

# Helpful or Reasonably Reliable Analyzing the Expert Witness's Methodology Under Federal Rules of Evidence 702 and 703

Michael C. McCarthy

Follow this and additional works at: <http://scholarship.law.cornell.edu/clr>

 Part of the [Law Commons](#)

---

### Recommended Citation

Michael C. McCarthy, *Helpful or Reasonably Reliable Analyzing the Expert Witness's Methodology Under Federal Rules of Evidence 702 and 703*, 77 Cornell L. Rev. 350 (1992)

Available at: <http://scholarship.law.cornell.edu/clr/vol77/iss2/5>

This Note is brought to you for free and open access by the Journals at Scholarship@Cornell Law: A Digital Repository. It has been accepted for inclusion in Cornell Law Review by an authorized administrator of Scholarship@Cornell Law: A Digital Repository. For more information, please contact [jmp8@cornell.edu](mailto:jmp8@cornell.edu).

**“HELPFUL” OR “REASONABLY RELIABLE”?  
ANALYZING THE EXPERT WITNESS’S  
METHODOLOGY UNDER FEDERAL RULES OF  
EVIDENCE 702 AND 703**

TABLE OF CONTENTS

INTRODUCTION .....	350
I. THE FEDERAL RULES OF EVIDENCE GOVERNING EXPERT TESTIMONY .....	354
A. Rule 702 .....	354
B. Rule 703 .....	355
II. THE DEVELOPMENT OF BROADER EXCLUSION UNDER RULE 703 .....	358
A. The “Agent Orange” Litigation .....	358
1. <i>Admissibility of the Medical Symptom Questionnaires</i> ..	361
2. <i>Admissibility of the Causation Testimony</i> .....	362
B. The Bendectin Cases .....	366
1. <i>Lynch v. Merrell-National Laboratories</i> ( <i>The First Circuit</i> ) .....	367
2. <i>Richardson by Richardson v. Richardson-</i> <i>Merrell, Inc. (The D.C. Circuit)</i> .....	371
3. <i>Brock v. Merrell Dow Pharmaceuticals</i> ( <i>The Fifth Circuit</i> ) .....	375
4. <i>DeLuca v. Merrell Dow Pharmaceuticals</i> ( <i>The Third Circuit</i> ) .....	377
C. <i>Frye Resurrected: Christophersen v. Allied-Signal Corp.</i> ..	381
III. ANALYSIS .....	384
A. No Justification for Judicially Expanding Rule 703 to Methodology .....	385
B. Need for Clarity on Roles of Rules 702 and 703 ...	387
C. The Role of Rules in Law .....	390
CONCLUSION .....	392

INTRODUCTION

Commentators and courts agree on the need for greater control over the use of expert testimony in the courtroom.<sup>1</sup> Federal courts

---

<sup>1</sup> Most recently, the cry has been heard from two quarters: Vice President Quayle’s civil-justice reform proposals (proposed by the President’s Council on Competitiveness, which he chairs), see Diana C. Bork, *Reasonable Legal Reform*, NAT’L L.J., Sept. 30, 1991, at 17, and the publications of members of the Manhattan Institute. See PETER W. HUBER, *GALILEO’S REVENGE: JUNK SCIENCE IN THE COURTROOM* (1991); WALTER K.

express particular concern about scientific expert testimony in mass

OLSON, *THE LITIGATION EXPLOSION* 152-66 (1991); Peter Huber, *Junk Science in the Courtroom*, FORBES, July 8, 1991, at 68; see also Robert F. Blomquist, *Science, Toxic Tort Law, and Expert Evidence: A Reaction to Peter Huber*, 44 ARK. L. REV. 629, 653 (1991) ("On balance, [Huber's] analysis and proposals . . . , while interesting and timely, are ideologically-driven, unbalanced, and unpersuasive."); Jack H. Olender, *People Who Get Injured Unjustly Deserve Compensation*, WASH. TIMES, Sept. 29, 1991, at B2 (letter to the editor) ("Huber and the Manhattan Institute have succeeded in launching another propaganda piece in their ongoing campaign to subvert the American civil justice system."). Olson's book was cited favorably by Vice President Quayle in the speech to the American Bar Association in which he introduced his reform proposals. See "Isn't Our Legal System in Need of Reform?", LEGAL TIMES, Aug. 19, 1991, at 9.

Vice President Quayle specifically proposed "[c]hanging the rules on expert evidence." *Id.* at 10. The Council "recommend[s] that expert testimony be admissible only as far as it relates to a community of opinion or scientific thought," because "it is time to reject the notion that 'junk science' is truly relevant evidence." *Id.*

Though these recent critics of the courts' handling of expert testimony are perhaps the most histrionic, they are far from alone. Courts and commentators have decried the present system for the past several years. See, e.g., Brock v. Merrell Dow Pharmaceuticals, Inc., 884 F.2d 167, 168 (5th Cir. 1989) (Higginbotham, J., dissenting) ("I prefer to examine this case en banc because the panel's opinion shies from a direct confrontation with one of the more vexing problems currently facing the federal courts—the role of experts."), *denying reh'g* of 874 F.2d 307 (5th Cir. 1989), *cert. denied*, 110 S. Ct. 1511 (1990); Chaulk by Murphy v. Volkswagen of America, Inc., 808 F.2d 639, 644 (7th Cir. 1986) (Posner, J.) ("There is hardly anything, not palpably absurd on its face, that cannot now be proved by some so-called 'experts.'") (quoting Keegan v. Minneapolis & St. Louis R.R., 78 N.W. 965, 966 (Minn. 1899)); *In re Air Crash Disaster*, 795 F.2d 1230, 1234 (5th Cir. 1986) ("Our message to our able trial colleagues: it is time to take hold of expert testimony in federal trials."); REPORT OF THE TORT POLICY WORKING GROUP ON THE CAUSES, EXTENT AND POLICY IMPLICATIONS OF THE CURRENT CRISIS IN INSURANCE AVAILABILITY AND AFFORDABILITY 35 (Feb. 1986) ("It has become all too common for 'experts' or 'studies' on the fringe of or even well beyond the outer parameters of mainstream scientific or medical views to be presented to juries as valid evidence from which conclusions may be drawn."); *Judges' Opinions on Procedural Issues: A Survey of State and Federal Trial Judges Who Spend at Least Half Their Time on General Civil Cases*, 69 B.U. L. REV. 731, 738-41 (1989) [hereinafter *Judges' Opinions*] (Survey evidence indicates that 21% of federal judges think "the rules relating to the qualifications and use of expert witnesses . . . should be made more restrictive." In complex cases (including toxic torts), 33% of the federal judges favor making special rules as to who is qualified to testify, while 32% favor special rules as to what evidence—for example, what statistical evidence—is acceptable.); Section of Science and Technology, American Bar Association, *Rules for Admissibility of Scientific Evidence*, 115 F.R.D. 79, 141 (1987) (According to a straw poll, slightly less than half of those attending this symposium thought the federal rules should be amended to provide for greater screening of scientific expert testimony.); see also Margaret A. Berger, *A Relevancy Approach to Novel Scientific Evidence*, 115 F.R.D. 89, 91 (1987) ("It is quite apparent that experts are readily available to present essentially frivolous theories in an effort to defeat summary judgment motions, or to create reasonable doubt."); Ronald L. Carlson, *Getting a Grip on Experts*, LITIG., Summer 1990, at 36 ("When an expert proposes to expound courtroom conclusions that rely upon unadmitted background data, a trial judge must first look critically at those data. If the foundation is shaky, this expert testimony should be refused, and not—as often happens today—be admitted 'for whatever it's worth.'" (emphasis added)); Michael H. Graham, *Expert Witness Testimony and the Federal Rules of Evidence: Insuring Adequate Assurance of Trustworthiness*, 1986 U. ILL. L. REV. 43, 45 ("Today practicing lawyers can locate quickly and easily an expert witness to advocate nearly anything the lawyers desire."); Jack B. Weinstein, *Improving Expert Testimony*, 20 U. RICH. L. REV. 473, 482 (1986) ("An expert

toxic tort cases.<sup>2</sup> Judges point to a variety of concerns with expert testimony which include fears that experts will give opinions they would be unwilling to submit for peer review,<sup>3</sup> that juries will be unable to determine the scientific issues without resorting to speculation,<sup>4</sup> and that juries will reach emotional decisions based on the plight of the plaintiffs.<sup>5</sup>

While commentators and courts agree on the need to gain greater control over expert witnesses, they differ on the methods for

can be found to testify to the truth of almost any factual theory, no matter how frivolous, thus validating the case sufficiently to avoid a summary judgment and force the matter to trial. . . . Juries and judges can be, and sometimes are, misled by the expert-for-hire.”)

<sup>2</sup> See, e.g., *In re “Agent Orange” Prod. Liab. Litig.*, 611 F. Supp. 1223, 1244 (E.D.N.Y. 1985) (“‘Rigorous examination’ is especially important in the mass toxic tort context where presentation to the trier of theories of causation depends almost entirely on expert testimony.”), *aff’d on other grounds*, 818 F.2d 187 (2d Cir. 1987), *cert. denied*, 487 U.S. 1234 (1988); see also *Judges’ Opinions*, *supra* note 1, at 738-41 (a significantly greater percentage of federal judges favor specific restrictions on expert testimony in complex cases—including toxic torts—than favor restrictions on expert testimony in general).

<sup>3</sup> See, e.g., *In re Air Crash Disaster*, 795 F.2d at 1234:

[M]any experts are members of the academic community who supplement their teaching salaries with consulting work. We know from our judicial experience that many such able persons present studies and express opinions that they might not be willing to express in an article submitted to a refereed journal of their discipline or in other contexts subject to peer review. We think that is one important signal, along with many others, that ought to be considered in deciding whether to accept expert testimony.

<sup>4</sup> See, e.g., *Brock v. Merrell Dow Pharmaceuticals, Inc.*, 874 F.2d 307, 309 (1989) (footnote omitted):

Academic commentators have dubbed this case and others like it “mass toxic torts.” This represents a growing realization among academics, lawyers, and judges that cases such as this present special problems and challenges to traditional ideas regarding the role of the jury as a decisionmaker. . . .

. . . [J]uries are asked to resolve these questions, upon which even our brightest medical minds disagree, in order to resolve the case at hand and decide whether the plaintiff is entitled to recovery, and in so doing must necessarily resort to speculation.

See also E. Donald Elliott, *Toward Incentive-Based Procedure: Three Approaches for Regulating Scientific Evidence*, 69 B.U. L. REV. 487, 492 n.22 (1989):

Our reliance on lay juries to assess the credibility of technical experts is not a problem, of course, if one is willing to assume that something magical happens in the jury room so that ordinary people can suddenly unravel complex technical and scientific issues that would baffle the rest of us.

<sup>5</sup> See, e.g., *Richardson by Richardson v. Richardson-Merrell, Inc.*, 857 F.2d 823, 832 (D.C. Cir. 1988), *cert. denied*, 493 U.S. 882 (1989):

It would be foolhardy to expect members of the jury to be without compassion for the catastrophe that befell this family. That is a natural response of the human spirit, and is without legal consequence so long as it is properly controlled. But in a case such as this it not only is appropriate but indeed imperative that the court remain vigilant to ensure that neither emotion nor confusion has supplanted reason.

achieving that end.<sup>6</sup> This Note objects to the means some courts have chosen to achieve greater control over expert witnesses. Those courts have unnecessarily and illegitimately broadened the application of Federal Rule of Evidence 703, creating what amounts to a “scientific consensus” standard for the proper reasoning and methodology underlying scientific expert testimony.

Part I of this Note reviews two of the Federal Rules of Evidence governing expert testimony: Rules 702 and 703. Part II discusses the case law’s expansion of Rule 703, in which courts have applied the rule to the expert’s methodology in addition to the “facts or data”<sup>7</sup> upon which the expert relied. This broadened Rule 703 in that neither the text of the rule nor the Advisory Committee’s note make mention of methodology or reasoning.<sup>8</sup> After examining the seminal case on this issue, a decision by Judge Weinstein in the litigation over the defoliant “Agent Orange,”<sup>9</sup> Part II discusses how the First, Fifth, and D.C. Circuit Courts of Appeals further expanded Rule 703’s application in their treatments of expert testimony in cases involving the pharmaceutical Bendectin.<sup>10</sup> The discussion then turns to the Third Circuit’s refusal to apply the “reasonable reliance” standard of Rule 703 to the expert’s methodology in its Bendectin case, holding instead that the “helpfulness” standard of Rule 702 more properly applied.<sup>11</sup> Finally, Part II briefly examines a recent Fifth Circuit decision<sup>12</sup> in which that court took yet another route to examine the expert’s methodology, resurrecting the “general acceptance” standard of *Frye v. United States*.<sup>13</sup>

Part III considers the problems raised by the federal courts’ expansion of Rule 703. The failure of the courts to consistently apply Rules 702 and 703 leads to confusion over the application of the

---

<sup>6</sup> See, e.g., Berger, *supra* note 1 (proposing that Rule 702 be modified to explicitly incorporate Rule 403 balancing); Paul C. Giannelli, *Scientific Evidence: A Proposed Amendment to Federal Rule 702*, 115 F.R.D. 102 (1987) (proposing a notice requirement be appended to Rule 702); Frederic I. Lederer, *Resolving the Frye Dilemma—A Reliability Approach*, 115 F.R.D. 84 (1987) (proposing that Rule 702 be amended to explicitly require “reliable” evidence); James E. Starrs, *Frye v. United States Restructured and Revitalized: A Proposal to Amend Federal Evidence Rule 702*, 115 F.R.D. 92 (1987) (proposing that Rule 702 be amended to explicitly require the theory or technique underlying expert testimony be “scientifically valid for the purposes for which it is tendered”); see also Bert Black, *A Unified Theory of Scientific Evidence*, 56 *FORDHAM L. REV.* 595, 611 n.80 (1988) (proposing a modification of Rule 702 that “essentially combines the proposals of Professors Lederer, Berger and Starrs”). In setting out the need for reform, Black notes that “there is no consensus on how to achieve these objectives.” *Id.* at 598.

<sup>7</sup> FED. R. EVID. 703.

<sup>8</sup> See *infra* text accompanying note 27 (quoting text of FED. R. EVID. 703).

<sup>9</sup> See *infra* part II.A.

<sup>10</sup> See *infra* part II.B.1.-3.

<sup>11</sup> See *infra* part II.B.4.

<sup>12</sup> See *infra* part II.C.

<sup>13</sup> 293 F. 1013 (D.C. Cir. 1923).

rules by courts and commentators. This leads to unpredictable evidentiary rulings and obfuscated discussion of attempts to reform these rules.

After establishing the need for courts to differentiate between Rules 702 and 703, this Note proposes that the approach taken by the Court of Appeals for the Third Circuit in *DeLuca v. Merrell Dow Pharmaceuticals*<sup>14</sup> and by at least five of the judges of the Fifth Circuit in *Christophersen v. Allied-Signal Corp.*<sup>15</sup> represents a consistent and practical application of Rules 702 and 703 to expert testimony in civil cases.<sup>16</sup> Adoption of the *DeLuca* approach by other circuits would alleviate much of the existing confusion surrounding the proper application of the Federal Rules of Evidence to the bases of expert testimony.

## I

### THE FEDERAL RULES OF EVIDENCE GOVERNING EXPERT TESTIMONY

The adoption of the Federal Rules of Evidence in 1975 liberalized the admissibility of expert testimony.<sup>17</sup> Of the rules governing expert testimony, Rules 702 and 703 are the most important.<sup>18</sup> Rule 702 governs the admissibility of testimony by experts, while Rule 703 regulates the facts or data on which those experts may rely in formulating their opinions. It is the latter rule that most sharply changed expert witness practice.<sup>19</sup>

#### A. Rule 702

Although Rule 702 did not significantly depart from the common law, when combined with the other rules governing expert testimony, particularly Rule 703, "the door to expert testimony [was]

<sup>14</sup> 911 F.2d 941 (3d Cir. 1990).

<sup>15</sup> 939 F.2d 1106 (5th Cir. 1991).

<sup>16</sup> This Note only addresses expert testimony in civil cases. As noted by the Court of Appeals for the Third Circuit, permissible bases for expert testimony may require different treatment in criminal cases. *DeLuca*, 911 F.2d at 957 n.20 (citing *United States v. Downing*, 753 F.2d 1224, 1241 & n.22 (3d Cir. 1985)).

<sup>17</sup> See Graham, *supra* note 1, at 43; see also Faust F. Rossi, *Modern Evidence and the Expert Witness*, LITIG., Fall 1985, at 18 ("The welcome mat was rolled out in 1975, when Congress enacted Federal Evidence Rules 702 through 705. These four provisions, comprising only six sentences, confirmed the judicial trend toward expanded admissibility of expert testimony.").

<sup>18</sup> "Rules 702 and 703 are not only the first article VII provisions dealing with expert testimony; they are also the two most important parts of the statutory scheme for regulating the admissibility of expert testimony." Edward J. Imwinkelried, *The "Bases" of Expert Testimony: The Syllogistic Structure of Scientific Testimony*, 67 N.C. L. REV. 1, 23 (1988).

