Serv. 1* (8th Cir. 2000); *Medalen v. Tiger Drylac U.S.A., Inc.*, 269 F. Supp. 2d 1118, 1137 (D. Minn. 2003); *Bowers v. Norfolk Southern Corp.*, 537 F. Supp. 2d 1343, 1360–1361 (M.D. Ga. 2007).

Several commentators also question the reliability of these judgments when done by

In sum, Comment *c* signals the increasing importance of expert testimony but even more importantly is signals the dominance of scientific understandings of causation in toxic tort cases. Critics of the scientific turn trend argue that judges rely too heavily on certain types of scientific

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individuals with little experience and based on clinical judgement. See Edward J. Imwinkelried, *The Admissibility and Legal Sufficiency of Testimony About Differential Diagnosis (Etiology): Of Under- and Over-Estimations*, 56 *Baylor L. Rev.* 391, 405 (2004) (“In short, an expert physician's opinion about the nature of an illness, based on a differential diagnosis, might well be more reliable than the same physician's opinion about causation, arrived at by differential etiology”); Ian S. Spechler, *Physicians at the Gates of Daubert: A Look at the Admissibility of Differential Diagnosis Testimony to Show External Causation in Toxic Tort Litigation*, 26 *Rev. Litig.* 739, 772 (2007) (“Physicians should be required to show that they often determine external causation in evaluating patients, that this determination of external causation was a natural part of the differential diagnosis, or that some special circumstance qualifies them to give an opinion in the particular instance.”); Gary E. Marchant, *Genetic Data in Toxic Tort Litigation*, 14 *J.L. & Pol.* 7, 18-19 (2006) (“[T]he tort system currently relies on crude, inexact methods to evaluate specific causation.”).

The trend toward relying less on clinical judgments may find an ally in the growing influence of evidence based medicine within the medical community. See Arnold J. Rosoff, *Evidence-Based Medicine and the Law: The Courts Confront Clinical Practice Guidelines*, 26 *J. Health Pol. Pol'y & L.* 327 (2001) (providing an overview of the use of evidence-based medicine).

evidence<sup>59</sup> or that they fail to appreciate the socially constructed, contextual nature of science and scientific knowledge.<sup>60</sup> Some of these critiques have merit, but collectively they simply reinforce the point that this dominance defines both which understandings of causal proof are acceptable and which understandings are less acceptable.

#### 4. The increasing dominance of truth

The scientific turn has helped to produce one more change that reaches beyond the question of causation: it has privileged truth seeking as a goal of adjudication. Traditionally,

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<sup>59</sup> In this regard, the primacy of epidemiological evidence has been a frequent source of criticism. See Lucinda M. Finley, *Guarding the Gate to the Courthouse: How Trial Judges Are Using Their Evidentiary Screening Role to Remake Tort Causation Rules*, 49 *DePaul L. Rev.* 335, 337, 357 (1999).

<sup>60</sup> Allan Kanner and M. Ryan Casey, *Daubert and the Disappearing Jury Trial*, 69 *U. Pitt. L. Rev.* 281, 297 (2007) (“There is a battle underway for the soul of science. On the one hand are objective researchers. Environmental and social groups do not have the financial resources to fund their own research to meet their ideological needs. And opposed to objective research are the industry scientists, whose allegiance lies with their corporate backers, rather than the truth.”)

For a well balanced and thoughtful view of the ways in which judges do and do not idealize science see Lewis H. LaRue and David S. Caudill, *A Non-Romantic View of Expert Testimony*, 35 *Seton Hall L. Rev.* 1 (2004); David S. Caudill and Lewis H. LaRue, *Why Judges Applying the Daubert Trilogy Need to Know About the Social, Institutional, and Rhetorical--and not Just the Methodological--Aspects of Science*, 45 *B.C. L. Rev.* 1 (2003).

truth seeking has been viewed as one of several stated objectives of adjudication.<sup>61</sup> However, it is not the only objective and it may sometimes compete with other goals. The most frequently articulated alternative objective is the peaceful resolution of disputes. Peaceful resolution in turn depends at least in part on the willingness of the loser to accept the outcome and thus a subsidiary goal of peaceful resolution is achieving procedural justice. One well accepted procedural justice theory advanced by Tyler and Lind points to three factors that are important to the belief that procedures are fair: (1) neutrality (the authority engages in evenhanded treatment), (2) trust (the authority tries to be fair), and (3) status recognition (the authority treats one politely, with dignity, and with respect for one's rights and opinions).<sup>62</sup>

The traditional model of adversarial adjudication is sometimes justified because of the priority it gives to peaceful settlement and procedural justice goals,<sup>63</sup> and its willingness to limit the search for truth in pursuit of these other goals.<sup>64</sup> Here is Laurence Tribe on this point in his

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<sup>61</sup> See Fed. R. Evid. 102 (prescribing that the evidentiary rules shall be construed, *inter alia*, toward the end of ascertaining the truth).

<sup>62</sup> See Tom R. Tyler & E. Allan Lind, *Procedural Justice*, in *Handbook of Justice Research in Law* (Joseph Sanders & V. Lee Hamilton eds., 2001).

