

The Relativity of Reliability

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In his article, *Reliability and the Admissibility of Experts*, Professor Nance has certainly made a valuable contribution to the literature by cautioning us against using the term “reliability” in an imprecise manner suggesting that reliability is a binary, dichotomous concept.¹ In the haste to make a point about another aspect of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*² and its progeny, we can succumb to the temptation to oversimplify the treatment of reliability and inadvertently imply that the reliability is a categorical,³ all-or-nothing⁴ proposition. I would be the first to admit that I have sometimes written sentences carrying that implication. Professor Nance, however, constructs a persuasive case that there is no invariant reliability threshold⁵ or uniform, minimum reliability level⁶ that proffered expert testimony must satisfy in order to be admissible.

The question is not whether the concept of reliability is a relative one. Rather, the issue is in which respects the concept is relative. There are at least three respects in which the concept is certainly relative: (1) the specificity of the theory or technique the expert asserts; (2) the use to which the expert’s proponent wants to put the claim; and (3) the definiteness with which the expert proposes couching his or her ultimate opinion. Part I of this Article discusses the first respect. Essentially concurring with Professor Risinger’s

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¹ Dale A. Nance, *Reliability and the Admissibility of Experts*, 34 Seton Hall L. Rev. 191, 193, 195-96 (2003).

² 509 U.S. 579 (1993).

³ Nance, *supra* note 1, at 200.

⁴ *Id.* at 193, 200, 202.

⁵ *Id.* at 216-17, 221-22.

⁶ *Id.* at 217.

recent article,⁷ Part I contends that the foundational showing of reliability should vary with the precise theory or technique the expert invokes. The focus should be a narrow one, squarely on that theory or technique. Part II turns to the second respect, the use to which the expert's proponent wants to put the theory or technique. This Part asks whether the proponent is content to prove simply that the theory exists and is current in the expert's field, or whether the proponent wants to draw a further inference from the application of the theory. The reliability foundations for these two uses of the theory differ fundamentally.⁸ Part III addresses the third respect, adding that the reliability concept is also variable in regard to the definiteness of the expert's proposed opinion. The more definite the opinion the expert offers, the more extensive the reliability foundation must be. In each of these respects, I agree with Professor Nance's thesis that reliability should be conceived in relative terms. Indeed, as this Article concludes, the identification of those respects may help courts develop a workable approach to determining whether proffered expert testimony possesses the requisite degree of reliability.

Near the end of his article, however, Professor Nance urges that reliability be treated as relative in still another respect: in comparison to other expert testimony available to the expert's proponent.⁹ In an earlier exchange with Professors Faigman, Kaye, Saks, and Sanders, I voiced my opposition to incorporating a better or best evidence principle into the analysis of foundations for Rule 702 opinions.¹⁰ During that exchange, I took the position that it would be unsound to adopt such a principle either as a matter of statutory construction or as one of evidentiary policy. I still adhere to that position. However, while Professor Faigman and his co-authors appeared to favor a rather general better evidence principle, Professor Nance's proposal is much more complex. His proposal turns on such considerations as whether the proponent of the evidence is a repeat player in the litigation system¹¹ and whether better evidence is

⁷ D. Michael Risinger, *Defining the 'Task at Hand': Non-Science Forensic Science After Kumho Tire Co. v. Carmichael*, 57 WASH. & LEE L. REV. 767 (2000).

⁸ Edward J. Imwinkelried, *Expert Witness: Beyond "One Size"*, NAT'L L.J., Aug. 28, 2000, at A18 [hereinafter *Expert Witness: Beyond*].

⁹ Nance, *supra* note 1, at Part II.

¹⁰ Edward J. Imwinkelried, *A Final Comment—The Importance of the Procedural Framework*, 50 CASE W. RES. L. REV. 669 (1999) [hereinafter *A Final Comment*]; Edward J. Imwinkelried, *Should the Courts Incorporate a Best Evidence Rule into the Standard Determining the Admissibility of Scientific Testimony?: Enough Is Enough Even When It Is Not the Best*, 50 CASE W. RES. L. REV. 19 (1999) [hereinafter *Enough is Enough*].

¹¹ Nance, *supra* note 1, at 240-42.

reasonably available to the opponent who objects to the admission of the proponent's expert testimony.¹² The proposal is provocative. Yet, it suffers from a significant ambiguity and raises additional, practical difficulties that render the proposal undesirable. Part IV of this Article will identify that ambiguity and outline those difficulties.

I. RELATIVITY IN REGARD TO THE SPECIFIC THEORY OR TECHNIQUE ON WHICH THE PROPONENT'S EXPERT PROPOSES TO RELY—WHAT MUST BE VALIDATED

In authentication law, to evaluate the sufficiency of a foundation, the judge must initially determine what the proponent's witness claims the item of evidence to be.¹³ One foundation would suffice if the witness asserted that she had received a letter purportedly signed by Dale Nance, while an entirely different foundation would be necessary if the witness asserted that Dale Nance in fact signed the letter. Likewise, in order to intelligently assess the adequacy of the proponent's validation foundation for an expert opinion, the first question to be asked is what must be validated.