<sup>19</sup> See James W. McElhaney, *Expert Witnesses and the Federal Rules of Evidence*, 28 MERCER L. REV. 463, 480 (1977) ("Perhaps the most striking change anywhere in the Federal Rules is contained in Rule 703.").

opened far wider than before.”<sup>20</sup> The rule consists of a single sentence:

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 an opinion or otherwise.<sup>21</sup>

Perhaps the only liberalizing aspect of Rule 702 itself is its elimination of the requirement that the subject of expert testimony lie outside common knowledge.<sup>22</sup> As long as the witness qualifies as an expert, the testimony need only be “helpful” to the trier of fact in order to be admissible.<sup>23</sup> The test under Rule 702 is two-fold: does the witness qualify as an expert, and, if so, will the proffered testimony assist the trier of fact?<sup>24</sup>

### B. Rule 703

Rule 703 dramatically expanded the permissible bases for expert testimony.<sup>25</sup> Prior to the enactment of the Federal Rules, an expert witness could only rely on facts or data that had been personally observed or had been made known to the witness at or before trial.<sup>26</sup> An expert may still rely on either of those bases to form an opinion under the Federal Rules. However, Rule 703, which governs permissible bases for expert testimony, provides an additional third basis on which an expert may rely:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to him at or before the hearing. *If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence.*<sup>27</sup>

In this second sentence “Rule 703 makes its major contribution,”<sup>28</sup> aiming to bring expert witness practice in the courtroom in line with

<sup>20</sup> 3 DAVID W. LOUISELL & CHRISTOPHER B. MUELLER, FEDERAL EVIDENCE § 380, at 633 (1979).

<sup>21</sup> FED. R. EVID. 702.

<sup>22</sup> LOUISELL & MUELLER, *supra* note 20, § 380, at 633.

<sup>23</sup> *Id.*

<sup>24</sup> Graham, *supra* note 1, at 47-48.

<sup>25</sup> FED. R. EVID. 703 advisory committee's note.

<sup>26</sup> *Id.*; 3 JACK B. WEINSTEIN & MARGARET A. BERGER, WEINSTEIN'S EVIDENCE § 703[01], at 703-5 to -6 (1990).

<sup>27</sup> FED. R. EVID. 703 (emphasis added).

<sup>28</sup> LOUISELL & MUELLER, *supra* note 20, § 387, at 652; *see also* McElhaney, *supra* note 19, at 481 (“[1]t is the second sentence which makes a radical departure from the common law . . .”).

that of experts in their respective professions.<sup>29</sup> Rule 703 allows an expert to rely on any basis, otherwise admissible into evidence or not, as long as other experts in the field would "reasonably" rely upon that basis.<sup>30</sup>

The second sentence of Rule 703 revolutionized expert witness practice in the federal courts<sup>31</sup> as well as in most state courts.<sup>32</sup> Needless to say, courts were left with some freedom in determining how to apply the new rule since all of the nuances of such a change could not be addressed by that single sentence.<sup>33</sup> Courts and commentators continue to debate the trial court's role in determining whether the expert's reliance on the basis in question is reasonable,<sup>34</sup> and whether courts should allow into evidence the otherwise

---

<sup>29</sup> The third source contemplated by the rule consists of presentation of data to the expert outside of court and other than by his own perception. In this respect the rule is designed to broaden the basis for expert opinions beyond that current in many jurisdictions and to bring the judicial practice into line with the practice of the experts themselves when not in court.

FED. R. EVID. 703 advisory committee's note.

<sup>30</sup> In addition to meeting the tests of Rules 702 and 703, expert testimony must also pass the test of Rule 403. Federal Rule of Evidence 403 limits the admissibility of all evidence, including expert testimony: "Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence." FED. R. EVID. 403. So while proffered testimony may pass both Rules 702 and 703, if it fails to pass Rule 403, it should not be admitted into evidence.

Some courts have used Rule 403 to exclude scientific expert testimony of low probative value, which would otherwise satisfy Rules 702 and 703, on the grounds that it might mislead the jury. *See, e.g., In re "Agent Orange" Prod. Liab. Litig.*, 611 F. Supp. 1223, 1256 (E.D.N.Y. 1985) ("[a] false aura of scientific infallibility, coupled with low probative value, increases resistance to admitting evidence since it multiplies the hazards of misleading a jury"), *aff'd on other grounds*, 818 F.2d 187 (2d Cir. 1987), *cert. denied*, 487 U.S. 1234 (1988); *see also* Graham, *supra* note 1, at 63. *But cf. DeLuca v. Merrell Dow Pharmaceuticals*, 911 F.2d 941, 957 (3rd Cir. 1990) (arguing that if expert testimony meets the requirements of Rules 702 and 703, it is unlikely that it will fail to meet Rule 403).

<sup>31</sup> Graham, *supra* note 1, at 43; *see also* McElhaney, *supra* note 19, at 480.

<sup>32</sup> Many state evidence codes are modeled on the Federal Rules. Thirty-three states have adopted the substance, if not the precise language, of Rule 703. New Uniform Rule of Evidence 703 follows the language of the Federal Rule verbatim and has been adopted by 26 of the 33 states mentioned. WEINSTEIN & BERGER, *supra* note 26, ¶ 703[05].

<sup>33</sup> *See generally* SECTION OF LITIGATION, AMERICAN BAR ASSOCIATION, EMERGING PROBLEMS UNDER THE FEDERAL RULES OF EVIDENCE 204-15 (1983) [hereinafter EMERGING PROBLEMS].

<sup>34</sup> This question involves whether the trial court can impose an independent reasonableness standard on the expert's reliance, or whether it is enough that experts in the field customarily rely on the type of data upon which the expert intends to rely. In *In re Japanese Elec. Prods. Antitrust Litig.*, 723 F.2d 238 (3d Cir. 1983), *rev'd on other grounds sub nom. Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986), the court of appeals reversed the trial court's ruling that it was obliged to determine the reasonableness of the expert's reliance. The court noted that "[t]he proper inquiry is



inadmissible basis on which the expert has relied in reaching his conclusion.<sup>35</sup>

Recently, another question has arisen. Perhaps in response to the perceived need to gain greater control over expert testimony<sup>36</sup> or to the increased use of statistical evidence to prove causation,<sup>37</sup> courts have begun to use Rule 703 to exclude expert testimony, particularly scientific testimony, on the grounds that the expert has insufficient basis for the proffered opinion. Under the traditional approach, a court might exclude expert testimony for lack of a sufficient basis for the opinion when the expert reached a conclusion without having any facts, in or out of the record, on which an expert in the field would rely to support that conclusion.<sup>38</sup>

In determining if an expert lacks a sufficient basis for a proffered opinion, courts have traditionally focused on what constitutes an adequate basis. However, in several of the cases examined below, the courts have begun to look beyond whether the expert has an adequate basis for an opinion to whether most experts would,

---

not what the court deems reliable, but what experts in the relevant discipline deem it to be." *Id.* at 276.

Judge Weinstein noted an alternative, more restrictive approach in *In re Agent Orange*, 611 F. Supp. at 1244: "The more restrictive view requires the trial court to determine not only whether the data are of a type reasonably relied upon by experts in the field, but also whether the underlying data are untrustworthy for hearsay or other reasons."

<sup>35</sup> Rule 703 can be, and frequently is, used to circumvent various exclusionary rules of evidence, such as the hearsay rules. For example, an attorney can admit a piece of otherwise inadmissible evidence by simply finding an expert witness who will attest to reliance on the fact or datum in question. The attorney then seeks to admit into evidence the otherwise inadmissible evidence as the basis of the expert's opinion. Critics of this use of the rule refer to it as a "back door" exception to the hearsay rules. EMERGING PROBLEMS, *supra* note 33, at 204; Rossi, *supra* note 17, at 23. Commentators differ on the wisdom of allowing the rule to operate in this manner. Compare LOUISELL & MUELLER, *supra* note 20, § 389, at 663 and Ronald L. Carlson, *Policing the Bases of Modern Expert Testimony*, 39 VAND. L. REV. 577 (1986) with MICHAEL H. GRAHAM, HANDBOOK OF FEDERAL EVIDENCE § 703.1, at 629 (2d ed. 1986) and Paul R. Rice, *Inadmissible Evidence as a Basis for Expert Opinion Testimony: A Response to Professor Carlson*, 40 VAND. L. REV. 583 (1987); see also ABA Comm. on Rules of Criminal Procedure and Evidence, Criminal Justice Section, *Federal Rules of Evidence: A Fresh Review and Evaluation*, 120 F.R.D. 299, 369-70 (proposing a change in Rule 703 to deal with the problem). See generally Peter J. Rescori, Comment, *Fed. R. Evid. 703: A Back Door Entrance for Hearsay and Other Inadmissible Evidence: A Time for Change?*, 63 TEMP. L. REV. 543 (1990).

<sup>36</sup> See *supra* note 1 (listing courts and commentators asserting the need for greater control over expert witnesses).

<sup>37</sup> See, e.g., *Judges' Opinions*, *supra* note 1, at 738-41 (illustrating that a significantly greater percentage of federal judges favor specific restrictions on statistical evidence in complex cases—including toxic torts—than favor restrictions on expert testimony in general).

<sup>38</sup> For example, in *In re Agent Orange* the court excluded the health problem checklists filled out by plaintiffs as the primary medical records on which an expert relied in determining whether an herbicide had caused those ailments. *In re Agent Orange*, 611 F. Supp. at 1245-47. See *infra* notes 61-69 and accompanying text.

looking at the same facts, *draw the same conclusion* as the expert. This constitutes an expanded application of Rule 703 that can have drastic effects if applied too broadly. Rule 703 is applied too broadly when a court excludes the testimony of an expert who relies on the same facts as the opposing party's expert, but simply draws a different conclusion from those facts.

When a court applies Rule 703 in this fashion to exclude expert testimony in toxic tort cases, its evidentiary ruling can be dispositive of the case<sup>39</sup> because the crucial issue of causation in toxic tort cases often hinges on expert testimony.<sup>40</sup> When a court uses Rule 703 to exclude an expert on causation, a grant of summary judgment frequently follows.<sup>41</sup> Similarly, when a court does not apply Rule 703 until trial or post-trial, grants of judgment notwithstanding the verdict are not uncommon.<sup>42</sup>

## II

### THE DEVELOPMENT OF BROADER EXCLUSION UNDER RULE 703

#### A. The "Agent Orange" Litigation

The litigation surrounding the use of the defoliant "Agent Orange" in Vietnam was astounding in both scope and complexity.<sup>43</sup> More than 15,000 individuals filed in excess of 600 separate

<sup>39</sup> [T]he courts' ability to handle controversies about scientific and technical facts does have a major effect on verdicts and settlements in areas such as toxic torts, products liability, and medical malpractice. Practical results in these fields are more likely to be influenced by the evidentiary rulings on innovative theories of fact than by substantive law.

Elliott, *supra* note 4, at 488.

<sup>40</sup> Judge Weinstein noted that fact as the basis for a slightly different conclusion in *In re Agent Orange*, 611 F. Supp. at 1244: "[I]n the mass toxic tort context . . . presentation to the trier of theories of causation depends almost entirely on expert testimony." Commentators agree that "[i]n a typical, modern toxic torts case, expert testimony connecting the substance in question to the injury allegedly suffered is the very heart of the plaintiff's case." Paul F. Rothstein & Michael Crew, *When Should the Judge Keep Expert Testimony From the Jury?*, *INSIDE LITIG.*, Apr. 1987, at 19.

<sup>41</sup> See, e.g., *DeLuca v. Merrell Dow Pharmaceuticals*, 131 F.R.D. 71 (D.N.J.), *rev'd*, 911 F.2d 941 (3d Cir. 1990); *Cummiskey v. Chandris, S.A.*, 719 F. Supp. 1183 (S.D.N.Y. 1989), *aff'd*, 895 F.2d 107 (2d Cir. 1990); *Lynch v. Merrell-National Labs.*, 646 F. Supp. 856 (D. Mass. 1986), *aff'd*, 830 F.2d 1190 (1st Cir. 1987); *In re Agent Orange*, 611 F. Supp. 1223.

<sup>42</sup> See, e.g., *Thomas v. Hoffman-La Roche, Inc.*, 731 F. Supp. 224 (N.D. Miss. 1989); *Ealy v. Richardson-Merrell, Inc.*, No. 83-3504, 1988 WL 64933 (D.D.C. filed June 13, 1988), *rev'd*, 897 F.2d 1159 (D.C. Cir. 1990), *cert. denied*, 111 S. Ct. 370 (1990); *In re Paoli R.R. Yard PCB Litig.*, 706 F. Supp. 358 (E.D. Pa. 1988), *rev'd*, 916 F.2d 829 (3d Cir. 1990), *cert. denied*, 111 S. Ct. 1584 (1991); *Richardson v. Richardson-Merrell, Inc.*, 649 F. Supp. 799 (D.D.C. 1986), *aff'd*, 857 F.2d 823 (D.C. Cir. 1988), *cert. denied*, 493 U.S. 882 (1989).

<sup>43</sup> See PETER H. SCHUCK, *AGENT ORANGE ON TRIAL: MASS TOXIC DISASTERS IN THE COURTS* 4 (1986).

actions<sup>44</sup> that Chief Judge Jack Weinstein of the Eastern District of New York eventually consolidated into a single class action. The court defined the plaintiff class to include “those persons who were in the United States, New Zealand or Australian Armed Forces at any time from 1961 to 1972 who were injured while in or near Vietnam by exposure to Agent Orange” and any immediate family members of veterans injured by the exposure.<sup>45</sup> The plaintiffs sought relief on “theories of negligence, strict liability, breach of warranty, intentional tort, and nuisance”<sup>46</sup> against the defendant chemical companies. After almost six years of litigation, the parties settled in May 1984, creating a fund of \$180 million.<sup>47</sup>

Though the case involved many decisions,<sup>48</sup> perhaps the most “far-reaching”<sup>49</sup> was Judge Weinstein’s decision not to allow the cases of the almost 300 individuals who had opted out of the class settlement to survive summary judgment.<sup>50</sup> That decision hinged on his finding that the plaintiffs’ expert testimony was inadmissible under both Federal Rules of Evidence 703 and 403.<sup>51</sup>

Judge Weinstein first considered the admissibility of the plaintiffs’ experts’ testimony under the liberal standards of Rule 702, looking both to the experts’ qualifications and the “helpfulness” of their testimony.<sup>52</sup> He found that both witnesses, Drs. Singer and Epstein, were qualified as experts by their education and experience. Judge Weinstein also found that the experts’ testimony would be helpful to the trier of fact because the testimony dealt with causation, an issue central to the case.<sup>53</sup> Judge Weinstein’s analysis did not end there, however; he proceeded to examine the bases of the experts’ testimony under both Rules 703 and 403.<sup>54</sup>

---

<sup>44</sup> *Id.*

<sup>45</sup> *In re “Agent Orange” Prod. Liab. Litig.*, 611 F. Supp. 1223, 1229 (E.D.N.Y. 1985), *aff’d on other grounds*, 818 F.2d 187 (2d Cir. 1987), *cert. denied*, 487 U.S. 1234 (1988). Of the over 2.6 million veterans who served in Vietnam during that period, it is estimated that 600,000 were exposed to Agent Orange. *Id.* at 1229-30.

<sup>46</sup> *Id.* at 1229.

<sup>47</sup> SCHUCK, *supra* note 43, at 5. Judge Weinstein, who had pursued settlement from the time he took on the case, *id.* at 143, approved of the settlement in *In re “Agent Orange” Prod. Liab. Litig.*, 597 F. Supp. 740 (E.D.N.Y. 1984), *aff’d in part and rev’d in part*, 818 F.2d 145 (2d Cir. 1987).

<sup>48</sup> See SCHUCK, *supra* note 43, at 124-42.

<sup>49</sup> *Id.* at 234.

<sup>50</sup> *In re Agent Orange*, 611 F. Supp. at 1230.

<sup>51</sup> *Id.* at 1256. See *supra* note 30 (discussing the application of Rule 403 to expert testimony).

<sup>52</sup> See *supra* text accompanying notes 20-24 (discussing the application of Rule 702).

<sup>53</sup> *In re Agent Orange*, 611 F. Supp. at 1242-43.