<sup>63</sup> Darryl K. Brown, *The Decline of Defense Counsel and the Rise of Accuracy in Criminal Adjudication*, 93 *Cal. L. Rev.* 1585, 1588 (2005) (“One recognized feature of adversarial adjudication is that it gives higher priority to dispute resolution and party participation than inquisitorial systems, which are less willing to trade off accuracy for party control of adjudication practice.”).

<sup>64</sup> Abram Chayes described the “traditional model” of adversarial adjudication as

famous article, “Trial by Mathematics.”

It would be a terrible mistake to forget that a typical lawsuit, whether civil or criminal, is only in part an objective search for historical truth. It is also, and no less importantly, a ritual--a complex pattern of gestures comprising what Henry Hart and John McNaughton once called “society's last line of defense in the indispensable effort to secure the peaceful settlement of social conflicts.”<sup>65</sup>

It is worth noting, however, that in a footnote accompanying this quotation, Professor Tribe added the following:

I do not exclude the possibility that, in extraordinary cases, and especially in cases involving highly technical controversies, the “historical” function may be so dominant and the need for public comprehension so peripheral that a different analysis would be in order, laying greater stress on trial accuracy and less on the elements of drama and ritual.<sup>66</sup>

This quote seems to be prescient. Confronted with complex toxic tort causation questions,

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“relatively relaxed about the accuracy of its factfinding.” See Abram Chayes, *The Role of the Judge in Public Law Litigation*, 89 Harv. L. Rev. 1281, 1287 (1976).

<sup>65</sup> Laurence H. Tribe, *Trial by Mathematics: Precision and Ritual in the Legal Process*, 84 Harv. L. Rev. 1329, 1376 (1971).

<sup>66</sup> Laurence H. Tribe, *Trial by Mathematics: Precision and Ritual in the Legal Process*, 84 Harv. L. Rev. 1329, 1376 n. 151 (1971).

courts have placed increased emphasis on getting it right. This has led to an increase in summary judgments<sup>67</sup> and other judicial devices that place producing the perceived correct outcome over other goals.<sup>68</sup> The rise of a scientific understanding of causation is accompanied by the

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<sup>67</sup> Joe S. Cecil et al., Fed. Judicial Ctr., Trends in Summary Judgment Practice: A Preliminary Analysis 3 (2001); Stephen B. Burbank, Vanishing Trials and Summary Judgment in Federal Civil Cases: Drifting Toward Bethlehem or Gomorrah, 1 J. Empirical Legal Stud. 591, 617-18 (2004); Marc Galanter, The Hundred-year Decline of Trials and the Thirty Years War, 57 Stan. L. Rev. 1255, 1266 (2005).

<sup>68</sup> The Supreme Court's opinion in *Weisgram v. Marley Co.*, 528 U.S. 440 (2000) is indicative. Plaintiff's expert testimony was admitted at trial and resulted in a plaintiff verdict. The district court entered a judgment on the verdict, but the Eighth Circuit reversed, finding that defendant's motion for a verdict as a matter of law should have been granted because the testimony of the plaintiff's experts incompetent to prove plaintiffs' case. The Appellate Court then considered the remaining evidence in the light most favorable to Weisgram, found it insufficient to support the jury verdict, and directed judgment as a matter of law for Marley. Although recognizing its discretion to remand for a new trial under Rule 50(d), the court rejected any contention that it was required to do so, stating that this was not a close case, plaintiffs had a fair opportunity to prove their strict liability claim, they failed to do so, and there was no reason to give them a second chance. The Supreme Court affirmed. See Robert A. Ragazzo, The Power of a Federal Appellate Court To Direct Entry of Judgment as a Matter of Law: Reflections on *Weisgram v. Marley Co.*, 3 J. App. Prac. & Process 107, 109 (2001) for a critical discussion of the case.

ascendency of a search for the key scientific goal: truth.

## Conclusion

Section 28, Comment *c* emerged as the single most controversial provision in the Restatement (Third) of Torts: Physical and Emotional Harms. In this paper, I review what I perceive to be the primary sources of the controversy: bifurcation of the causal question and intermingling of the law of evidence and the law of tort. Although the Comment addresses each of these concerns, there is considerable merit to the criticisms. The problem, however, is not with the Comment, but with changes in the law itself. Courts often do bifurcate the causal question in precisely the sense that they make both specific causation and general causation an element of the plaintiff's case. Moreover, the courts have almost hopelessly co-mingled the law of evidence and the law of tort in toxic tort cases. These alone are sufficient to make the comment controversial. noteworthy.

However, the import of this comment runs deeper. Comment *c* is noteworthy because it is a window into shifts in the judicial process that occurred in the years between the second and third restatement. Most fundamentally, it reflects the rise of science and scientific understandings of causation in the toxic tort arena and elsewhere. For good or ill, this scientific turn has transformed tort law in both substantive and procedural ways. And once afoot the trends discussed in Section C are not easily cabined in the narrow arena of toxic torts. They spill over into other areas of tort law as well. For this reason if for no other, the prominent status accorded Comment *c* in the new restatement is well deserved.