In his recent article,¹⁴ Professor Risinger argued that it is neither necessary nor sufficient for the proponent to establish the global validity of the expert's discipline. The focus is narrower; it ought to be on the specific theory or technique on which the expert expects to rely. Thus, suppose that the expert identifies himself or herself as a questioned document examiner. Questioned document examination is a huge field, and its practitioners opine about a myriad of determinations such as the identification of paper and ink, the age of documents, the sequence of marks, and comparisons of handwriting style.¹⁵ Assume, though, that in a particular case the examiner proposes to testify that certain printing was forged. To lay the foundation for that testimony, it would be neither necessary nor sufficient for the expert's proponent to demonstrate the general validity of questioned document examination. Rather, the proponent must establish that qualified questioned document examiners can reliably determine whether printing—as opposed to cursive writing—has been forged.¹⁶

¹² *Id.* at 231.

¹³ FED. R. EVID. 901; 1 EDWARD J. IMWINKELRIED ET AL., COURTROOM CRIMINAL EVIDENCE § 311 (3d ed. 1998).

¹⁴ See Risinger, *supra* note 7.

¹⁵ 2 PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, SCIENTIFIC EVIDENCE §§ 21-1 to -8 (3d ed. 1999) [hereinafter SCIENTIFIC EVIDENCE].

¹⁶ Risinger, *supra* note 7, at 798-800 (discussing *United States v. Fujii*, 152 F. Supp. 2d 939 (N.D. Ill. 2000)).

It is true that at one point in *Kumho Tire Co., Ltd. v. Carmichael*,¹⁷ Justice Breyer utilized language suggesting that the proponent must demonstrate the global validity of the expert's discipline. In that passage, using the examples of astrology and necromancy, he asserted that sometimes "the discipline itself lacks reliability."¹⁸ However, the trilogy of *Daubert*, *General Electric Co. v. Joiner*,¹⁹ and *Kumho* contains much more language pointing to the sensible conclusion that the expert's precise theory or technique is what must be validated. For example, as Professor Risinger has emphasized, in *Daubert*, the Supreme Court inquired whether the expert's theory or technique is sufficiently reliable to perform "the task at hand."²⁰ The narrow focus is even more explicit in *Kumho*. Justice Breyer noted that the question was not the general reliability of "a tire expert's use of a visual and tactile inspection to determine whether overdeflection had caused [a] tire's tread to separate from its steel-belted carcass."²¹ The Justice stressed, rather, that the plaintiffs' expert had invoked a more "particular" method, a theory that there are four characteristic signs of tire abuse and that the absence of at least two of the signs indicates that the accident was caused by a manufacturing defect in the tire.²² In a separate passage, Justice Breyer pointed out that the expert "employed a more specific theory to establish the existence (or absence) of such abuse."²³

In their article,²⁴ Professors Gross and Mnookin propose a distinction between instruction and assessment. They give an example drawn from the domain of psychological testimony. In their terminology, it is an instruction for an expert psychologist to tell a jury that, as a general proposition, cross-racial identifications are less reliable than same-race identifications. In contrast, the expert would be testifying to an assessment if she were to tell the jury that in her opinion, the cross-racial identification by the complainant in the instant case is likely to be unreliable. Professors Gross and Mnookin suggest that a specific assessment requires a different, more extensive foundation than a general instruction. That suggestion is sound, and

¹⁷ 526 U.S. 137 (1999).

¹⁸ *Id.* at 151.

¹⁹ 522 U.S. 136 (1997).

²⁰ *Daubert*, 509 U.S. at 597.

²¹ *Kumho*, 526 U.S. at 153-54.

²² *Id.* at 154.

²³ *Id.*

²⁴ Samuel R. Gross & Jennifer Mnookin, *Expert Information and Expert Evidence: A Preliminary Taxonomy*, 34 SETON HALL L. REV. 141 (2003).

the courts have recognized this distinction.²⁵ The distinction can be restated in terms of the specific theory the witness asserts. For example, in instruction cases, the witness asserts the generalized proposition that cross-racial identifications are less trustworthy than same-race identifications. In assessment cases, however, the expert makes a quite different assertion: that she knows of criteria or guidelines that enable her to determine whether a particular cross-racial identification is likely to be untrustworthy. Different expert assertions necessitate different reliability foundations.

Simply stated, the only sensible approach is to focus on the expert's specific assertion rather than the global validity of the expert's discipline. At any given time, the discourse in a field of expertise ordinarily includes a wide spectrum of propositions.²⁶ Some propositions are speculations that will later be disproven. Other propositions are conjectures that will subsequently be validated. Still other propositions are assertions that have already been substantiated. Given the state of knowledge in most expert fields, it would be silly to consider only the reliability of the broad field.