<sup>54</sup> See *supra* note 30 (discussing the relationship between Rules 403, 702, and 703). Judge Weinstein found the testimony in question implicated several Rule 403 considerations: “There is a strong probability that the doctors’ testimony would mislead and confuse at least some members of the jury. Establishing the low probative value of the

Before analyzing the experts' testimony under Rules 703 and 403, Judge Weinstein determined that the testimony deserved particularly close scrutiny for several reasons. He noted that "[w]hen either the expert's qualifications or his testimony lie at the periphery of what the scientific community considers acceptable, special care should be exercised in evaluating the reliability and probative worth of the proffered testimony under rules 703 and 403."<sup>55</sup> He further suggested that "[c]ourts are particularly wary of unfounded expert opinion when causation is the issue,"<sup>56</sup> and concluded that "[r]igorous examination' is especially important in the mass toxic tort context where presentation to the trier of theories of causation depends almost entirely on expert testimony."<sup>57</sup> Having determined the necessity of so-called "strict scrutiny"<sup>58</sup> or "active review"<sup>59</sup> of the expert testimony, Judge Weinstein examined the bases of the expert testimony under Rule 703.<sup>60</sup>

---

affidavits would entail an unwarranted expenditure of time and effort. The introduction of plaintiffs' evidence would protract this prolonged litigation." *In re Agent Orange*, 611 F. Supp. at 1256.

<sup>55</sup> *In re Agent Orange*, 611 F. Supp. at 1242. These factors appear more relevant to an analysis under Rule 702 than to Rules 703 and 403. See *supra* text accompanying notes 20-24 (discussing Rule 702's "helpfulness" standard). The court may have meant to say that when testimony barely satisfies the liberal admissibility standard of Rule 702, it deserves closer scrutiny under Rules 703 and 403. Toxic torts, the court later states, almost presumptively fall into this category of testimony: "The uncertainty of the evidence in [toxic tort] cases, dependent as it is upon speculative scientific hypotheses and epidemiological studies, creates a special need for robust screening of experts and gatekeeping under rules 403 and 703 by the court." *In re Agent Orange*, 611 F. Supp. at 1260. Even if one grants the premise that such evidence is often speculative, it may be more consistent with the text of the rules to exclude the testimony under Rule 702. See *infra* note 231 and accompanying text (discussing the merits of excluding testimony under Rule 702 rather than Rule 703).

<sup>56</sup> *In re Agent Orange*, 611 F. Supp. at 1249.

<sup>57</sup> *Id.* at 1244.

<sup>58</sup> *D.C. Circuit Panel Takes Demanding Look At Expert Testimony*, INSIDE LITIG., Nov. 1988, at 1; Rothstein & Crew, *supra* note 40, at 26; Vicki Christian, Comment, *Admissibility of Scientific Expert Testimony: Is Bad Science Making Law?*, 18 N. KY. L. REV. 21, 40 (1990).

<sup>59</sup> Black, *supra* note 6, at 674; L.L. Plotkin, Recent Development, *Brock v. Merrell Dow Pharmaceuticals, Inc.: What is the Court's Role in Evaluating Expert Testimony?*, 64 TULANE L. REV. 1263 (1990).

<sup>60</sup> Judge Weinstein interpreted Rule 703 as requiring an independent finding by the trial court of the reasonableness of the expert's reliance. *In re Agent Orange*, 611 F. Supp. at 1245 ("the court may not abdicate its independent responsibilities to decide if the bases meet minimum standards of reliability as a condition of admissibility"). Although this need for an independent finding may have led to the rigorous examination the court gave the testimony, the testimony appears to be excludable under the less restrictive standard of Rule 703 adopted by other circuits. Even if a court used the more liberal standard of *In re Japanese Elec. Prods. Antitrust Litig.*, 723 F.2d 238, 277 (3d Cir. 1983), which requires the court to determine whether experts in the field customarily rely upon the data in question, rather than Judge Weinstein's more restrictive standard, which requires the court to independently determine whether reliance is reasonable, the court would likely exclude the questionnaires as a basis for expert testimony. The same is not true, however, of the *In re Agent Orange* court's treatment of the basis of the plain-

1. *Admissibility of the Medical Symptom Questionnaires*

The plaintiffs' experts in *In re Agent Orange* based their finding that Agent Orange had caused the plaintiffs' illnesses largely on checklists of medical symptoms filled out by the plaintiffs in preparation for the litigation.<sup>61</sup> Judge Weinstein found that other doctors in this field would not normally rely on such checklists in diagnosing the health problems allegedly caused by exposure to Agent Orange.<sup>62</sup> The court went so far as to take "judicial notice—based on hundreds of trials—that no reputable physician relies on hearsay checklists by litigants to reach a conclusion with respect to the cause of their afflictions."<sup>63</sup> The court further described the records constituting the inadmissible bases as "self-serving laypersons' general affidavits and checklists prepared in gross for a complex litigation."<sup>64</sup> The court found that these records met neither the standard of reasonable reliance expressed in Rule 703 nor the underlying purpose of trustworthiness,<sup>65</sup> because "the usual inducement to candor with a physician—the hope of successful treatment or diagnosis—was totally lacking."<sup>66</sup> The court further stated that the "plaintiffs had every incentive to be overinclusive in describing their symptoms."<sup>67</sup>

This Note asserts that the *In re Agent Orange* court's use of Rule 703 to exclude the medical symptom questionnaires is perfectly acceptable. The *In re Agent Orange* court's application of Rule 703 to the questionnaires is representative of how courts regularly use the rule to exclude a basis of expert testimony. That doctors would not

---

tiffs' experts' testimony linking Agent Orange to the plaintiffs' ailments. See *infra* text accompanying notes 70-96.

<sup>61</sup> Dr. Singer relied exclusively on these checklists, while Dr. Epstein claimed to have relied "at least in part on medical and military records to corroborate the extent of plaintiffs' exposure and the nature of their illnesses." *In re Agent Orange*, 611 F. Supp. at 1247.

<sup>62</sup> *Id.* at 1246.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.* at 1247.

<sup>65</sup> Judge Weinstein noted that

Rule 703 permits experts to rely upon hearsay. The guarantee of trustworthiness is that it be of the kind normally employed by experts in the field. The expert is assumed, if he meets the test of Rule 702, to have the skill to properly evaluate the hearsay, giving it probative force appropriate to the circumstances.

*Id.* at 1245.

<sup>66</sup> *Id.* at 1247.

<sup>67</sup> *Id.*

rely, reasonably or even customarily,<sup>68</sup> on such materials in making diagnoses is so apparent that the court took judicial notice of it.<sup>69</sup>

## 2. *Admissibility of the Causation Testimony*

While the court's use of Rule 703 to exclude the medical symptom questionnaires is acceptable, the court's "rigorous examination"<sup>70</sup> or "strict scrutiny"<sup>71</sup> of the expert testimony, resulting in a finding that the plaintiffs' experts failed to have a reasonable basis for their testimony on causation, is more problematic. Based on that finding, the court excluded the experts' testimony and granted defendants' motion for summary judgment.<sup>72</sup>

Toxic tort cases generally present two questions of causation.<sup>73</sup> The plaintiff must first establish "that the chemical involved is capable of causing the type of harm from which the plaintiff suffers."<sup>74</sup> Animal studies and epidemiological studies are often useful in answering this question.<sup>75</sup> Once this threshold question is answered,

<sup>68</sup> The distinction between reasonable and customary reliance refers to whether a court simply determines if experts in the field consider reliance reasonable or whether the court must independently determine the reasonableness of the reliance. See *supra* note 34 (discussing the two approaches). One commentator suggests that if deference was intended, "customarily" could have been used instead of "reasonably" in Rule 703. GRAHAM, *supra* note 35, § 703.1, at 626 n.12.

<sup>69</sup> Judge Weinstein noted that not even the experts themselves claimed that their reliance was routine: "none of plaintiffs' experts assert that they normally rely on hearsay checklists . . . in reaching conclusions as to the causes of their patients' illnesses." *In re Agent Orange*, 611 F. Supp. at 1246. A commentator agrees:

The physician had examined simple questionnaires filled out by plaintiffs, and then concluded their problems were related to Agent Orange. After all the expert testimony in depositions during the litigation, it would be difficult to imagine a more bizarre evidentiary basis for deciding the causation issue in the Agent Orange litigation.

Troyen A. Brennan, *Helping Courts with Toxic Torts: Some Proposals Regarding Alternative Methods for Presenting and Assessing Scientific Evidence in Common Law Courts*, 51 U. PITT. L. REV. 1, 54 (1989) (footnote omitted).

<sup>70</sup> See *supra* text accompanying note 57.

<sup>71</sup> See *supra* text accompanying note 58.

<sup>72</sup> *In re Agent Orange*, 611 F. Supp. at 1256, 1260.

<sup>73</sup> Daniel A. Farber, *Toxic Causation*, 71 MINN. L. REV. 1219, 1227 (1987).

<sup>74</sup> *Id.* This question is difficult when dealing with injuries such as cancer, the causation of which is not clearly understood. *Id.* Birth defects also fall into this category. See *DeLuca v. Merrell Dow Pharmaceuticals*, 911 F.2d 941, 945 (3d Cir. 1990).

<sup>75</sup> Farber, *supra* note 73, at 1228. "Epidemiology, a branch of science and medicine, uses studies to 'observe the effect of exposure to a single factor upon the incidence of disease in two otherwise identical populations.'" *DeLuca*, 911 F.2d at 945 (quoting Bert Black & David E. Lilienfeld, *Epidemiological Proof in Toxic Tort Litigation*, 52 FORDHAM L. REV. 732, 755 (1984)). "For illnesses whose cause is incompletely understood, the most important generalized evidence of causation is epidemiology." Michael Dore, *A Commentary on the Use of Epidemiological Evidence in Demonstrating Cause-in-Fact*, 7 HARV. ENVTL. L. REV. 429, 430-31 (1983) (footnote omitted).

there remains the question of specific causation.<sup>76</sup> The plaintiff must establish that "given that the toxic substance in question can cause harm of the type suffered by the plaintiff, . . . the plaintiff's harm did in fact result from such exposure."<sup>77</sup> Here, animal and epidemiological studies only provide indirect support, often supplying the basis from which to infer an affirmative answer to this question.<sup>78</sup>

The questionnaires relied on by the medical experts in *In re Agent Orange* addressed the second question, to the degree they addressed either. The questionnaires were designed to establish the medical problems the plaintiffs had suffered. They did not, however, establish the link between Agent Orange and those ailments generally. The plaintiffs relied on their medical experts to establish that link.

Although courts historically have shown great deference to medical experts,<sup>79</sup> Judge Weinstein accorded the experts in *Agent Orange* no such deference.<sup>80</sup> He found their testimony inadequate

<sup>76</sup> Various labels are used to distinguish the two questions. A practitioners' handbook uses "threshold" and "specific." Larry D. Espel & G. Marc Whitehead, *Scientific Experts in Toxic Tort or Drug Cases*, in EXPERT WITNESSES 453, 456 (Faust F. Rossi ed., 1991). Courts sometimes use "general" or "generic" and "individual." See, e.g., *Fibreboard Corp.*, 893 F.2d 706, 711-12 (5th Cir. 1990); *In re Sterling v. Velsicol Chem. Corp.*, 855 F.2d 1188 (6th Cir. 1988). Another commentator labels the questions "risk" and "occurrence." Dore, *supra* note 75, at 435.

Judge Weinstein noted the distinction clearly in an earlier opinion in this litigation in which he indicated "[i]t is important in considering the facts to keep clearly in mind . . . the different problems of proof posed in determining if dioxin [a chemical in Agent Orange] can cause certain diseases and whether it *did* cause a particular disease or defect in a particular person." *In re "Agent Orange" Prod. Liab. Litig.*, 597 F. Supp. 740, 780 (E.D.N.Y. 1984), *aff'd*, 818 F.2d 145 (2d Cir. 1987). In that opinion, Judge Weinstein referred to the specific causation question as the "indeterminate plaintiff problem." *Id.* at 842. One commentator asserts that that opinion "has provided the most extensive judicial discussion of toxic causation." Farber, *supra* note 73, at 1234.

<sup>77</sup> Farber, *supra* note 73, at 1228.

<sup>78</sup> A commentator describes the role of epidemiology as follows:

Epidemiological studies address questions such as "Does exposure to this chemical increase the incidence of cancer in a population?" but not "Did exposure to this chemical cause a particular person's cancer?" Such generalized evidence may help demonstrate that a particular event occurred, but only when accompanied by more specific evidence.

Dore, *supra* note 75, at 431 (footnotes omitted); see also Khristine L. Hall & Ellen K. Silbergeld, *Reappraising Epidemiology: A Response to Mr. Dore*, 7 HARV. ENVTL. L. REV. 441, 445 (1983) (footnote omitted):

[A]n epidemiological study does establish a relationship between a chemical and disease. Although the epidemiological study by itself does not conclusively show that an individual plaintiff's injury was caused by exposure to a particular chemical, it is at least relevant circumstantial evidence, showing the probability of a relationship between the chemical in question and the injury.

<sup>79</sup> See Black, *supra* note 6, at 662 (attributing "[t]he deference accorded physicians by courts and lawyers [to] the rigorous education and licensing of medical doctors").

<sup>80</sup> See *supra* text accompanying notes 55-57.

on both causation questions.<sup>81</sup> On the general causation question, Judge Weinstein faulted the experts' reliance on animal studies<sup>82</sup> and their failure to consider the existing epidemiological data.<sup>83</sup> On the specific causation question, Judge Weinstein criticized the experts' reliance on hearsay checklists as evidence of injury,<sup>84</sup> the experts' similar lack of evidence on exposure,<sup>85</sup> and the experts' "inability to exclude other possible causes of plaintiffs' illnesses—those arising out of their service in Vietnam as well as those that all of us face in military and civilian life."<sup>86</sup> He considered it a "fatal flaw . . . that no account is taken of the relative degree of specific health problems of those exposed to Agent Orange as compared with those not exposed," noting that "[a]ll the studies to date indicate no significant differences."<sup>87</sup>

This Note finds the court's approach in *In re Agent Orange* problematic because Judge Weinstein essentially required the plaintiffs to provide an epidemiological study to support the expert opinions on causation.<sup>88</sup> He did not deny that Agent Orange has caused some diseases;<sup>89</sup> he simply wanted studies to substantiate the experts' opinions that Agent Orange had caused the plaintiffs' diseases. Because "[n]o acceptable study to date of Vietnam veterans and their families concludes that there is a causal connection between exposure to Agent Orange and the serious adverse health effects claimed by plaintiffs,"<sup>90</sup> Judge Weinstein concluded that the experts had no reasonable basis, as required by Rule 703, for their opinions:

---

<sup>81</sup> Judge Weinstein described one of the experts' reasoning as follows: "[T]he affiants complain of various medical problems; animals and workers exposed to extensive dosages of [the chemical] have suffered from related difficulties; therefore, assuming nothing else caused the affiants' afflictions, Agent Orange caused them." *In re "Agent Orange"* Prod. Liab. Litig., 611 F. Supp. 1223, 1237-38 (E.D.N.Y. 1985), *aff'd on other grounds*, 818 F.2d 187 (2d Cir. 1987), *cert. denied*, 487 U.S. 1234 (1988). Judge Weinstein found this "analysis, in addition to being speculative, . . . so guarded as to be worthless." *Id.* at 1238.

<sup>82</sup> *Id.* at 1241.

<sup>83</sup> *Id.* at 1250. Judge Weinstein had taken judicial notice of several epidemiological studies. *Id.* at 1240.

<sup>84</sup> *Id.* at 1246-47.

<sup>85</sup> *Id.* at 1247-48.

<sup>86</sup> *Id.* at 1250. See *Hines v. Consolidated Rail Corp.*, 926 F.2d 262, 270 n.6 (3d Cir. 1991) ("The terms 'differential diagnosis' are used to describe a process whereby medical doctors experienced in diagnostic techniques provide testimony countering other possible causes . . . of the injuries at issue."); Elliott, *supra* note 4, at 497 (footnote omitted) ("Judge Weinstein . . . emphasized that the plaintiffs' experts failed to consider and exclude other known causes for the health problems they attributed to Agent Orange (a process which doctors call 'differential diagnosis').").

<sup>87</sup> *In re Agent Orange*, 611 F. Supp. at 1248.

<sup>88</sup> See Brennan, *supra* note 69, at 53.

<sup>89</sup> *In re Agent Orange*, 611 F. Supp. at 1231.

<sup>90</sup> *Id.*



[T]o the extent that these experts rely on available epidemiological studies, the studies supply no basis for an inference of causation. There is simply no other reliable data on which an expert can furnish reliable testimony. Thus, no expert tendered by plaintiffs would be permitted to testify under Rules 702 and 703 of the Federal Rules of Evidence.<sup>91</sup>

Although Judge Weinstein's decision was a district court opinion, affirmed on an unrelated ground,<sup>92</sup> it has received widespread notice.<sup>93</sup> Commentators have criticized the decision,<sup>94</sup> and courts

<sup>91</sup> *Id.* at 1234. The reference to Rule 702 is somewhat mysterious in light of Judge Weinstein's finding that the proffered experts satisfy the qualifications and helpfulness requirements of Rule 702. See *supra* text accompanying notes 52-53.

<sup>92</sup> The Court of Appeals for the Second Circuit affirmed on the grounds that the defendant was a government contractor. *In re "Agent Orange" Prod. Liab. Litig.*, 818 F.2d 187, 189 (2d Cir. 1987), *cert. denied*, 487 U.S. 1234 (1988).

<sup>93</sup> Courts and commentators may have paid particularly close attention to the opinion because Judge Weinstein, as author of the treatise that bears his name, is one of the most notable commentators on evidence.

<sup>94</sup> The decision has been criticized on a variety of grounds. One commentator criticized Judge Weinstein's decision from a medical standpoint:

Judge Weinstein was wrong to ignore animal data and other toxicological studies simply because there were negative epidemiological studies in evidence. Negative epidemiological studies carry little weight because they are often not sufficiently powerful to uncover an association. Moreover, the judge paid insufficient attention to positive epidemiological studies; he dismissed them because they were not specific studies of Agent Orange and veterans. Certainly the judge and his clerks read a lot of studies and reached some conclusions, and for this they are to be credited. The judge's decision is, however, wrong from a toxicological point of view.

Brennan, *supra* note 69, at 56 (footnotes omitted).

Professor Schuck's criticism is milder, but more thorough. On the scientific questions, he claims Judge Weinstein was "self-taught and incompletely informed, lacking in the intuition and finely honed technical judgment of the experienced scientist." SCHUCK, *supra* note 43, at 239. According to Schuck, this "tempted [the judge] to jump in boldly where even specialists feared to tread." *Id.* Further, Schuck criticizes Judge Weinstein's use of precedent: "uone of the cases Weinstein cited to support his evidentiary ruling clearly compelled exclusion, much less summary judgment." *Id.* Schuck also argues that "Weinstein's 'rigorous examination' manifested a certain niggardliness in summing up the veterans' evidence." *Id.* at 240. Schuck concludes that "the propriety of Weinstein's grant of summary judgment remains a close question—probably wrong, but not clearly so." *Id.* at 241. Schuck notes that "even the chemical companies had assumed prior to the settlement that a summary judgment motion would be futile." *Id.*

Other commentators have been pleased with the end result of the litigation, if not the means. For example, Professor Nesson was impressed with the handling of the case: "Judge Weinstein achieved a remarkable outcome, truly a tremendous accomplishment." Charles Nesson, *Agent Orange Meets the Blue Bus: Factfinding at the Frontier of Knowledge*, 66 B.U. L. REV. 521, 525 (1986). But Nesson disagreed with the conclusive effect the court gave statistical proof:

Judge Weinstein built his resolution of the controversy on a conception of proof that seems wrong to me. His view reflects an erroneous and hard-edged statistical concept of probability, which obscures the difference between law and science. Although he has settled the Agent Orange cases, his approach, if it becomes dogma, will gravely incapacitate the

have cited it as authority for requiring epidemiological studies in other cases.<sup>95</sup> In short, *In re Agent Orange* is considered the trend-setting precedent for applying strict scrutiny to scientific expert testimony.<sup>96</sup>

## B. The Bendectin Cases

The litigation concerning the pharmaceutical Bendectin was almost as extensive as the Agent Orange litigation.<sup>97</sup> Bendectin was an antinausea pregnancy drug produced by Merrell-Dow from 1957 to 1983.<sup>98</sup> Although most experts, including the Food and Drug Administration,<sup>99</sup> concluded that Bendectin does not cause birth defects, vast numbers of plaintiffs sued Merrell-Dow alleging that Bendectin had caused their—or their children's—birth defects.<sup>100</sup>

dispute-resolving powers of courts in toxic tort cases. It leaves entirely to defendants the range between what jurors and members of the public can rationally believe, and what statisticians can prove.

*Id.* at 526; see also Farber, *supra* note 73, at 1236 n.76:

Judge Weinstein's opinion is highly persuasive as a judgment on the merits. Indeed, it reads very much like the opinion a judge would write after a bench trial. It is not clear, however, whether [the flaws in the plaintiffs' evidence], which mostly go to the weight of the evidence, should have led to a finding of inadmissibility followed by summary judgment rather than letting the cases go to the jury.

<sup>95</sup> See, e.g., *Richardson v. Richardson-Merrell, Inc.*, 857 F.2d 823, 831 n.59 (D.C. Cir. 1988), *cert. denied*, 493 U.S. 882 (1989); *Lynch v. Merrell-National Lab.*, 830 F.2d 1190, 1194 (1st Cir. 1987); *Weldon v. United States*, 744 F. Supp. 408 (N.D.N.Y. 1990); *Daubert v. Merrell Dow Pharmaceuticals*, 727 F. Supp. 570, 572-73 (S.D. Cal. 1989). *But see* *Werlein v. United States*, 746 F. Supp. 887, 898-901 (D. Minn. 1990) (declining to require epidemiological proof of plaintiff's harm).

<sup>96</sup> See, e.g., Brennan, *supra* note 69, at 9 n.40 (citations omitted):

A disturbing trend is developing in the federal courts, likely arising out of Judge Weinstein's opinion in the [*In re Agent Orange*] decision. The federal judiciary has begun to countenance more judicial activism regarding expert testimony. Thus, judges are now scrutinizing experts' qualifications and deposition testimony quite closely.

When the court is unconvinced, it grants defendants' motions for summary judgment. Rather rare before Weinstein's [*In re Agent Orange*] decision, this movement is gathering momentum.

See also Elliott, *supra* note 4, at 494 ("One new variant of the judicial exclusion strategy was pioneered by Judge Weinstein in the *Agent Orange* litigation. This approach uses summary judgment to exclude expert testimony that fails to meet minimal standards of trustworthiness and credibility." (footnote omitted)); Rothstein & Crew, *supra* note 40, at 21-22 ("The camp of strict screening of expert testimony is epitomized by one of the decisions in the multifaceted *Agent Orange* litigation. . . .").

<sup>97</sup> See Black, *supra* note 6, at 679-80 ("[c]ourts in 49 states and the District of Columbia have had to deal with Bendectin cases").

<sup>98</sup> *Id.* at 679.

<sup>99</sup> *Richardson v. Richardson-Merrell, Inc.*, 649 F. Supp. 799, 802-03 (D.D.C. 1986), *aff'd*, 857 F.2d 823 (D.C. Cir. 1988), *cert. denied*, 493 U.S. 882 (1989).

<sup>100</sup> "The drug was prescribed routinely from 1957 until 1983. . . . Because it was so widely used and because about two to five percent of all children are born with defects, whether or not their mother used Bendectin during pregnancy, the pool of potential plaintiffs is large and ubiquitous." Black, *supra* note 6, at 679 (footnotes omitted).

The Judicial Panel on Multidistrict Litigation consolidated over 1000 cases for pretrial purposes before Judge Carl Rubin in the Southern District of Ohio.<sup>101</sup> At the close of the pretrial proceedings, plaintiffs were given the choice of proceeding in a consolidated action for trial or having their cases remanded to the court in which their actions had been brought.<sup>102</sup> The consolidated trial resulted in a jury verdict for the defendant.<sup>103</sup> The cases discussed below involve plaintiffs who either chose to have their proceedings remanded following pretrial discovery<sup>104</sup> or who brought their cases after the date of the consolidated action.<sup>105</sup>

### 1. Lynch v. Merrell-National Laboratories (*The First Circuit*)

In *Lynch v. Merrell-National Laboratories*,<sup>106</sup> the Court of Appeals for the First Circuit faced the evidentiary questions presented by expert causation testimony relating to Bendectin. As in each of the cases that follow, a pregnant woman had taken Bendectin, a prescription antinausea drug, as a remedy for morning sickness,<sup>107</sup> and had later given birth to a child who had a limb-reduction birth defect.<sup>108</sup> The plaintiffs in *Lynch* sued the manufacturer of Bendectin alleging negligence, failure to warn, false advertising, breach of warranty, and defective design.<sup>109</sup> The trial court granted the defendant summary judgment, finding, for the purposes of this

<sup>101</sup> *In re Richardson-Merrell, Inc. "Bendectin" Prods. Liab. Litig.*, 624 F. Supp. 1212, 1216 (S.D. Ohio 1985), *aff'd sub nom. In re Bendectin Litig.*, 857 F.2d 290 (6th Cir. 1988), *cert. denied*, 488 U.S. 1006 (1989). The Judicial Panel derives its authority from 28 U.S.C. § 1407, which provides that "civil actions involving one or more common questions of fact . . . pending in different districts" may be consolidated upon a "determination that transfers for such proceedings will be for the convenience of parties and witnesses and will promote the just and efficient conduct of such actions." 28 U.S.C. § 1407(a) (1988). See generally 15 CHARLES A. WRIGHT ET AL., FEDERAL PRACTICE AND PROCEDURE §§ 3861-3868 (2d ed. 1986) (detailing procedures for complex multi-district litigation).

<sup>102</sup> *In re Richardson-Merrell*, 624 F. Supp. at 1216. Just as the consolidated trial began, Judge Rubin attempted to certify a class for settlement, but the court of appeals found such a certification beyond the judge's authority. *In re Bendectin Prods. Liab. Litig.*, 749 F.2d 300 (6th Cir. 1984).

<sup>103</sup> *In re Richardson-Merrell*, 624 F. Supp. 1212.

<sup>104</sup> *Richardson*, 857 F.2d at 824-25; *Lynch v. Merrell-National Lab.*, 830 F.2d 1190, 1191 (1st Cir. 1987).

<sup>105</sup> *Brock v. Merrell Dow Pharmaceuticals*, 874 F.2d 307, *modified*, 884 F.2d 166 (5th Cir. 1989), *cert. denied*, 110 S. Ct. 1511 (1990); *DeLuca v. Merrell Dow Pharmaceuticals*, 131 F.R.D. 71 (D.N.J.), *rev'd*, 911 F.2d 941 (3d Cir. 1990); *Ealy v. Richardson-Merrell, Inc.*, No. 83-3504, 1988 WL 64933 (D.D.C. filed June 13, 1988), *rev'd*, 897 F.2d 1159 (D.C. Cir.), *cert. denied*, 111 S. Ct. 370 (1990).

<sup>106</sup> 830 F.2d 1190 (1st Cir. 1987).

<sup>107</sup> *Id.* at 1191.

<sup>108</sup> Margo Lynch "was born without a right hand and without the lower portion of her right forearm." *Id.*

<sup>109</sup> *Id.*

Note,<sup>110</sup> that because the plaintiffs' experts' testimony was inadmissible, there was insufficient proof of causation.<sup>111</sup> The appellate court affirmed the exclusion of plaintiffs' expert testimony under Federal Rules of Evidence 403 and 703, and consequently affirmed the grant of summary judgment.<sup>112</sup>

Before examining the testimony offered by each of the plaintiffs' experts, the *Lynch* court established the standard that the testimony would have to meet. In light of the defendants' overwhelming<sup>113</sup> epidemiological data, the *Lynch* court, similar to the *In re Agent Orange* court,<sup>114</sup> found that "[a] new study coming to a different conclusion and challenging the consensus would be admissible evidence."<sup>115</sup> But "[w]ithout such a study there is nothing on which expert opinion on Bendectin as a cause may be based."<sup>116</sup>

After establishing the burden it required the plaintiffs' experts to meet, the court described the experts' qualifications<sup>117</sup> and proceeded to examine their testimony. The plaintiffs' first expert, Dr.

<sup>110</sup> The trial court also held that the plaintiffs were collaterally estopped by the judgment in the consolidated proceeding in Ohio. *See supra* notes 101-03 and accompanying text. The court of appeals reversed that ruling, noting that "[i]f they were now bound, the multi-district litigation would in effect have been a class action leaving the Lynches no true option." *Lynch*, 830 F.2d at 1193.

<sup>111</sup> *Id.*

<sup>112</sup> *Id.* at 1196-97.

<sup>113</sup> *Id.* at 1194.

<sup>114</sup> *See supra* text accompanying notes 88-91.

<sup>115</sup> *Lynch*, 830 F.2d at 1194.

<sup>116</sup> *Id.* (emphasis added).

<sup>117</sup> The court described the experts' qualifications in detail:

Dr. Done [is] a 1952 graduate of the medical school of the University of Utah. Done was an assistant professor of pediatrics at Stanford from 1958 to 1960; a professor of pediatrics at Utah from 1960 to 1971; a special assistant to the director of the Bureau of Drugs in the Food and Drug Administration, 1971-1974; and a professor of pediatrics and pharmacology at the College of Medicine, Wayne State University, 1975 to date. . . .

. . . Shanna Helen Swan [holds] a 1963 doctorate in statistics from the University of California at Berkeley. Swan had served from 1969 to 1975 as senior biostatistician in a Kaiser Health contraceptive drug study; been associate professor of mathematics at California State University, Sonoma, from 1974 to 1979; directed between 1979 and 1981 the training program in biostatistics and epidemiology at the School of Public Health of the University of California, Berkeley; and, while remaining in this school, has been since 1981 the chief of the Methodology and Analysis Unit, Epidemiology and Statistics, Department of Health Services of the State of California.

*Id.* at 1194-95.

The court of appeals did not mention any objection to the experts' qualifications, and, given the liberal standard of Rule 702, *see supra* text accompanying notes 20-24 (discussing the application of Rule 702), it is difficult to imagine a court that would refuse to qualify the plaintiffs' two witnesses as experts. *But see infra* note 162 (suggesting that experts whose opinions are available to the highest bidder do not meet the standards of Rule 702).

Alan Done, had based his opinion that Bendectin could cause limb reduction on “*in vivo* animal studies, *in vitro* animal studies, and the study of ‘analogous’ chemicals.”<sup>118</sup> Citing *In re Agent Orange*, the court of appeals affirmed the trial court’s finding that Dr. Done’s studies could not prove “causation in human beings in the absence of any confirmatory epidemiological data.”<sup>119</sup>

The court of appeals took a slightly different approach to the proffered testimony of the plaintiffs’ second expert, Dr. Shanna Swan. Dr. Swan based her opinion that Bendectin causes limb-reduction birth defects on her reanalysis of data that had been previously analyzed by the Center for Disease Control.<sup>120</sup> The court examined her findings closely, seemingly second-guessing the choices she had made in reanalyzing the data.<sup>121</sup> After noting that her study and conclusions had never been published in a scientific journal, the court found that her study “could not form the foundation for an expert opinion challenging the scientific consensus.”<sup>122</sup>

The court of appeals only attempted to explain under which rules it had found the testimony inadmissible in the concluding section of its opinion. In that section, the court, after expressing a fear of jury lawlessness, praised the district court’s rejection of the testimony under Rules 403 and 703:

The sight of a helpless mutilated youngster may evoke emotion along with the corresponding wish to make somebody pay for his or her plight. . . . With this very real possibility of runaway emotion overcoming judgment, the district court’s firm rejection here of foundationless expert testimony was necessary, admirable, and entirely within the discretion of the court under Federal Rules of Evidence 403 and 703.<sup>123</sup>

The fear of jury lawlessness provides a clear ground for exclusion under Rule 403 when a court determines that the prejudicial effect outweighs its probative value.<sup>124</sup> Such a fear, however, does not seem relevant to the analysis under Rule 703. The proper basis for expert testimony does not depend on whether the plaintiff appears sympathetic to the jury. If no proper basis for the testimony is presented, a court should exclude the testimony under Rule 703. However, if a sufficient basis for the expert’s opinion is given, but the court wishes to exclude the testimony due to fear of the jury’s

---

118 *Lynch*, 830 F.2d at 1194.

119 *Id.*

120 *Id.* at 1195.

121 *Id.*

122 *Id.* See *supra* note 3 (discussing why courts look to peer review as an indicia of reliability).

123 *Lynch*, 830 F.2d at 1196-97 (citations omitted).

124 See *supra* note 30 (discussing the application of Rule 403 to expert testimony).

desire to "make somebody pay," then the exclusion is only proper under Rule 403, not Rules 403 and 703.

In further support of its decision to exclude the experts' testimony under Rule 703, the *Lynch* court cited an earlier First Circuit decision,<sup>125</sup> *Ricciardi v. Children's Hospital Medical Center*.<sup>126</sup> In *Ricciardi*, the court invoked Rule 703 to prevent an expert from relying on an unauthenticated slip of paper in a medical record. The plaintiff in *Ricciardi*, relying in part on a note found in his medical record that indicated a mistake had been made, alleged negligence during a surgical operation.<sup>127</sup> The doctor who had placed the note in the medical record had no personal knowledge of the information nor did he recall the source of the information.<sup>128</sup> The trial court refused to allow the note into evidence either directly or as the basis for an expert opinion.<sup>129</sup> The court of appeals affirmed, noting that "[t]he 'fact' or 'datum' on which [the expert] offered to base his opinion was not one medical experts frequently encounter. [The expert] said that never before had he seen such a statement in a hospital chart."<sup>130</sup>

*Ricciardi*, much like the exclusion of the questionnaires in *In re Agent Orange*,<sup>131</sup> is a classic case for exclusion under Rule 703. However, the *Lynch* court's reliance on these cases is misplaced. The testimony excluded in *Lynch* was in no way similar to the testimony in *Ricciardi*, which relied on an unattributed statement in a medical record, a statement that even the expert in *Ricciardi* had considered "bizarre."<sup>132</sup> The *Lynch* court's exclusion of the expert testimony was not for failure to reasonably rely on underlying data but rather for failure to come to conclusions that correspond to the "scientific consensus."<sup>133</sup> Its language and findings suggest that in evaluating an expert's testimony under Rule 703, a court can consider not only whether the expert is basing his opinion on the sort of data upon which his colleagues would rely, but also whether the expert is coming to conclusions similar to those arrived at by his colleagues. Such a use of Rule 703 effectively turns its reasonable reliance standard into a scientific consensus standard.<sup>134</sup>

---

<sup>125</sup> *Lynch*, 830 F.2d at 1197.