There are, however, a few caveats. At some point in the analysis, as Professor Allen observes in his contribution to this Symposium, a broader, more global focus is necessary.²⁷ To assess the foundation for the specific theory or technique, the judge must inquire into the soundness of the methodology the expert used to validate the theory or technique. The analysis of that methodology will require the judge to range beyond the precise theory or technique invoked in the instant case. Furthermore, as Professor Nance warns, if Professor Risinger's approach is "pressed to its logical conclusion, this would make determinations of reliability all but impossible, for the particular task at hand in a lawsuit is never replicated in research."²⁸

Although I do not presume to speak for Professor Risinger, it would appear that his approach could be refined to meet these objections. On the one hand, the validation foundation must target a proposition more general than the validity of the conclusion in the instant case. In *Daubert*, Justice Blackmun stated that "[t]he focus . . . must be solely on principles and methodology, not on the conclusions that they generate."²⁹ That statement is true both in the

²⁵ *E.g.*, *Garden v. State*, 815 A.2d 327 (Del. 2003).

²⁶ JOHN ZIMAN, RELIABLE KNOWLEDGE: AN EXPLORATION OF THE GROUNDS FOR BELIEF IN SCIENCE 130-33 (1978); see *Daubert*, 509 U.S. at 593-94 (citing ZIMAN, *supra*).

²⁷ Ronald J. Allen, *Expertise and the Supreme Court: What Is the Problem?*, 34 SETON HALL L. REV. 1, 6 (2003).

²⁸ Nance, *supra* note 1, at 210.

²⁹ *Daubert*, 509 U.S. at 595.

sense that the novelty of the conclusion is no longer a bar to admissibility and in the sense that, in evaluating the foundation, the judge must consider the broader principles and methods employed to establish the conclusion.

On the other hand, an adequate foundation will not target propositions broader than the theory or technique the expert invokes to justify the conclusion. In *Kumho*, the expert was not content to premise his opinion on the general trustworthiness of visual and tactile inspection of the tire. Instead, he attempted to make the opinion appear more authoritative and exacting by relying on a more specific theory. The expert's proponent, therefore, was obliged to lay a reliability foundation for that more specific theory. That theory in effect served as the major premise for the expert's reasoning process,³⁰ and, consequently, that theory had to be shown to be reliable. The reliability foundation must be judged relative to that particular theory.

II. RELATIVITY IN REGARD TO THE USE TO WHICH THE PROPONENT INTENDS TO PUT THE EXPERT'S THEORY OR TECHNIQUE—WHY THE PROPONENT IS PROFFERING TESTIMONY ABOUT THE THEORY OR TECHNIQUE

In character³¹ and hearsay³² doctrine, the proposed use of the testimony often determines the extent and type of foundation that the proponent must lay. When the proffered evidence is logically relevant on a noncharacter³³ or nonhearsay³⁴ theory, the foundation will be much more minimal than if the proponent attempted to introduce the item for a substantive character or hearsay purpose. Analogously, in gauging the proponent's foundation for an expert opinion, the judge must not only identify which theory or technique the expert is relying on; the judge must also force the proponent to specify why the proponent is offering the testimony about the theory or technique. This may be what Professor Nance means when he writes that the degree of required reliability depends in part on the litigation context.³⁵ To what use is the proponent putting the theory or technique?

³⁰ Edward J. Imwinkelried, *The "Bases" of Expert Testimony: The Syllogistic Structure of Scientific Testimony*, 67 N.C. L. REV. 1 (1988); Edward J. Imwinkelried, *The Educational Significance of the Syllogistic Structure of Expert Testimony*, 76 NW. U. L. REV. 1148 (1993).

³¹ FED. R. EVID. 404-05, 608.

³² *Id.* 801(c), 803-04, 807.

³³ *Id.* 404(b).

³⁴ *Id.* 801(c).

³⁵ Nance, *supra* note 1, at 216-17.

There are numerous potential uses to which the proponent could put the testimony. Two uses, however, are the most common.³⁶ The first is a descriptive³⁷ or summarizational³⁸ use. Suppose, for instance, that the question is the meaning of the term “chicken” in a sales contract.³⁹ The plaintiff calls an experienced member of the poultry industry to give expert testimony about the meaning of the term within the trade. The only issue is the existence of the linguistic convention or usage. If the witness testifies that she has been involved in a significant number of similar sales transactions involving the same term, that experience is an adequate foundation. Or assume that in a criminal case, the prosecution calls an experienced undercover narcotics officer to give expert testimony that “lid” has a certain meaning in drug argot.⁴⁰ The only issue is the existence of the convention within the illegal drug trade. When the proponent’s limited purpose in introducing expert testimony is to establish the existence of a usage, convention, or practice, a showing that the witness has had a large number of similar experiences ought to suffice as an adequate foundation.