<sup>126</sup> 811 F.2d 18 (1st Cir. 1987).

<sup>127</sup> *Id.* at 20.

<sup>128</sup> *Id.*

<sup>129</sup> *Id.* See *supra* note 35 (discussing use of Rule 703 to circumvent exclusionary rules).

<sup>130</sup> *Id.* at 25.

<sup>131</sup> See *supra* notes 61-69 and accompanying text.

<sup>132</sup> *Ricciardi*, 811 F.2d at 25.

<sup>133</sup> *Lynch*, 830 F.2d at 1195.

<sup>134</sup> This is not to say that the testimony in question might not be excludable under an examination of whether the experts are in fact reasonably relying on the data in ques-

2. Richardson by Richardson v. Richardson-Merrell, Inc.  
(*The D.C. Circuit*)

The Court of Appeals for the D.C. Circuit addressed this same evidentiary issue in *Richardson by Richardson v. Richardson-Merrell, Inc.*<sup>135</sup> In *Richardson*, after the jury had returned a \$1.6 million verdict for the plaintiffs, the district court granted the defendant a judgment notwithstanding the verdict.<sup>136</sup> The court of appeals affirmed, finding the plaintiffs' experts' testimony on causation inadmissible under Rule 703.<sup>137</sup>

In *Richardson*, the plaintiffs used the same expert, Dr. Done, as the *Lynch* plaintiffs had used. Dr. Done had modified his testimony slightly, perhaps in response to the *Lynch* decision. In addition to the chemical, *in vivo*, and *in vitro* studies on which he had relied in *Lynch*, Dr. Done also based his opinion in *Richardson* on his own reanalysis of the available epidemiological data.<sup>138</sup> The court of appeals found this additional basis unpersuasive, essentially because Dr. Done had not published his analysis,<sup>139</sup> and all of the published studies had found no "statistically significant association between Bendectin and limb reduction defects of the type at issue in this case."<sup>140</sup>

The court relied on both *In re Agent Orange* and *Lynch* in reaching its conclusion. Although the court did not rely on Rule 403 to exclude the testimony, it did take note of possible jury lawless-

tion (i.e., would an expert in the position of Dr. Done reasonably rely on the studies he did without also looking to the existing epidemiological studies?). However, it is difficult to see a Rule 703 problem with Dr. Swan's reliance on data obtained in a study cited by the defendants. Furthermore, if a court found it unreasonable for Dr. Done to rely on animal studies without considering epidemiological studies, exclusion would be more appropriate under Rule 702 than Rule 703. See *infra* note 231 and accompanying text (discussing the appropriate roles of Rules 702 and 703).

<sup>135</sup> 857 F.2d 823 (D.C. Cir. 1988), *cert. denied*, 493 U.S. 882 (1989). The court described the plaintiff's condition as follows:

[Carita Richardson's] left arm was deformed, with an underdeveloped humerus fused to the radius at the elbow and terminating in a hand with only two digits. Her right arm was normal. The right and left femurs were underdeveloped. Her lower left leg was normal, but she had no lower right leg at all. An appendage resembling a foot was attached to her right hip, and later was amputated.

*Id.* at 824 n.3.

<sup>136</sup> *Richardson v. Richardson-Merrell, Inc.*, 649 F. Supp. 799 (D.D.C. 1986), *aff'd*, 857 F.2d 823 (D.C. Cir. 1988), *cert. denied*, 493 U.S. 882 (1989).

<sup>137</sup> Though the court of appeals focused on Dr. Done's testimony, the plaintiffs relied on seven expert witnesses. See the discussion of *Richardson* in *Ealy v. Richardson-Merrell, Inc.*, 897 F.2d 1159, 1160 (D.C. Cir.), *cert. denied*, 111 S. Ct. 370 (1990).

<sup>138</sup> *Richardson*, 857 F.2d at 830.

<sup>139</sup> See *supra* note 3 (discussing why courts look to peer review as an indicia of reliability).

<sup>140</sup> *Richardson*, 857 F.2d at 831.

ness.<sup>141</sup> The court also relied on the scientific nature of the evidence and its effect in light of possible jury lawlessness: "The scientific issues are complex, the trial was lengthy, and the evidence and testimony were often difficult to understand. There was an emotional factor at play, a circumstance we are not at liberty to ignore."<sup>142</sup>

In reaching its decision, the *Richardson* court was forced to distinguish *Ferebee v. Chevron Chemical Co.*<sup>143</sup> In *Ferebee*, the court admitted the plaintiff's novel expert testimony on causation, creating a "classic battle of the experts, a battle in which the jury must decide the victor."<sup>144</sup> The plaintiff in *Ferebee* alleged that exposure to the defendant's herbicide had caused his lung disease, and sued the defendant for failure to warn.<sup>145</sup> The plaintiff offered as experts two of his treating physicians.<sup>146</sup> Although these experts could offer little in the way of conclusive studies,<sup>147</sup> the jury found their testimony persuasive and awarded the plaintiff \$60,000 in damages.<sup>148</sup> On appeal, the defendant argued that the lack of scientific studies to support causation required the court to overturn the jury verdict.<sup>149</sup> The court of appeals disagreed: "On questions such as these, which stand at the frontier of current medical and epidemiological inquiry, if experts are willing to testify that such a link exists, it is for the jury to decide whether to credit such testimony."<sup>150</sup>

The *Ferebee* court clearly distinguished between scientific and legal requirements for a finding of causation:

---

<sup>141</sup> The court described its fear as follows:

The circumstances of the case are tragic and Carita Richardson's plight evokes the utmost sympathy. It would be foolhardy to expect members of the jury to be without compassion for the catastrophe that befell this family. That is a natural response of the human spirit, and is without legal consequence so long as it is properly controlled. But in a case such as this it not only is appropriate but indeed imperative that the court remain vigilant to ensure that neither emotion nor confusion has supplanted reason.

*Id.* at 832. See *supra* text accompanying note 124 (discussing role of Rule 403 in preventing jury lawlessness).

<sup>142</sup> *Richardson*, 857 F.2d at 833.

<sup>143</sup> 736 F.2d 1529 (D.C. Cir.), *cert. denied*, 469 U.S. 1062 (1984).

<sup>144</sup> *Id.* at 1535.

<sup>145</sup> *Id.* at 1532.

<sup>146</sup> *Id.* at 1533. One of the experts was "truly a leading expert in the area of pulmonary pathology." Troyen A. Brennan, *Causal Chains and Statistical Links: The Role of Scientific Uncertainty in Hazardous-Substance Litigation*, 73 CORNELL L. REV. 469, 497 (1988).

<sup>147</sup> *Ferebee*, 736 F.2d at 1533.

<sup>148</sup> *Id.* at 1532.

<sup>149</sup> *Id.* at 1535.

<sup>150</sup> *Id.* at 1534. The court further noted that judges have no special insight into these questions: "Judges, both trial and appellate, have no special competence to resolve the complex and refractory causal issues raised by the attempt to link low-level exposure to toxic chemicals with human disease." *Id.*



[A] cause-effect relationship need not be clearly established by animal or epidemiological studies before a doctor can testify that, in his opinion, such a relationship exists. As long as the basic methodology employed to reach such a conclusion is sound, . . . products liability law does not preclude recovery until a "statistically significant" number of people have been injured or until science has had the time and resources to complete sophisticated laboratory studies of the chemical. In a courtroom, the test for allowing a plaintiff to recover in a tort suit of this type is not scientific certainty but legal sufficiency; if reasonable jurors *could* conclude from the expert testimony that [the herbicide] more likely than not caused Ferebee's injury, the fact that another jury might reach the opposite conclusion or that science would require more evidence before conclusively considering the causation question resolved is irrelevant.<sup>151</sup>

Essentially, the *Ferebee* decision distinguished between the level of certainty required by a scientific discipline and the level of certainty required by a court in drawing conclusions regarding causation.<sup>152</sup> *Ferebee* stands for the proposition that courts, in determining whether a given substance more likely than not caused a plaintiff's injury, cannot always wait for the sciences.<sup>153</sup>

---

<sup>151</sup> *Id.* at 1535-36.

<sup>152</sup> Commentators agree with this distinction. See, e.g., Robert L. Schwartz, *There is No Archbishop of Science—A Comment on Elliott's Toward Incentive-Based Procedure: Three Approaches for Regulating Scientific Evidence*, 69 B.U. L. REV. 517, 521 (1989):

Stated another way, the confidence level necessary to make scientific research useful in the courtroom may be much lower than the level necessary to make it generally acceptable for scientific purposes. This is not to say that scientific truth is better than legal truth. Rather, it is different, because scientists and courts have different functions. A scientist may properly decry as bad science some research that will result in good law.

<sup>153</sup> See, e.g., *In re "Agent Orange" Prod. Liab. Litig.*, 597 F. Supp. 740, 782 (E.D.N.Y. 1984) ("Courts cannot, unfortunately, wait indefinitely until all scientists have completed their long term studies. They must decide on information now available."), *aff'd in part and rev'd in part*, 818 F.2d 145 (2d Cir. 1987).

Professor Nesson agrees:

An imaginative scientist exploring the hypothesis that a given toxic agent causes cancer is very likely to suspend scientific judgment on the ultimate question of causation until more testing or study can be done to eliminate alternative hypotheses. A doctor or lawyer or judge, on the other hand, often does not have the luxury of postponing a decision. Often he must make a judgment once he reaches a reasonable working conclusion. Likewise, we ask juries to come to conclusions without insisting on or waiting for scientific demonstration. The legal standard of proof would seem to require only a rational basis for the expert's opinion—a standard far short of scientific demonstration.

Nesson, *supra* note 94, at 529-30; see also Schwartz, *supra* note 152, at 520-21:

Scientists, working to reach generalizable and universal knowledge without any externally imposed time deadline, are not willing to tolerate half-completed research or poorly tested hypotheses. To a scientist, such research is nothing more than bad science. The judicial system, however, driven to quickly resolve matters of concern to defined parties, with *res*

The *Richardson* court narrowly interpreted the widely noted<sup>154</sup> *Ferebee* decision: "*Ferebee* stands for the proposition that courts should be very reluctant to alter a jury's verdict when the causation issue is novel and 'stand[s] at the frontier of current medical and epidemiological inquiry.'"<sup>155</sup> Finding that the study of Bendectin had been going on for twenty years, thus placing it beyond the "frontier" of inquiry, the *Richardson* court held that *Ferebee* was inapposite.<sup>156</sup>

The Court of Appeals for the D.C. Circuit cited the *Richardson* decision approvingly in a 1990 Bendectin decision. In *Ealy v. Richardson-Merrell, Inc.*,<sup>157</sup> the jury returned a judgment of \$20 million compensatory and \$75 million punitive damages for the plaintiffs in a products liability action. The trial court granted a remittitur of the punitive damages, but denied defendant's motion for judgment notwithstanding the verdict.<sup>158</sup> The court of appeals, after finding that the *Richardson* decision controlled the case, reversed the trial court and directed that court to enter a judgment notwithstanding the verdict.<sup>159</sup> The court held that "under Rule 703, an opinion refuting this scientific consensus [that Bendectin does not cause birth defects] is inadmissible for lack of an adequate foundation . . . . It is this uncontroversial rule of evidence that is the *ratio decidendi* of *Richardson* and this case."<sup>160</sup> The court implied that only new studies that had been published and refereed could pass muster under Rule 703.<sup>161</sup>

The addition of epidemiological evidence to the bases of Dr. Done's expert opinion on causation brings into sharper focus the proper role of Rule 703. Dr. Done now has four bases for his opinion, and, unlike the testimony in *Lynch*, one cannot argue that it is unreasonable to rely on the data itself. Anyone in his profession would almost certainly acknowledge that it is reasonable to form an

*judicata* effects on those parties alone and not on society as a whole, will be better served by incomplete scientific work than by none at all.

Other circuit courts have found the *Ferebee* rationale persuasive. See, e.g., *Osburn v. Anchor Lab.*, 825 F.2d 908, 915 (5th Cir. 1987), *cert. denied*, 485 U.S. 1009 (1988); *Wells v. Ortho Pharmaceutical Corp.*, 788 F.2d 741, 745 (11th Cir.), *cert. denied*, 479 U.S. 950 (1986).

<sup>154</sup> See, e.g., Black, *supra* note 6, at 671-72; Brennan, *supra* note 146, at 496-97; Edward T. Dangel, III, *Proof of Causation in Toxic Tort Cases*, 1989 MASS. L. REV. 169, 173-74 ("Ferebee v. Chevron Chemical Co. is perhaps the case most often cited within the field of toxic torts."); Farber, *supra* note 73, at 1236-37.

<sup>155</sup> *Richardson* by *Richardson v. Richardson-Merrell, Inc.*, 857 F.2d 823, 832 (D.C. Cir. 1988), *cert. denied*, 493 U.S. 882 (1989) (quoting *Ferebee*, 736 F.2d at 1534 (emphasis added in *Richardson*)).

<sup>156</sup> *Id.*

<sup>157</sup> 897 F.2d 1159 (D.C. Cir.), *cert. denied*, 111 S. Ct. 370 (1990).

<sup>158</sup> *Id.* at 1159-60.

<sup>159</sup> *Id.* at 1164.

<sup>160</sup> *Id.* at 1162.

<sup>161</sup> *Id.* at 1162-64.

opinion on causation based on chemical structure, animal *in vivo*, animal *in vitro*, and epidemiological studies. The court, in actuality, is concerned not with the bases of Done's opinions, but with his conclusions.<sup>162</sup> Those conclusions defy the scientific consensus. Yet the language of Rule 703 does not support exclusion of expert testimony simply because the expert arrives at a different conclusion than many, or most, of his peers.

### 3. Brock v. Merrell Dow Pharmaceuticals (*The Fifth Circuit*)

The Fifth Circuit also used a Bendectin case to encourage stricter scrutiny of expert scientific testimony within its jurisdiction. In *Brock v. Merrell Dow Pharmaceuticals*,<sup>163</sup> the court reversed a \$550,000 verdict against the defendant on the grounds that "the Brocks' failure to present statistically significant epidemiological proof that Bendectin causes limb reduction defects [was] fatal to their case."<sup>164</sup> The court did not find the plaintiffs' expert testimony inadmissible, but instead found it simply insufficient to support a verdict in the face of scientific consensus to the contrary.<sup>165</sup>

---

<sup>162</sup> One might argue that the court's true problem with Dr. Done was that he had simply modified his testimony in response to the *Lynch* decision, and that his research seemed driven by the conclusion to be reached rather than by genuine scientific inquiry. If that were the case, the court would have been justified in excluding the testimony by finding that Dr. Done did not qualify as an expert under Rule 702. The Court of Appeals for the Fifth Circuit in *In re Air Crash Disaster, 795 F.2d 1230, 1233-34* (5th Cir. 1986), advised courts that such considerations may be taken into account in determining whether a witness qualifies as an expert:

Trial judges must be sensitive to the qualifications of persons claiming to be expert. Because the universe of experts is defined only by the virtually infinite variety of fact questions in the trial courts, the signals of competence cannot be catalogued. Nevertheless, there are almost always signs both of competence and of the contribution such experts can make to a clear presentation of the dispute. While we leave their detection to the good sense and instincts of the trial judges, we point by way of example to two. First, many experts are members of the academic community who supplement their teaching salaries with consulting work. We know from our judicial experience that many such able persons present studies and express opinions that they might not be willing to express in an article submitted to a refereed journal of their discipline or in other contexts subject to peer review. We think that is one important signal, along with many others, that ought to be considered in deciding whether to accept expert testimony. Second, the professional expert is now commonplace. That a person spends substantially all of his time consulting with attorneys and testifying is not a disqualification. But experts whose opinions are available to the highest bidder have no place testifying in a court of law, before a jury, and with the imprimatur of the trial judge's decision that he is an "expert."

<sup>163</sup> 874 F.2d 307, *modified*, 884 F.2d 166 (5th Cir. 1989), *cert. denied*, 110 S. Ct. 1511 (1990).

<sup>164</sup> *Brock*, 884 F.2d 167, 167, *modifying* 874 F.2d at 313.

<sup>165</sup> *Brock*, 874 F.2d at 315.