The second type of use—inferential⁴¹ or translational⁴²—is fundamentally different. In this setting, the proponent wants to do more than prove the existence of the convention or practice. The proponent is not merely trying to establish that theory or convention *A* exists; rather, the proponent wants the expert to employ theory *A* as a basis for drawing a further inference, *B*. A foundation showing only the existence of theory *A* falls short of validating this proposed use of the expert testimony.

³⁶ A third potential use is a normative usage. A proponent might offer a bioethicist’s testimony for such a purpose. See D. Michael Risinger, *Preliminary Thoughts on a Functional Taxonomy of Expertise for the Post-Kumho World*, in DAVID L. FAIGMAN ET AL., *SCIENCE IN THE LAW: STANDARDS, STATISTICS AND RESEARCH ISSUES* § 2-2.4 (2002) [hereinafter *Functional Taxonomy*]; Richard Delgado & Peter McAllen, *The Moralism as Expert Witness*, 62 B.U. L. REV. 869 (1982); Edward J. Imwinkelried, *Expert Testimony by Ethicists: What Should Be the Norm?*, 76 TEMPLE L. REV. 91 (2003); Bethany Spielman & George Agich, *The Future of Bioethics Testimony: Guidelines for Determining Qualifications, Reliability, and Helpfulness*, 36 SAN DIEGO L. REV. 1043 (1999).

³⁷ Edward J. Imwinkelried, *The Meaning of “Appropriate Validation” in Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993)—*Interpreted in Light of the Broader Rationalist Tradition, Not the Narrow Scientific Tradition*, 30 FLA. ST. U. L. REV. 735 (2003) [hereinafter *Appropriate Validation*]; *Expert Witness: Beyond*, *supra* note 8, at A18.

³⁸ *Functional Taxonomy*, *supra* note 36, § 2-2.2.1.

³⁹ *Frigalimint Importing Co. v. B.N.S. Int’l Sales Corp.*, 190 F. Supp. 116 (S.D.N.Y. 1960).

⁴⁰ FED. R. EVID. 702 advisory committee’s note.

⁴¹ *Appropriate Validation*, *supra* note 37, at 753.

⁴² *Functional Taxonomy*, *supra* note 36, § 2-2.3.

By way of example, suppose that the proponent wants an expert to testify about rape trauma syndrome to support an inference that a woman showing symptoms of the syndrome was indeed raped. Here, the issue is not simply whether the theory of rape trauma syndrome is current in counseling circles. The issue is whether the theory can be used as “a fact-finding tool.”⁴³ Does the woman’s satisfaction of the profile support inference *B*, that she previously suffered a certain type of traumatic event, namely, a rape? This contemplated use of the expert testimony necessitates a very different sort of reliability foundation.

Given the contemplated use, the proponent should ordinarily be required to show the results of the use of the theory.⁴⁴ Have there been attempts to employ the theory as a fact-finding tool? If so, do the results of those attempts indicate that the theory enables the expert to accurately determine whether the alleged victim has indeed been raped? For instance, was the profile derived from a database constructed by researchers who independently corroborated the rape allegations of the women who were included in the database?⁴⁵ When the expertise in question is non-scientific in character, the expert may not be able to resort to the classic methodology of controlled experimentation and induction.⁴⁶ Nevertheless, logic dictates that there be some showing that the use of the theory or technique enables the expert to accurately make the determination the proponent offers the opinion to establish. The showing could be formal in character, including proficiency studies or prospective or retrospective research. Or the showing could be informal. Suppose that a dog handler claims that by observing his dog’s behavior, he can determine whether the dog is alerted to the presence of drugs or explosives. At the very least, the judge should demand a showing of the track record of the dog working with the handler.

The general necessity for a foundational showing of results to validate an inferential claim reflects the reasons why our society, including its legal system, relies so heavily on expert information. It would be foolish to contend that we are so reliant on expert data because the average citizen has consciously adopted any particular

⁴³ *State v. Saldana*, 324 N.W.2d 227, 230 (Minn. 1982).

⁴⁴ *Appropriate Validation*, *supra* note 37, at 757.

⁴⁵ Did the researchers contact: (1) emergency rooms to verify that the women displayed physical indicia of a violent sexual assault; (2) police departments to establish that the women’s complaints led to confessions by the alleged perpetrators; and (3) prosecutors to learn whether the women’s reports resulted in convictions?

⁴⁶ MARTIN GOLDSTEIN & INGE F. GOLDSTEIN, *HOW WE KNOW: AN EXPLORATION OF THE SCIENTIFIC PROCESS* 3-11 (1978).

philosophy of science. The average person has given little, if any, thought to that issue. Rather, we place faith in science because there is an “immense body of results”⁴⁷ proving “its worth in the realm of material technique.”⁴⁸ Those concrete results—science’s many practical,⁴⁹ successful applications⁵⁰ and technological achievements⁵¹—are the pragmatic⁵² basis for the societal belief in the validity of systematic experimental testing and induction. Just as those results are the primary explanation for our faith in general scientific methodology, a showing of results will usually be the key to validating specific inferential claims.