The *Brock* court clearly intended to send a message with its decision. The court began by noting "a growing realization among academics, lawyers, and judges that cases such as this present special problems and challenges to traditional ideas regarding the role of the jury as a decisionmaker."<sup>166</sup> The court noted two problems raised by these cases: first, the medical community often has not reached a consensus on whether the substance in question causes birth defects and second, "that juries are asked to resolve these questions, upon which even our brightest medical minds disagree, in order to resolve the case at hand, . . . and in so doing must necessarily resort to speculation."<sup>167</sup>

In response to these concerns about the jury's ability to handle toxic tort cases, the *Brock* court indicated that courts must be willing to "critically evaluate the reasoning process by which the experts connect data to their conclusions in order for courts to consistently and rationally resolve the disputes before them."<sup>168</sup> The court was especially concerned about the danger that inconsistent jury verdicts in these cases will "produce a sub-optimal amount of new drug development" and consequently encouraged appellate courts to take the lead in resolving these questions.<sup>169</sup> The court then directed trial courts to be more vigilant in scrutinizing expert testimony: "Hopefully, our decision will have the effect of encouraging district judges faced with medical and epidemiologic proof in subsequent toxic tort cases to be especially vigilant in scrutinizing the basis, reasoning, and statistical significance of studies presented by

---

<sup>166</sup> *Id.* at 309.

<sup>167</sup> *Id.*

<sup>168</sup> *Id.* at 310.

<sup>169</sup> *Id.* As further support for taking these issues from the jury, the court cited Justice Holmes:

But supposing a state of facts is often repeated in practice, is it to be imagined that the court is to go on leaving the standard to the jury forever? Is it not manifest, on the contrary, that if the jury is, on the whole, as fair a tribunal as it is represented to be, the lesson which can be got from the source will be learned? Either the court will find that the fair teaching of experience is that the conduct complained of usually is or is not blameworthy, and therefore, unless explained, is or is not a ground of liability; or it will find the jury oscillating to and fro, and will see the necessity of making up its mind for itself.

*Id.* at 310 n.8 (quoting O.W. HOLMES, JR., *THE COMMON LAW* 98 (1881)). While a cite to Justice Holmes is to be sought after whenever possible, it may be inappropriate in this case. In the Bendectin cases, juries have not been given the chance to oscillate, at least not to any significant degree. They have instead been removed from the process, either by summary judgments, directed verdicts, or judgments notwithstanding the verdicts, by the trial and appellate courts. Note that in the *Brock* case, the jury returned a verdict for the plaintiff only to be overturned, not by the trial court, but by the court of appeals. It is clear that the Fifth Circuit has made up its mind on this issue, but it is less clear that it gave the jury process a chance.

both sides.”<sup>170</sup> The *Brock* court concluded that, in future Fifth Circuit litigation, plaintiffs cannot show that birth defects are caused by Bendectin without a new study to support that theory of causation.<sup>171</sup>

The Fifth Circuit’s approach to expert scientific testimony is, perhaps, more honest than the approaches taken by the First Circuit in *Lynch* and the D.C. Circuit in *Richardson* and *Ealy*. Rather than manipulating the admissibility standard under Rule 703, the *Brock* court simply found the testimony insufficient to support a reasonable inference of causation. Its analysis went to weight rather than admissibility.<sup>172</sup> However, even though the *Brock* analysis may be more honest, it is not complete, because the Federal Rules provide a means for excluding unreliable expert testimony that meets the standard of Rule 703.<sup>173</sup>

#### 4. DeLuca v. Merrell Dow Pharmaceuticals (*The Third Circuit*)

The Court of Appeals for the Third Circuit addressed unreliable testimony that met the standard of Rule 703 in yet another Bendectin case, *DeLuca v. Merrell Dow Pharmaceuticals*.<sup>174</sup> In *DeLuca*, the court reversed the trial court’s exclusion of Dr. Done’s testimony and grant of summary judgment for the defendant.<sup>175</sup> The court found that, at least as far as the record on summary judgment showed, Dr. Done had reasonably relied on the same epidemiological data on which defendant’s experts had relied, thus satisfying

<sup>170</sup> *Brock*, 884 F.2d at 167, *modifying* 874 F.2d at 315.

<sup>171</sup> *Brock*, 874 F.2d at 315.

<sup>172</sup> This is arguably where the analysis belongs. See *Delaware v. Fensterer*, 474 U.S. 15, 22 (1985) (“[T]he expert’s inability to recall the basis for his opinion went to the weight of the evidence, not its admissibility.”); *Garnac Grain Co. v. Blackley*, 932 F.2d 1563, 1567 (8th Cir. 1991) (“Perhaps the combined weaknesses of [the expert’s] methodology and qualifications would lead us to discount his opinion if we were jurors. But we are not jurors. The weaknesses in his opinion and expertise go to the weight to be given his testimony, not its admissibility.”); *Quinton v. Farmland Indus., Inc.*, 928 F.2d 335, 337-38 (10th Cir. 1991) (Defendant’s “challenge to the research basis for [the expert’s] opinions goes to their weight, not their admissibility.”); *In re Japanese Elec. Prods. Antitrust Litig.*, 723 F.2d 238, 279 (3d Cir. 1983) (“[T]he suggestion that the court must, in deciding on admissibility, carefully scrutinize the underlying assumptions, the inferences drawn, and the conclusions reached, if followed rigorously, would result in the trial court, as distinguished from the fact-finder, deciding the weight to be given to the testimony.”), *rev’d on other grounds sub nom.* *Matsushita Elec. Indus. Co. v. Radio Zenith Corp.*, 475 U.S. 574 (1986); see also *Farber*, *supra* note 73, at 1236 n.76.

<sup>173</sup> See *infra* notes 195-98 and accompanying text.

<sup>174</sup> 911 F.2d 941 (3d Cir. 1990).

<sup>175</sup> 131 F.R.D. 71 (D.N.J.), *rev’d*, 911 F.2d 941 (3d Cir. 1990). The court of appeals gave less deference to the trial court because it had construed, rather than applied, Rule 703: “Our review of a district court’s decision to exclude the testimony of an expert is ordinarily limited to ensuring there has been no abuse of discretion, but to the extent the district court’s ruling turns on an interpretation of a Federal Rule of Evidence our review is plenary.” *DeLuca*, 911 F.2d at 944.

Rule 703.<sup>176</sup> The fact that Dr. Done had applied a different methodology to that data and had consequently come to a different conclusion on causation than the defendant's experts did not violate Rule 703.<sup>177</sup>

The *DeLuca* opinion is comprehensive. The court began by setting out the role epidemiology plays in proving causation in toxic tort cases, noting that such studies only indirectly support specific causation.<sup>178</sup> After carefully considering the epidemiological evidence on Bendectin and Dr. Done's reanalysis of the defendant's data using an alternative method,<sup>179</sup> the court considered previous Bendectin cases excluding Dr. Done's testimony.<sup>180</sup> After discussing the *Lynch*, *Richardson*, and *Brock* decisions,<sup>181</sup> the court noted that Judge Rubin, who had overseen the original consolidated action in Ohio that had ended in a jury verdict for the defendant,<sup>182</sup> had recently denied defendant's motion for summary judgment in another trial of consolidated Bendectin cases:<sup>183</sup>

Judge Rubin denied the motion because he found a division in the scientific community as to whether epidemiological evidence was the only type of evidence that could reliably link Bendectin use to an increased risk of birth defects, and refused to substitute his

<sup>176</sup> *DeLuca*, 911 F.2d at 953.

<sup>177</sup> *Id.*

<sup>178</sup> The court described the role of epidemiology as follows:

In the Bendectin context, an epidemiological study ideally attempts to determine the incidence of birth defects among the children of two groups of women, identical in all respects except for their use of Bendectin during pregnancy. Epidemiological studies do not provide direct evidence that a particular plaintiff was injured by exposure to a substance.

*Id.* at 945. See *supra* notes 73-78 and accompanying text (discussing the distinction between general and specific causation).

<sup>179</sup> The court's discussion of the divergent approaches to analyzing epidemiological data, and particularly the explanation of the lesser weight Dr. Done's approach places on significance testing, as advocated by Dr. Kenneth Rothman of the University of Massachusetts Medical School, is both beyond the scope of this Note and irrelevant to the admissibility question posed by Rule 703. *DeLuca*, 911 F.2d at 946-49, 953-54.

<sup>180</sup> *Id.* at 949-51.

<sup>181</sup> *Id.*

<sup>182</sup> See *supra* text accompanying notes 101-03.

<sup>183</sup> *In re Bendectin Prods. Liab. Litig.*, 732 F. Supp. 744 (E.D. Mich. 1990). Another trial court also refused to grant the defendant a summary judgment based on the three circuit court decisions. See *Longmore v. Merrell Dow Pharmaceuticals*, 737 F. Supp. 1117, 1120 (D. Idaho 1990):

In this case, there is no attack in the pending motions on the qualifications of plaintiffs' experts. The defendants simply want to use the overwhelming nature of the epidemiological studies to bulldoze aside the plaintiffs' experts. Once the epidemiological evidence is stripped of its "overwhelming" label, does Rule 703 still preclude plaintiffs' expert testimony? Only if animal studies and chemical analysis are not reasonably relied upon by experts who attempt to investigate the connection between drugs and birth defects. And the Court cannot make such a finding on the basis of the record before it.

judgment for experts in the relevant fields or to decide, instead of the jury, which view was the more reasonable. Thus he denied Merrell Dow's assertion that the plaintiff's expert evidence, which was based on epidemiological evidence as well as structure activity analysis, and *in vitro* and *in vivo* studies, was inadmissible or insufficient to create a genuine issue of material fact.<sup>184</sup>

The *DeLuca* court acknowledged the validity of the concerns which had led prior courts to exclude the expert testimony, including the fear of inconsistent verdicts,<sup>185</sup> the inefficiency of repeated trials on identical scientific questions,<sup>186</sup> the problem with experts testifying to conclusions that have not been subjected to the rigors of publication,<sup>187</sup> and an awareness of the sympathy plaintiffs such as those with birth defects elicit from a jury.<sup>188</sup> Having acknowledged these concerns, the court concluded that they did not bear on the evidentiary issues at hand:

[O]ur concern over these issues is tempered by our recognition that we do not have the authority to create special rules to address the problems posed by continued Bendectin litigation. Principles of issue preclusion have not developed to the point where we may bind plaintiffs by the finding of previous proceedings in which they were not parties, even by a proceeding as thorough as the multidistrict common issues trial. Moreover, *we may not manipulate our interpretation of the Federal Rules of Evidence to exclude expert testimony that on the record before us may satisfy normal standards of admissibility.*<sup>189</sup>

Proceeding to the specific question of admissibility under Rule 703, the court found that the district court's ruling was "cursory" and "not predicated upon a record-supported, factual finding that Done relied upon identified data not regarded as reliable by experts in the field,"<sup>190</sup> as required by the Third Circuit's holding in *Japanese Electronic Products*.<sup>191</sup>

184 *DeLuca*, 911 F.2d at 951.

185 *Id.*

186 *Id.* at 951-52.

187 *Id.* at 952.

188 *Id.*

189 *Id.* (citations omitted) (emphasis added).

190 *Id.* at 953.

191 *In re Japanese Elec. Prods. Antitrust Litig.*, 723 F.2d 238 (3d Cir. 1983), *rev'd on other grounds sub nom. Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986). See *supra* note 34.

The district court had also dismissed Done's epidemiological reanalysis because he was not an epidemiologist. *DeLuca*, 911 F.2d at 953. The court of appeals found this dismissal erroneous not only because the defendant had conceded Dr. Done's qualifications to interpret the data, but also because Rule 702, not Rule 703, governs expert qualification. "Given the liberal criteria that governs the expertness inquiry, . . . it is doubtful whether an expert with Dr. Done's credentials could be precluded from testify-

In addition, the appellate court held that the trial court's reliance on previous judicial exclusion of Dr. Done's testimony was inappropriate, not only because it was an impermissible use of issue preclusion,<sup>192</sup> but also because "these prior judicial opinions . . . do not address the question of whether reasonable experts would rely upon the epidemiological data Dr. Done bases his opinion on."<sup>193</sup> Instead, the other opinions had looked to the *conclusions* that Dr. Done had drawn from the data in the face of overwhelming contrary scientific opinion. The court found the conclusions of the other epidemiological studies irrelevant to the analysis under Rule 703:

Rule 703 is satisfied once there is a showing that an expert's testimony is based on the type of data a reasonable expert in the field would use in rendering an opinion on the subject at issue; it does not address the reliability or general acceptance of an expert's methodology. When a statistician refers to a study as "not statistically significant," he is not making a statement about the reliability of the data used, rather he is making a statement about the propriety of drawing a particular inference from that data.<sup>194</sup>

Having found the data admissible under Rule 703 as data upon which an expert would reasonably rely, the court of appeals then addressed how the reliability of an expert's methodology affects admissibility. Relying on *United States v. Downing*, a previous Third Circuit decision,<sup>195</sup> the court found that "Rule 702's helpfulness requirement implicitly contains the proposition that expert testimony that is based on unreliable methodology is unhelpful and therefore excludable."<sup>196</sup> The *Downing* court proposed the following test for determining if an expert's testimony is based on an unreasonable methodology and hence excludable:

Rule 702 requires that a district court ruling upon the admission of (novel) scientific evidence, i.e. evidence whose scientific fundamentals are not suitable candidates for judicial notice, conduct a preliminary inquiry focusing on (1) the soundness and reliability of the process or technique used in generating the evidence, (2) the possibility that admitting the evidence would overwhelm, con-

---

ing about his interpretation of epidemiological evidence simply because he does not have a degree in epidemiology." *Id.*

<sup>192</sup> See *supra* text accompanying note 189.

<sup>193</sup> *DeLuca*, 911 F.2d at 953.

<sup>194</sup> *Id.*

<sup>195</sup> 753 F.2d 1224 (3d Cir. 1985). *Downing* rejected the "general acceptance" test of admissibility for novel scientific evidence, originally set out in *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), "for among other reasons, because the general acceptance test was too vague and malleable to yield consistent results, and because its nose-counting emphasis often led to the exclusion of helpful evidence in contradiction to the spirit of the Federal Rules of Evidence." *DeLuca*, 911 F.2d at 955. See also *infra* note 220.

<sup>196</sup> *DeLuca*, 911 F.2d at 954.



fuse, or mislead the jury, and (3) the proffered connection between the scientific research or test result to be presented, and particular disputed factual issues in the case.<sup>197</sup>

Based on *Downing*, the *DeLuca* court refused to exclude Dr. Done's testimony on the record before it. Instead, the *DeLuca* court remanded the case and directed the trial court to consider the reliability of Dr. Done's methodology under Rule 702 should the defendant choose to challenge Dr. Done's testimony on remand.<sup>198</sup>

C. *Frye* Resurrected: *Christophersen v. Allied-Signal Corp.*

Whatever degree of clarity the Third Circuit brought to Rules 702 and 703 in *DeLuca* was shattered by the Fifth Circuit's most recent pronouncements on scientific expert testimony in *Christophersen v. Allied-Signal Corp.*<sup>199</sup> In *Christophersen*, the court of appeals sitting en banc affirmed the district court's exclusion of the plaintiff's expert testimony and consequently affirmed the grant of summary judgment. In so doing, the per curiam opinion not only "judicially amend[ed] the Federal Rules of Evidence,"<sup>200</sup> but also reversed the previous panel's restriction of the holding in *Brock* to Bendectin cases, or their like.<sup>201</sup>

In *Christophersen*, plaintiffs brought a wrongful death action alleging that decedent's colon cancer—a small-cell carcinoma—had been caused by workplace exposure to toxic nickel and cadmium fumes.<sup>202</sup> Despite a lack of epidemiological studies to support his position, the plaintiffs' expert witness offered to testify that exposure to nickel and cadmium had caused decedent's colon cancer.<sup>203</sup> While epidemiological studies support the carcinogenicity of nickel and cadmium,<sup>204</sup> apparently no studies tie nickel and cadmium specifically to colon cancer, though no studies rule out such a relationship either.<sup>205</sup> In short, neither the plaintiff nor the defendant could

---

<sup>197</sup> *Downing*, 753 F.2d at 1237.

<sup>198</sup> The court of appeals further noted that "if Done's testimony survives the rigors of Rules 702 and 703 on remand, Rule 403 is an unlikely basis for exclusion." *DeLuca*, 911 F.2d at 957. *But cf. supra* note 30 (discussing the interplay of Rules 702, 703 and 403).

<sup>199</sup> 939 F.2d 1106 (5th Cir. 1991).

<sup>200</sup> *Id.* at 1137 (King, J., dissenting).

<sup>201</sup> *See Christophersen v. Allied-Signal Corp.*, 902 F.2d 362, 367 (5th Cir. 1990), *superseded by* 939 F.2d 1106 (5th Cir. 1991).

<sup>202</sup> *Christophersen*, 939 F.2d at 1108.

<sup>203</sup> *Id.* at 1124 (Reavley, J., dissenting). The principal dissenting opinion provides the most factual detail from the record below. *Id.* at 1119 (Clark, C.J., concurring in the result).

<sup>204</sup> *Id.* at 1124 (Reavley, J., dissenting).