III. RELIABILITY IN REGARD TO THE DEGREE OF CERTITUDE OF THE EXPERT’S ULTIMATE OPINION—HOW DEFINITELY DOES THE EXPERT PROPOSE TO PHRASE HIS OR HER ULTIMATE OPINION

It is hornbook law, codified in the Federal Rules of Evidence, that a lay witness must possess firsthand or personal knowledge to be qualified to testify about a fact or event.⁵³ However, even when a lay witness has some personal knowledge, the permissible definiteness of his or her testimony depends on the extent of the foundation. If a lay witness has a momentary, fleeting view of a person, the witness might be permitted to testify only that the person appeared to be a tall man. But if the witness had a longer, better opportunity to observe the person, the witness may be allowed to go farther and testify that the person was the defendant.⁵⁴

There is a parallel in expert testimony law. The degree of allowable definiteness of the expert’s final opinion should vary with the reliability foundation laid by the expert’s proponent. Assume, for example, that an epidemiologist is prepared to testify only that a person’s exposure to a certain pesticide increases or enhances the person’s risk of contracting a particular illness. Some courts would allow the epidemiologist to testify to that opinion so long as the supporting epidemiological study found a relative risk (“RR”)

⁴⁷ ZIMAN, *supra* note 26, at 6-7.

⁴⁸ *Id.* at 4.

⁴⁹ *Id.* at 127.

⁵⁰ *Id.* at 10.

⁵¹ *Id.* at 127.

⁵² *Id.* at 10.

⁵³ FED. R. EVID. 602.

⁵⁴ See RONALD L. CARLSON ET AL., EVIDENCE: TEACHING MATERIALS FOR AN AGE OF SCIENCE AND STATUTES 192 (5th ed. 2002).

exceeding 1.0.⁵⁵ Alternatively, suppose that the expert wanted to express the more definite opinion that it is probable that exposure to the pesticide can cause the illness. In that event, many courts would rule the same foundation inadequate; they reason that only a study finding an RR greater than 2.0 justifies an opinion couched as a probability.⁵⁶

The Court's analysis in *Joiner* is illustrative. There, the plaintiffs' experts opined that Joiner's exposure to PCBs at work was "likely responsible for" his cancer.⁵⁷ In the lead opinion, the Chief Justice carefully scrutinized the animal studies cited by the plaintiffs' experts. He stressed that the case did not pose the broad, abstract question "whether animal studies can ever be a proper foundation for an expert's opinion."⁵⁸ Rather, the question presented was "whether *these* experts' opinions were sufficiently supported by the animal studies on which they purported to rely."⁵⁹ The Chief Justice found so many dissimilarities⁶⁰ between the facts of the *Joiner* case and the parameters in the studies that the trial judge had not abused his discretion in rejecting the opinion.⁶¹ Hence, like the specific theory the expert invokes and the use to which the expert's proponent wants to put the theory, the definiteness of the expert's opinion helps determine the degree of reliability that the proponent must establish.

IV. RELIABILITY IN REGARD TO THE OTHER EXPERT EVIDENCE REASONABLY AVAILABLE TO THE PROPONENT AND OPPONENT

If Professor Nance had said only that the reliability concept is relative in the three regards discussed above, I would be in complete agreement with him. He identifies a fourth respect, however, in which he contends the courts should treat reliability as a gradational or relative concept. He argues that the judge ought to evaluate the reliability of the proffered expert evidence in relation and comparison to alternative, available expert testimony.⁶² According to

⁵⁵ SCIENTIFIC EVIDENCE, *supra* note 15, § 15-5(D).

⁵⁶ *Id.*

⁵⁷ *Joiner*, 522 U.S. at 140.

⁵⁸ *Id.* at 144 (citation omitted).

⁵⁹ *Id.* (emphasis in original).

⁶⁰ *Id.* Although Joiner was an adult, the studies involved infant mice. Relative to size, Joiner's exposure was much less than that in the studies. In the studies, PCB's were injected directly, while Joiner's exposure was dermal. Finally, Joiner developed small-cell carcinomas, while the mice developed alveogenic adenomas.

⁶¹ *Id.* at 146-47.

⁶² Nance, *supra* note 1, at Part II.

Professor Nance, “exclusion is appropriate on this theory only when more reliable expertise is (a) reasonably available to the proponent, and (b) not reasonably available to the opponent.”⁶³ “[W]hen . . . more reliable expertise is reasonably available to the opponent to present . . . , then no exclusion of evidence is warranted”⁶⁴ In Professor Nance’s view, his proposed approach “will place greater demands on powerful civil defendants than on impecunious civil plaintiffs.”⁶⁵ Professor Nance then expands on his definition of reasonable availability. He states that

greater reliability might be unavailable to a party within the context of a particular case . . . , yet reasonably available to that party within the context of repeated litigation of the same or similar issue. At the outer reaches of the better evidence idea, repeat players, such as the state in regard to forensic science techniques, may plausibly be considered in regard to the long run of cases, rather than based on what is reasonably available in the short enough run to address a particular case.⁶⁶

As Parts I through III explain, I agree with Professor Nance that the concept of reliability under Federal Rule 702 should be treated as relative in several respects. In this fourth respect, however, I part company with Professor Nance. Although a best evidence rule or principle can operate legitimately at trial in several respects, it should not be incorporated into the judge’s evaluation of a reliability foundation under Rule 702. Subpart 1 discusses the legitimate scope of the operation of a best evidence principle at trial while Subpart 2 critiques Professor Nance’s proposal.

A. *The Legitimate Operation of a Best Evidence Rule or Principle at Trial.*

A true best evidence rule, of course, operates under Article X of the Federal Rules of Evidence.⁶⁷ In several respects, the drafters relaxed the common-law best evidence rule. For example, they broadened the definition of “duplicate”⁶⁸ and made duplicates presumptively as admissible as originals.⁶⁹ The drafters, however, decided to retain a liberalized version of the rule rather than altogether abolishing the rule.

⁶³ *Id.* at 237.

⁶⁴ *Id.* at 231 (emphasis omitted).

⁶⁵ *Id.* at 237.

⁶⁶ *Id.*

⁶⁷ FED. R. EVID. Art. X.

⁶⁸ *Id.* 1001(4).

⁶⁹ *Id.* 1003.

There are other ways a best evidence principle may legitimately come into play during trial. It is certainly permissible for an opponent to attack the weight of the proponent's expert testimony by pointing out that the expert neglected to use a superior analytic technique.⁷⁰ Suppose, for instance, that a prosecution trace evidence expert utilized a conventional optical microscope to analyze associative physical evidence. The usual working magnification of an optical microscope is 1,000 times. To attack the weight of the expert's testimony, the defense counsel could force the expert to concede that she did not use a scanning electron microscope ("SEM") to visualize the evidence. An SEM can produce magnifications exceeding 200,000 times.

Similarly, in a drug case defended by Mr. Shellow, if the prosecution were foolish enough to be content to rely on an addict's visual identification of the alleged drug, Mr. Shellow would be certain to make the prosecution pay for that foolishness. There are, to be sure, limits to the efficacy of cross-examination. A skillful opponent, however, can nonetheless mount an effective weight attack by underscoring that the proponent's expert employed an inferior analytic technique.⁷¹ The prospect of such an attack gives the proponent a natural incentive to proffer the best evidence available. That potentially potent incentive is already built into the adversary system.

Just as an expert's failure to use a superior technique can be the basis for an attack on the weight of the expert's testimony, the failure occasionally can render the case of the expert's proponent vulnerable to a legal sufficiency attack. The case law on the identification of contraband drugs furnishes an example. By the majority view, a visual identification by an experienced drug user or narcotics officer constitutes admissible non-scientific, expert testimony.⁷² Some of the same courts admitting such testimony, however, caution that "[w]e suspect that it would be a rare case in which a witness's statement that a particular substance looked like a controlled substance would alone be sufficient to support a conviction."⁷³ In a number of additional cases, courts have held that

⁷⁰ EDWARD J. IMWINKELRIED, *THE METHODS OF ATTACKING SCIENTIFIC EVIDENCE* § 10-8 (3d ed. 1997).

⁷¹ *Id.*

⁷² Michael D. Blanchard & Gabriel J. Chin, *Identifying the Enemy in the War on Drugs: A Critique of the Developing Rule Permitting Visual Identification of Indescript White Powder in Narcotics Prosecutions*, 47 AM. U. L. REV. 557, 562-65 (1998).

⁷³ *Id.* at 562 (citing *Commonwealth v. Dawson*, 504 N.E.2d 1056, 1057-58 (Mass. 1987)).

although admissible, testimony about non-specific drug identification tests, such as field color change tests, is legally insufficient to establish the identity of a substance.⁷⁴ These courts insist on confirmation of the substance's identity by a superior, more specific analytic methodology such as gas chromatography/mass spectrometry ("GC/MS").