<sup>205</sup> *See id.* at 1127 (Reavley, J., dissenting).

look to epidemiology for support. Instead, the plaintiffs' expert relied on the following data:

the carcinogenicity of nickel and cadmium and their capacity to reach the colon; the unique characteristics of small-cell carcinoma and its relative rarity in the colon; the linkage of small-cell carcinoma to toxins such as nickel and cadmium; and the genetic-alteration mechanism associated with both small-cell carcinoma and nickel and cadmium.<sup>206</sup>

The district court found this basis insufficient, under a mistaken view of Rule 703.<sup>207</sup> Following the trend established in *In re Agent Orange* and the Bendectin cases, the district court applied Rule 703 to the expert's methodology.<sup>208</sup> Despite the court's mistaken application of Rule 703—an application that even the per curiam opinion fails to endorse<sup>209</sup>—the court of appeals found that the district court had not abused its discretion in excluding the testimony.<sup>210</sup>

Rather than rely on Rule 703 to impugn the expert's methodology, the per curiam opinion relies on an innovative application of the much-maligned<sup>211</sup> *Frye* test.<sup>212</sup> Though the district court made no mention of *Frye* in its exclusion of the testimony,<sup>213</sup> the majority found that "the district court was within its discretion in concluding, *albeit implicitly*, that [the expert's] testimony failed to meet . . . the *Frye* test."<sup>214</sup> Not only does the court of appeals introduce the *Frye* analysis *sua sponte*, but the analysis itself is without precedent.<sup>215</sup>

<sup>206</sup> *Id.* at 1127-28 (Reavley, J., dissenting); *see also id.* at 1133-34 (Reavley, J., dissenting).

<sup>207</sup> *Id.* at 1129-30 (Reavley, J., dissenting).

<sup>208</sup> *Id.* at 1129 (Reavley, J., dissenting).

<sup>209</sup> The per curiam opinion makes no mention of methodology in its discussion of Rule 703. *See id.* at 1113-15. It saves its discussion of methodology for its resurrected *Frye* analysis. *See infra* notes 211-15 and accompanying text.

<sup>210</sup> *Christophersen*, 939 F.2d at 1115 ("The district court in this case did not abuse its discretion."); *id.* at 1116 ("The district court's ruling that [the expert's] opinion was inadmissible was not manifestly erroneous.").

<sup>211</sup> *See id.* at 1132 n.41 (Reavley, J., dissenting). Though *Frye* has been subject to widespread criticism, Judge Reavley did note that "the Fifth Circuit has never joined the chorus of *Frye* detractors." *Id.* at 1132 (Reavley, J., dissenting).

<sup>212</sup> As discussed *supra* note 195, the *Frye* test, also known as the general acceptance test, originated with the D.C. Circuit's decision by that name of almost 70 years ago. *Frye v. United States*, 293 F.2d 1013 (D.C. Cir. 1923).

<sup>213</sup> *Christophersen*, 939 F.2d at 1133 (Reavley, J., dissenting).

<sup>214</sup> *Id.* at 1116 (emphasis added).

<sup>215</sup> *Id.* at 1132 (Reavley, J., dissenting). The application and merits of the *Frye* test are, for the most part, beyond the scope of this Note. It is not possible to ignore, however, the degree to which the majority in *Christophersen* ignored reality in stating that it was "introduc[ing] no new concepts to [its] jurisprudence." *Id.* at 1110. Application of *Frye* to a run-of-the-mill civil case is unquestionably a new concept. As Judge Reavley indicates in dissent, the Fifth Circuit had previously placed significant limits on the application of *Frye*: "We have only once employed *Frye* outside the criminal context, never applied it to 'reasoning,' and indeed once expressly limited the *Frye* doctrine to 'pseudo-

Though the Fifth Circuit fails “to light the path district courts should follow in ruling on expert opinion evidence”—“the very reason the court took the case en banc”<sup>216</sup>—the four opinions further the analysis of expert testimony under the Federal Rules nonetheless. Though only the concurrence and dissents assert with clarity that Rule 703 does not apply to an expert’s methodology,<sup>217</sup> even the majority opinion fails to endorse the district court’s mistaken application of Rule 703.<sup>218</sup> While the *Christophersen* opinion will create havoc of its own,<sup>219</sup> its resurrection of the *Frye* test does less violence, in a sense, to the plain language of Rule 703.<sup>220</sup> None of the four appellate opinions endorses the district court’s application of Rule 703. This may be a minor step forward given the backward-

scientific data.’ Until today, we soundly limited the *Frye* doctrine to particular techniques, ‘novel scientific evidence,’ that reflect the factual context of *Frye*.” *Id.* at 1133 (Reavley, J., dissenting) (footnotes omitted).

<sup>216</sup> *Id.* at 1116 (Clark, C.J., concurring in the judgment).

<sup>217</sup> *Id.* at 1118 (Clark, C.J., concurring in the judgment); *id.* at 1129 (Reavley, J., dissenting); *see id.* at 1136 (King, J., dissenting).

<sup>218</sup> *See supra* note 209 and accompanying text.

<sup>219</sup> *See Christophersen*, 939 F.2d at 1136 (King, J., dissenting):

The juxtaposition of the majority opinion and the record in this case sends a clear message to the district courts in this circuit. Henceforth, a dispute among qualified experts as to the appropriate scientific methodology or reasoning that an expert in the particular field should use to connect the facts to his conclusions is to be resolved by the district judge.

<sup>220</sup> Resurrection of the *Frye* test may, however, be inconsistent with the liberal admissibility standards of the Federal Rules. *See WEINSTEIN & BERGER, supra* note 26, ¶ 702[03], at 702-36 (“Elimination of the *Frye* test is consistent with the underlying policies of Article VII.”); *id.* at 702-44. Weinstein and Berger argue further that “Rule 702’s failure to incorporate a general scientific acceptance standard, and the Advisory Committee Note’s failure to even mention the *Frye* case must be considered significant. The silence of the rule and its drafters may arguably be regarded as tantamount to an abandonment of the general acceptance standard.” *Id.* at 702-36.

Professor Imwinkelried relies in addition on Rule 402, arguing that because *Frye* was not codified, it can no longer be good law:

The omission of [the expression “general acceptance”] from Article VII becomes all the more important in light of Federal Rule of Evidence 402. That rule generally provides that logically relevant evidence is admissible unless there is a basis for exclusion in the Constitution, a statute, or a court rule promulgated pursuant to statutory authority. While the rule expressly refers to the Constitution, statutes, and court rules adopted under statutory authority, there is no mention of caselaw as a source of law. As a general proposition, Rule 402 sweeps away common-law restrictions which Congress failed to codify in the Federal Rules. . . . *Frye* is purely a creature of caselaw. Since the rule was not codified in Article VII, the rule is no longer good law.

Edward J. Imwinkelried, *The Evolution of the American Test for the Admissibility of Scientific Evidence*, 30 MED., SCI. & L. 60, 63 (1990). Even the United States government has taken this position. *See United States v. Two Bulls*, 918 F.2d 56, 59 (8th Cir. 1990) (“The government urges that Rule 702 creates a liberal rule of admissibility which now supersedes *Frye* . . .”).

looking introduction of *Frye* to the analysis of expert testimony in civil cases,<sup>221</sup> but it is a step forward nonetheless.<sup>222</sup>

### III ANALYSIS

At least two types of jurisprudential arguments can be made about any rule: the first is whether the rule should be as it is; given the rule as it is, the second argument is whether the rule should be enforced as it exists. Many commentators have addressed whether, and if so, how, greater control should be exerted over expert testimony.<sup>223</sup> As noted in the introduction, despite widespread agreement on the need for greater control, little consensus has been reached on the means to achieve that end.<sup>224</sup> Perhaps as a result, Rules 702 and 703 have not yet been legislatively amended to deal with the problems of toxic torts. This Note addresses the second

---

<sup>221</sup> The application of *Frye*, or at least the underlying premise of *Frye*, in criminal cases has been eloquently defended by Professor Gianelli. See Paul C. Gianelli, *The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later*, 80 COLUM. L. REV. 1197, 1246, 1250 (1980).

<sup>222</sup> Given the split in the circuits on the admissibility of expert testimony under Rules 702 and 703 and the continuing questions regarding *Frye*'s viability in light of the Federal Rules, *Christophersen*'s holding may not be long-lived. The time may be ripe for the Supreme Court to grant certiorari on these issues. See Gary Taylor, *Expert Witness Opinion Eyed*, NAT'L L.J., Oct. 21, 1991, at 3, 35. Justice White has already indicated his interest in granting certiorari to resolve the circuit split over *Frye*. *Mustafa v. United States*, 479 U.S. 953, 953 (1986) (White & Brennan, JJ., dissenting from denial of certiorari).

<sup>223</sup> See, e.g., Kenneth R. Kreiling, *Scientific Evidence: Toward Providing the Lay Trier with the Comprehensible and Reliable Evidence Necessary to Meet the Goals of the Rules of Evidence*, 32 ARIZ. L. REV. 915, 971 (1990) (calling for courts to test proffered evidence on three levels of reliability); Kimberly S. Moore, Comment, *Exploring the Inconsistencies of Scrutinizing Expert Testimony Under the Federal Rules of Evidence*, 22 TEX. TECH L. REV. 885, 899-900 & n.115 (1991) (calling for mandatory use of court-appointed experts in "indeterminate cases"); Anne S. Tokar, Comment, *Admitting Scientific Evidence in Toxic Tort Litigation*, 15 HARV. ENVTL. L. REV. 165, 166 (1991) (arguing that "the task of assessing scientific testimony should not be taken away from jurors").

<sup>224</sup> Though many possible changes have been proposed by commentators, see *supra* note 6, a recent proposal by the Judicial Conference Advisory Committee on Civil Rules suggests that reform may actually be gaining momentum. The proposed changes, circulated to the bench and bar by the Committee on Rules of Practice and Procedure of the Judicial Conference of the United States on August 15, 1991, would require expert testimony admitted under Rule 702 to be "reasonably reliable" and to "substantially assist the trier of fact." COMMITTEE ON RULES OF PRACTICE AND PROCEDURE OF THE JUDICIAL CONFERENCE OF THE UNITED STATES, PROPOSED AMENDMENTS TO THE FEDERAL RULES OF CIVIL PROCEDURE AND FEDERAL RULES OF EVIDENCE 83 (1991) (circulated for public comment) [hereinafter PROPOSED AMENDMENTS]. Though the proposal unquestionably restricts the admission of expert testimony, the Committee explicitly rejects reading the change as a return to the general acceptance standard of *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923). PROPOSED AMENDMENTS, *supra*, at 84. In any event, the change would, as this Note argues should be the case, exert greater control over expert testimony through Rule 702 rather than Rule 703.

question: given existing Federal Rules of Evidence 702 and 703, should those rules be enforced as enacted, to apply in the same fashion across the entire spectrum of civil cases? Before answering this question, one must define the rules as enacted. Accordingly, this Part first argues that the approach to Rules 702 and 703 taken by the Third Circuit in *DeLuca* is most consistent with the rules as enacted. This Part then describes some of the confusion, on the part of courts and commentators alike, that has resulted from this blurring of Rules 702 and 703. Finally, this Part briefly argues that the rules should be enforced as enacted in order to promote predictability in decision-making and clarity in reform discussions.

Though the answer to the question may seem obvious at first glance (i.e., of course one should apply the rules as enacted), the movement by several courts of appeals to apply the rules more restrictively in toxic tort cases, and the corresponding move by at least one state court to apply a less restrictive standard to toxic tort cases,<sup>225</sup> indicates that the answer is not self-evident.

#### A. No Justification for Judicially Expanding Rule 703 to Methodology

Nothing in Rule 703 justifies extending its scope from the facts underlying an expert opinion to the methodology employed in forming an opinion based on those facts.<sup>226</sup> This is, however, what the *In re Agent Orange* court appears to have done. "Though the

---

<sup>225</sup> That state is New Jersey, which has a rule of evidence that combines Federal Rules of Evidence 702 and 703. *Rubanick v. Witco Chem. Corp.*, 593 A.2d 733, 747 (N.J. 1991). In *Rubanick*, the Supreme Court of New Jersey explicitly granted parties in toxic tort litigation wide latitude in proving causation:

[T]oxic-tort litigation does not frequently encounter well-established and widely-accepted scientific theories of causation that can, at the level demanded by the scientific method, precisely delineate the causal path between the toxin and the pathology. Nevertheless, in such litigation there is often available data and information of a type that is used and relied on by experts in the field; further, there are reputable and highly qualified experts who, drawing on such data and information, have the proficiency to apply sound scientific methods sufficient to reach creditable opinions with respect to causation. We are thus strongly persuaded that a standard that accounts for those considerations should be employed to determine the reliability of expert opinion testimony relating to causation in toxic-tort litigation.

Accordingly, we hold that in toxic-tort litigation, a scientific theory of causation that has not yet reached general acceptance may be found to be sufficiently reliable if it is based on a sound, adequately-founded scientific methodology involving data and information of the type reasonably relied on by experts in the scientific field.

*Id.* at 747-48.

<sup>226</sup> At least one commentator argues with the proposition that Rule 703 even applies to an expert's reliance on data such as scientific studies and reports, leaving Rule 702 to regulate such reliance and limiting Rule 703's application to "the specific facts of the pending case." Imwinkelried, *supra* note 18, at 6-7. For a view at the opposite extreme,

court [in *In re Agent Orange*] obviously understood the deficiencies in how the experts had reached their conclusions, it framed its decision in terms of the *bases* upon which the experts relied . . . [I]ts articulated rationale tends to confuse the facts relied upon with the conclusions based on those facts."<sup>227</sup>

The *In re Agent Orange* court, by failing to clarify that it was excluding the experts' opinions because the bases for their opinions, not their conclusions, were problematic, opened the door for courts to improperly extend the analysis under Rule 703 from the facts underlying an expert's opinion to the expert's methodology. Shortly after *In re Agent Orange*, the *Lynch* court used the *In re Agent Orange* case in this manner:

The court in *Agent Orange* excluded the proffered opinion evidence because the data supporting it could not reasonably be relied upon by experts in the field. In *Lynch* the data utilized by the plaintiffs' experts, including interview forms and medical histories, had been developed by the defendants' experts and was reliable. Plaintiffs' experts had reviewed the data carefully and had reached different conclusions than had the defendants' experts. The court's criticism was not of the data, but of the experts' analysis. The *Lynch* court's reliance on Rule 703 therefore seems misplaced.<sup>228</sup>

Both the *Brock* court and the *Richardson* court relied on *Lynch* and *In re Agent Orange* to similarly extend the Rule 703 analysis.

The *DeLuca* court was the first to carefully examine how earlier courts had applied Rule 703. It determined that the application of Rule 703 to an expert's methodology—thereby requiring an opinion supported by scientific consensus—was unwarranted.

On the remand of *DeLuca*, the district court could exclude Dr. Done's testimony, but if the district judge decided to exclude the testimony, he would have to do so under Rule 702. The ability to exclude Dr. Done's testimony under Rule 702, either under a *Downing* reliability analysis<sup>229</sup> or by a determination that Dr. Done did not

---

see Chief Judge Clark's concurrence in *Christophersen v. Allied-Signal Corp.*, 939 F.2d 1106, 1118-19 (5th Cir. 1991) (Clark, C.J., concurring in the judgment).

<sup>227</sup> Black, *supra* note 6, at 676 (emphasis added).

Despite the way the *In re Agent Orange* court framed its decision, it is certainly arguable that the exclusion under Rule 703 in *In re Agent Orange* was justified, because the plaintiffs' experts had attempted to create their own study via the excluded questionnaires and had admitted that the other studies they relied upon were "not persuasive." *In re "Agent Orange" Prod. Liab. Litig.*, 611 F. Supp. 1223, 1241 (E.D.N.Y. 1985), *aff'd*, 818 F.2d 187 (2d Cir. 1987), *cert. denied*, 487 U.S. 1234 (1988). There was no basis, according to Judge Weinstein, on which the experts could reasonably rely in drawing an inference of causation between Agent Orange and the various ailments complained of. See *supra* text accompanying notes 90-91. But see Brennan, *supra* note 69, at 56.

<sup>228</sup> Dangel, *supra* note 154, at 172.

<sup>229</sup> See *supra* text accompanying note 195.

meet expert qualifications,<sup>230</sup> supports restriction rather than expansion of Rule 703's application. Since the court could exclude the problem testimony under accepted application of Rule 702,<sup>231</sup> it is both unnecessary and inadvisable to expand the application of Rule 703.

### B. Need for Clarity on Roles of Rules 702 and 703

The need for a clear exposition of Rules 702 and 703 is manifest.<sup>232</sup> Both courts and commentators<sup>233</sup> confuse the two rules by applying one rule where the other rule applies. Judge Becker, when sitting on the district court level, acknowledged the difficulty in determining the appropriate rule for the admissibility analysis, stating that "it is not immediately obvious whether the inquiry should proceed under F.R.E. 702, 703, or 403."<sup>234</sup> Since elevated to the Third Circuit, Judge Becker again acknowledged this difficulty in a recent opinion:

---

<sup>230</sup> See *supra* note 162.