Finally, a best evidence principle may operate under the aegis of Federal Rule of Evidence 403. Rule 403 authorizes the judge to exclude relevant evidence in her discretion when the probative value of the evidence "is substantially outweighed by" countervailing probative dangers such as "needless presentation of cumulative evidence" and "unfair prejudice."⁷⁵ The accompanying Advisory Committee Note states that "[t]he availability of other means of proof may . . . be an appropriate factor" for the judge to consider.⁷⁶ For example, assume that in a drug prosecution, the government has two available laboratory analysts who have confirmed the substance's identity as cocaine by gas chromatography ("GC") as well as GC/MS. In order to "overkill," the government also plans to call the defendant's parole officer, a former narcotics officer. The officer is prepared to testify that he saw the substance in the defendant's possession at the time of arrest and that, in his opinion, the substance was cocaine. Calling the parole officer as a witness creates the risk of prejudice to the defendant, since it may "slip out" that the witness is the defendant's parole officer, implying that the defendant has a prior criminal record.⁷⁷ Further, the presentation of the officer's testimony would arguably amount to the "needless presentation of cumulative evidence," because common sense suggests that the jury would attach much more weight to the scientific analyses. The combination of probative dangers would certainly warrant the judge's exclusion of the officer's testimony. For that matter, the obviously cumulative character of the evidence might in itself prompt the judge to exclude it. The introduction of the officer's testimony is likely to have little or no effect on the jury's decision as to whether there is adequate evidence that the drug found in the defendant's possession

⁷⁴ *People v. Hagberg*, 703 N.E.2d 973, 976 (Ill. App. Ct. 1998), *appeal granted*, 712 N.E.2d 820 (Ill. 1999); 2 SCIENTIFIC EVIDENCE, *supra* note 15, § 23-5 (collecting cases).

⁷⁵ FED. R. EVID. 403.

⁷⁶ *See id.* 403 advisory committee's note; *see also Old Chief v. United States*, 519 U.S. 172 (1997).

⁷⁷ FED. R. EVID. 404-05, 609. If the defendant elected not to testify, the prosecution could not introduce testimony about the defendant's record under Rule 609. Further, the defendant's prior criminal acts might not be logically relevant on any noncharacter theory of admissibility.

is cocaine.

B. The Problematic Nature of the Proposed Best Evidence Principle Operating as a Component of the Reliability Analysis Under Rule 702.

Professor Nance acknowledges that best evidence reasoning can come into play under Rule 403.⁷⁸ However, he favors giving the best evidence principle wider play. He argues that the judicial system should “want a . . . set of standards” under Rule 702 that is “not simply redundant of Rule 403.”⁷⁹ Professor Nance expressly states that Rule 702 should be construed as incorporating a best evidence principle imposing “stricter demands” than Rule 403.⁸⁰

As previously stated, in an earlier exchange with Professor Faigman and his coauthors, I expressed my opposition to the formulation of a best evidence principle in Rule 702 analysis.⁸¹ My opposition rests on both statutory construction and policy reasons. The drafters evidently did not contemplate any best evidence principle under Article VII. Having relaxed the best evidence rule proper under Article X, it would have been at least anomalous for them to have decided to extend the reach of the common-law principle to a new area, namely, expert testimony law. Any such extension would be at odds with the Advisory Committee Note to Rule 702. That note not only indicates that a witness need not be a specialist to qualify as an expert; the note also sanctions the admission of a landowner’s opinion of the value of his or her property, a markedly inferior type of opinion testimony.⁸²

Quite apart from the interpretive difficulty of justifying reading a best evidence principle into Rule 702, Professor Nance’s proposal for the creation of such a principle under Rule 702 is problematic. The initial problem is that Professor Nance never provides a substantive definition of “reliability.” He negatively rejects several alternative “blind alleys,”⁸³ but he does not venture affirmative guidance for defining the term. At one point, he states that the judge should “plac[e] herself in the position of the jury” and ask “whether the challenged expertise is so unreliable, in comparison to other

⁷⁸ Nance, *supra* note 1, at 202.

⁷⁹ *Id.*

⁸⁰ *Id.* at 228.

⁸¹ *A Final Comment, supra* note 10, at 669. *See generally Enough is Enough, supra* note 10.

⁸² FED. R. EVID. 702 advisory committee’s note.

⁸³ Nance, *supra* note 1, at 216-22.

expertise offered by the same party, that the judge would ignore the challenged proffer if she were the trier of fact.”⁸⁴ That statement hardly functions as a working definition of “reliability.” Rather than telling the judge what algorithm to use or which factors to consider, this proposal seemingly requires the judge to intuit or speculate as to the reliability standards the jurors would employ. The proposal gives the judge detailed directions as to how to rule once the judge decides whether more “reliable” evidence is reasonably available. But those directions are of little help to the judge without a substantive definition of reliability. That definition has to be one of the starting points of the judge’s analysis, and the proposal is conspicuously lacking a definition.

The lack of a definition of reliability is a major flaw in the proposal. A wide variety of expert techniques could address the issue to which the proffered evidence relates. As Professor Nance notes, “When a matter is thought by counsel to be amenable to expert assistance, there are often numerous specializations and hundreds or thousands of practitioners thereof who might be called to testify.”⁸⁵ Suppose, for example, that one available technique has been subjected to more rigorous peer review,⁸⁶ but another has a smaller rate of error,⁸⁷ and still a third enjoys more widespread support in the specialty community.⁸⁸ Under the proposal, how does the judge decide which technique is the better or best one? Professor Nance’s proposal requires the judge to make that decision, but the proposal does not furnish the judge with guidance as to how to make the decision.