<sup>231</sup> In discussing methods of excluding expert testimony under the Federal Rules, Judge Weinstein himself approved of this use of Rule 702:

Under the Federal Rules of Evidence, a judge can exclude expert testimony and thus grant summary judgment in one of two ways. First there is Rule 703, which allows an expert to base his opinion on the type of evidence reasonably relied upon by experts in his field. In some cases examination of the basis of an expert's opinion reveals that it is supported by no reliable evidence at all. In such cases exclusion of the expert's opinion under Rule 703 and a grant of summary judgment to the opposing party might be appropriate. In other cases, an expert's opinion is supported by *some* credible evidence, but further investigation reveals that there is other, much more persuasive evidence available which undermines the expert's opinion and which the expert is ignoring. In these cases, the court might exclude the expert's testimony either under Rule 702, as not being helpful to the trier of fact, or under Rule 403, as being likely to mislead the jury.

Jack Weinstein, *Role of Expert Testimony and Novel Scientific Evidence in Proof of Causation* 30-31 (Aug. 9, 1987) (address before the ABA Annual Meeting) (footnotes omitted), *quoted in* Elliott, *supra* note 1, at 496 n.40; *see* Rothstein & Crew, *supra* note 40, at 20 (describing objection to be made under Rule 702).

<sup>232</sup> See Imwinkelried, *supra* note 18, 3-6.

<sup>233</sup> Commentators' differing approaches to Rules 702 and 703 are clearest in their discussions of whether the *Frye* test survived the enactment of the Federal Rules. *See* Imwinkelried, *supra* note 18, at 6; Randolph N. Jonakait, *The Supreme Court, Plain Meaning, and the Changed Rules of Evidence*, 68 TEX. L. REV. 745, 764-65 & n.88 (1990).

Even editors of case reporters have confused the proper roles of Rules 702 and 703. *See* headnote 4 to *DeLuca*, 911 F.2d at 942, which cites Rule 703 in the place of Rule 702 ("Expert testimony based on unreliable methodology is unhelpful and therefore excludable under rule authorizing admission of testimony which is rendered by qualified expert and is helpful to the trier of fact. Fed. Rules Evid. Rule 703, 28 U.S.C.A.>").

<sup>234</sup> *Zenith Radio Corp. v. Matsushita Elec. Indus. Co.*, 505 F. Supp. 1313, 1333 (E.D. Pa. 1980), *rev'd sub nom. In re Japanese Elec. Prods. Antitrust Litig.*, 723 F.2d 238 (3d Cir. 1983), *rev'd on other grounds sub nom. Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986).

We begin . . . with the frank recognition that the determination whether expert testimony depends on a reliable "scientific technique," to be analyzed under Rule 702, or whether the basis for testimony is "facts or data . . . of a type reasonably relied upon by experts in the particular field," to be analyzed under Rule 703, . . . is oftentimes subtle if not strained. It can be difficult to determine whether the putative problem with scientific evidence lies in the underlying data itself or the method by which the data is analyzed.<sup>235</sup>

Appellate courts have difficulty analyzing the admissibility of expert testimony both because they frequently confuse Rules 702 and 703,<sup>236</sup> and because trial courts fail to indicate precisely why they are excluding testimony.<sup>237</sup> The two problems are related; given the confusion surrounding Rules 702 and 703, it is not surprising that a trial court would exclude expert testimony without clearly specifying which rule supported the exclusion.

In addition to simply making appellate review of evidentiary decisions difficult, the lower courts' confusion has led to decisions that can only be explained as misunderstandings. Cases construing the *Brock* decision provide good examples. In *Brock*, the Fifth Circuit found Dr. Done's testimony admissible but insufficient to support an inference of causation.<sup>238</sup> In the course of reaching its decision, however, the *Brock* court directed lower courts to scrutinize expert testimony more carefully.<sup>239</sup> The district court in *Thomas v. Hoffman-*

---

<sup>235</sup> *In re Paoli R.R. Yard PCB Litig.*, 916 F.2d 829, 856 (3d Cir. 1990) (quoting Fed. R. EVID. 703), *cert. denied*, 111 S. Ct. 1584 (1991); *see also* Rubanick v. Witco Chem. Corp., 593 A.2d 733, 747 (N.J. 1991) (noting difficulty in separating the analyses and preferring single analysis made possible by state evidentiary rule).

<sup>236</sup> *See supra* notes 232-35 and accompanying text.

<sup>237</sup> The district court in *In re Paoli R.R. Yard PCB Litigation* was guilty of such a failure. 706 F. Supp. 358 (E.D. Pa. 1988), *rev'd*, 916 F.2d 829 (3d Cir. 1990), *cert. denied*, 111 S. Ct. 1584 (1991). Plaintiffs, who lived near a railroad's storage area for polychlorinated biphenyls (PCBs), a Superfund site, brought suit alleging personal injury from exposure. *Id.* at 361. The court of appeals reversed and remanded, but in reviewing the excluded testimony, the court was forced to guess on what grounds the lower court had ruled: "Although it stops short of giving the basis for a number of its rulings, the district court *appears* to have found that much of plaintiffs' expert opinion evidence . . . was unreliable and excludable under Rule 703." *In re Paoli*, 916 F.2d at 853 (emphasis added).

Difficulty of review may also lead directly to unpredictability, though not all commentators would consider this a problem. Professor Mengler argues that "the drafters did not intend for the appellate courts to become rulemakers themselves by establishing binding precedents that narrow or focus the Federal Rules' general language." Thomas M. Mengler, *The Theory of Discretion in the Federal Rules of Evidence*, 74 IOWA L. REV. 413, 458 (1989). It is not the role of the appellate courts to increase the predictability or clarity of application of the rules, he argues; rather, "the appellate court's proper role under the Federal Rules is limited to checking the trial's overall fairness." *Id.*

<sup>238</sup> *See supra* text accompanying note 165.

<sup>239</sup> *See supra* text accompanying note 170.



*La Roche, Inc.*<sup>240</sup> followed the *Brock* court's advice. In *Thomas*, the plaintiff alleged that the defendant's drug, prescribed to treat acne, had caused neurological problems. After the jury had returned a verdict of one million dollars for the plaintiff, the trial court granted a judgment notwithstanding the verdict, citing *Brock*.<sup>241</sup> The *Thomas* court found insufficient evidence to support an inference of causation solely because of the lack of epidemiological evidence to support causation, even though no epidemiological evidence denied causation either.<sup>242</sup> *Thomas* takes *Brock* to an almost unimaginable extreme in that it effectively requires plaintiffs to present epidemiological evidence of causation even if no epidemiological studies exist that support the defendant's theory of causation.<sup>243</sup>

Not only have cases such as *Thomas* been erroneously decided, but lower courts in other circuits have used *Brock* to exclude expert testimony under Rule 703.<sup>244</sup> For example, in *Renaud v. Martin Marietta Corp.*,<sup>245</sup> the district court cited *Brock* in support of its ruling that the expert testimony offered by plaintiffs, who had alleged injury due to contaminated water, was inadmissible because of a lack of epidemiological support.<sup>246</sup> The court did not go so far as to require epidemiological evidence in all toxic tort cases, but it did require it in those cases where it was possible to collect such evidence.<sup>247</sup> Since this case involved a community alleging contamination of its water supply, the court determined that it would be possible to conduct an epidemiological study.<sup>248</sup> Because plaintiffs' experts offered no such study to support their opinions on causa-

---

<sup>240</sup> 731 F. Supp. 224 (N.D. Miss. 1989).

<sup>241</sup> *Id.* at 227-28 ("[*Brock* provides] that a plaintiff in a prescription drug product liability case must present statistically significant epidemiological proof.").

<sup>242</sup> "The court notes that there is a *total* absence of any statistically significant study to assist the jury in its determination of the issues of causation." *Id.* at 228 (emphasis added).

<sup>243</sup> In the *In re Agent Orange* and *Bendectin* cases, epidemiological studies existed that supported the defendants' position on causation. The courts found plaintiffs' expert testimony insufficient in that there was no epidemiological evidence to support causation, not because there was *no* epidemiological evidence whatsoever.

<sup>244</sup> Both the previous case and the case that follows in the text do not involve *Bendectin*. These cases are used to indicate that the rulings on *Bendectin* have affected expert testimony outside of the *Bendectin* context. That *Brock* has resulted in erroneous applications of Rule 703 involving *Bendectin* is less surprising. See, e.g., *Lee v. Richardson-Merrell, Inc.*, No. 84-2228GB, 1991 WL 166316 (W.D. Tenn. Jan. 20 1991) (excluding expert testimony on *Bendectin* under Rules 702-703); *Turpin v. Merrell Dow Pharmaceuticals, Inc.*, 736 F. Supp. 737 (E.D. Ky. 1990) (excluding expert testimony on *Bendectin* under Rule 703).

<sup>245</sup> 749 F. Supp. 1545 (D. Colo. 1990).

<sup>246</sup> *Id.* at 1554.

<sup>247</sup> *Id.* "Collection of such evidence is possible in situations where an identifiable exposure population is large enough to perform a meaningful epidemiological study."  
*Id.*

<sup>248</sup> *Id.*

tion, the court found their testimony inadmissible under Rule 703. In describing its role in evaluating expert testimony under Rule 703, the court found that “[a] court must make a preliminary determination as to whether the *methodology* employed by an expert is of a type normally relied upon by experts in that field before the expert’s opinion may be presented to a jury.”<sup>249</sup>

The cases highlight the problems that arise when courts are uncertain how to apply Rules 702 and 703 to expert testimony.<sup>250</sup> The problem with the expert testimony in the Bendectin cases was not a lack of epidemiological evidence, since over twenty years’ worth of studies existed. Rather, the plaintiffs’ expert had used an unreliable<sup>251</sup> *methodology* in evaluating the epidemiological data. If the Courts of Appeals for the First, Fifth, and D.C. Circuits had been clear on this point, then much of the current controversy over whether epidemiological data is a prerequisite to a toxic tort suit would probably not arise in the context of evidentiary rulings. Evidentiary rulings do not appear to be the proper place to resolve that question. If courts clearly understand and apply the existing rules of evidence, courts and commentators could clearly and cogently discuss such policy questions as whether to allow experts to testify to causation in toxic tort cases without epidemiological support.

### C. The Role of Rules in Law

Beyond the benefit to policy discussions regarding reform of the rules and to discussions of topics such as an expert’s reliance on epidemiology, a strong jurisprudential argument can be made that rules should be enforced as enacted. That argument rests on the need for predictability in the law and limits on the court’s role in interpreting statutes.

The need for predictability in the law is rather basic. As Justice Scalia has noted, “Rudimentary justice requires that those subject to

---

<sup>249</sup> *Id.* at 1548 (emphasis added).

<sup>250</sup> These problems may stem less from a misunderstanding of the rules of evidence than from a misunderstanding of scientific principles. See, e.g., Elliott, *supra* note 1, at 496 (“[t]he root of the problem is that one cannot reduce what constitutes ‘good science’ to a simple formula that judges, who generally know nothing about science, can apply”); see also *supra* note 150. While it may be the case that judges and lawyers lack a proper understanding of science, see generally Howard T. Markey, *Jurisprudence or “Juris-science”?*, 25 WM. & MARY L. REV. 525, 538 (1984) (suggesting a revision of the science and prelaw curricula to remedy the problem), that fact in no way lessens the need for judges to have a clear understanding of the rules.

<sup>251</sup> The *DeLuca* court found that, on the record before it, Dr. Done’s testimony met the standards set forth in *Downing* and was therefore admissible. However, the court allowed the defendants to challenge the expert’s methodology on remand. *DeLuca v. Merrell Dow Pharmaceuticals*, 911 F.2d 941, 957 (3d Cir. 1990).

the law must have the means of knowing what it prescribes."<sup>252</sup> One looks, then, to the rules of evidence to know what the law prescribes. When those rules prescribe that they will apply in all cases in the federal courts,<sup>253</sup> it follows that a given rule should not be applied differently to toxic tort cases than to other cases. Although one might argue that policy suggests differing rules, courts should not arbitrarily apply a rule of general applicability in a different fashion as a means to achieve those policy objectives.<sup>254</sup> Professors Atiyah and Summers argue that those subject to the rules should want precisely the contrary:

[A person] cannot know precisely what is expected of him if the rules are readily modifiable in the light of substantive reasons which may be relevant when they come to be applied to his case. He may, to be sure, want to see those reasons and policies available for debate and reform in a process to which he has some access; but in the meantime, he will prefer to know what the rules are with some certainty . . . . The demand for . . . clarity and proper enforcement of the rules . . . is thus more likely to come from the ruled themselves than from officials who wish to wield power.<sup>255</sup>

The limit on a court's role in interpreting rules arises from the Supreme Court's recent imposition of "the plain-meaning standard of statutory interpretation on the Federal Rules of Evidence."<sup>256</sup> Although the plain-meaning standard has its faults,<sup>257</sup> it furthers the same relationship between the courts and legislatures as does predictability. The courts should enforce the rule the legislature passed (in this case, proposed by the Court itself), and arguments for reform should be raised in a place to which parties have some access, as Atiyah and Summers put it—in the Rules Committee or a legislature.<sup>258</sup>

---

<sup>252</sup> Antonin Scalia, *The Rule of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175, 1179 (1989).

<sup>253</sup> See FED. R. EVID. 101, 1101. Application of the rules in criminal cases may be limited by the Constitution. See *supra* note 16.

<sup>254</sup> Courts have rejected similar arguments regarding expert testimony in other contexts. See, e.g., *Arcoren v. United States*, 929 F.2d 1235, 1241 (8th Cir.) (holding that expert testimony on battered woman syndrome is admissible on behalf of the prosecution as well as the defense), *cert. denied*, 112 S. Ct. 312 (1991).

<sup>255</sup> P.S. ATIYAH & ROBERT S. SUMMERS, *FORM AND SUBSTANCE IN ANGLO-AMERICAN LAW* 73 (1987).

<sup>256</sup> Jonakait, *supra* note 233, at 745.

<sup>257</sup> See *id.* at 747-49.

<sup>258</sup> It is useful to note that even proponents of change such as Vice President Quayle and the Council on Competitiveness do not argue that courts should undertake these changes themselves. See Bork, *supra* note 1, at 17-18 ("The proposals would be implemented by state and federal legislation, by amendments to the Federal Rules of Procedure and Evidence and through administrative actions, including attorney general directives and presidential orders.").

## CONCLUSION

Whether to allow expert testimony in toxic tort cases without epidemiological support is only one of many policy questions that courts must address in determining how and to what degree to "take hold of expert testimony."<sup>259</sup> Courts will be better able to address these policy questions by conscientiously applying the Federal Rules. Although changes to the rules have been proposed,<sup>260</sup> the courts should not rely on such proposals to clarify the rules that are now in place.<sup>261</sup>

In *DeLuca*, the Court of Appeals for the Third Circuit made a substantial contribution towards an increased understanding of the relationship between Rules 702 and 703.<sup>262</sup> Rule 703 restricts only the facts or data on which an expert may rely in forming an opinion; it does not restrict the range of conclusions the expert may draw from that data. Experts who use unreliable methodologies in forming their opinions are not helpful to the jury, and their testimony should consequently be excluded under Rule 702. Application of Rule 703 to an expert's methodology restricts the range of possible conclusions to only those that meet the scientific consensus. Reliable, and therefore helpful, opinions may be excluded if Rule 703 is applied to an expert's methodology. Such an application of Rule 703 is contrary to both the language and spirit of the Federal Rules of Evidence.

Michael C. McCarthy†

---

<sup>259</sup> *In re Air Crash Disaster*, 795 F.2d 1230, 1234 (5th Cir. 1986).

<sup>260</sup> See *supra* note 224 (noting proposed change to Rule 702).

<sup>261</sup> In fact, changes in the rules might only confuse matters for another twenty years. See Imwinkelried, *supra* note 18, at 23 ("[W]e have had almost two decades of experience working with rules 702 and 703. Yet, . . . to date the courts have failed to clarify the relationship between the two statutes. That failure is intolerable." (footnote omitted)).

<sup>262</sup> Speaking of the *DeLuca* decision, Professor Martin has noted that "[t]he Third Circuit has certainly gone further than any other circuit in attempting to articulate a standard of admissibility appropriate to the judicial forum and reflecting the apparent goals of Rules 702 and 703." Michael Martin, *Issues About Experts in Toxic Tort Cases*, N.Y.L.J., Feb. 15, 1991, at 3, 4. The *DeLuca* and *In re Paoli* decisions are already having an effect. See *Cherico v. National R.R. Passenger Corp.*, 758 F. Supp. 258, 259-63 (E.D. Pa. 1991); *Peterson v. Sealed Air Corp.*, Nos. 86 C 3498, 88 C 9859, 1991 WL 66370, at \*6-10 (N.D. Ill. Apr. 23, 1991).

† The author would like to thank Professor Faust Rossi of the Cornell Law School for the inspiration for this Note and for his guidance of the author's thinking on the subject. The opinions expressed, and any mistaken assumptions involved, are, of course, the author's own.