Moreover, the adoption of the proposal will have untoward policy consequences. The most immediate consequence would be to render Rule 702 unworkable as a rule of trial evidence for jury trials. The proposal multiplies the number of foundational issues that the judge must resolve before making a final ruling on the objection to the proponent’s evidence. The judge must decide: (1) whether the proponent’s evidence is “reliable”; (2) whether other expert techniques address the same question; (3) whether those techniques are better than the technique utilized by the proponent’s expert; (4) whether a better technique is reasonably available to the proponent; (5) whether the better technique is reasonably available to the

⁸⁴ *Id.* at 227-28.

⁸⁵ *Id.* at 227.

⁸⁶ *Daubert*, 509 U.S. at 593.

⁸⁷ *Id.* at 594.

⁸⁸ *Id.*

opponent; and (6) whether the proponent is a repeat player.⁸⁹ The administration of this rule during a jury trial will necessitate either horrendously long sidebar conferences or prolonged recesses.

It is not just that the proposal will lengthen the amount of time devoted to the litigation of Rule 702 objections. In addition, the proposal will permit, and in some cases require, the judge to consider information to which the jury should not be exposed. All of these preliminary questions will fall under Rule 104(a) rather than Rule 104(b).⁹⁰ The final sentence of Rule 104(a) reads, "In making its determination [under Rule 104(a), the judge] is not bound by the rules of evidence except those with respect to privileges."⁹¹

Suppose, for example, that the defense contends that the plaintiff is a repeat player. In support of that contention, the defense might proffer foundational testimony about the plaintiff's frequent involvement in prior, similar suits. In effect, that testimony would be evidence of the plaintiff's litigiousness—a type of evidence that the jury is ordinarily precluded from hearing.⁹² Assume alternatively that the plaintiff contends that although a better type of expertise exists, it is reasonably available to the defendant because only the defendant can afford that type of expert. By distinguishing between "impecunious civil plaintiffs" and "powerful civil defendants," Professor Nance strongly implies that the litigant's financial ability is a relevant, if not dispositive, consideration on the question of reasonable availability.⁹³ The jury, however, is usually shielded from evidence of a defendant's wealth unless punitive damages are at issue.⁹⁴ Given the volume and type of information relevant to the preliminary facts implicated by Professor Nance's proposal, in many cases the issues would have to be aired at a pretrial hearing rather than at trial. *Daubert* and its progeny have already triggered a trend toward pretrial resolution of the admissibility of expert testimony.⁹⁵ The adoption of Professor Nance's proposal would accelerate that trend. The net result of the adoption of the proposal would be more and longer pretrial hearings challenging the admissibility of expert

⁸⁹ Nance, *supra* note 1, at 237.

⁹⁰ See *Daubert*, 509 U.S. at 592; see also Edward J. Imwinkelried, *Determining Preliminary Facts Under Federal Rule 104*, 45 AM. JUR. 2D *Trials* § 1 (1992).

⁹¹ FED. R. EVID. 104(a).

⁹² See 1 JOHN W. STRONG ET AL., MCCORMICK ON EVIDENCE § 189 (5th ed. 1999).

⁹³ Nance, *supra* note 1, at 237.

⁹⁴ 1 STRONG ET AL., *supra* note 92, § 185 at 642 n.35.

⁹⁵ Carol Krafka et al., *Judge and Attorney Experiences, Practices, and Concerns Regarding Expert Testimony in Federal Civil Trials*, 8 PSYCHOL., PUB. POL'Y & L. 309, 321, 326-29 (2002).

testimony.

The acceleration of that trend might disadvantage the very classes of litigants whom Professor Nance hopes to benefit. Again, he argues that his proposal would not only benefit the judicial system but also “impecunious civil plaintiffs.”⁹⁶ Quite the opposite could come to pass. No matter how the burden of persuasion is allocated on these new preliminary facts,⁹⁷ the proposal allows wealthy corporations to litigate additional issues before trial as a condition to the plaintiff’s right to introduce expert testimony. By doing so, the proposal will enhance the defense’s ability to raise the cost of pretrial proceedings to such dizzying heights⁹⁸ that even a plaintiff with a meritorious claim will be bludgeoned into an unfavorable settlement.⁹⁹ In the aftermath of *Daubert*, civil defendants appear to be gaining pretrial summary judgment in a higher percentage of cases.¹⁰⁰ The adoption of Professor Nance’s proposal might intensify that trend. Thus, to use Professor Sanders’s expression,¹⁰¹ the proposal raises profound procedural justice concerns.

V. CONCLUSION

While in the final analysis Professor Nance’s best evidence proposal is flawed, he has performed an important service by focusing attention on the respects in which the reliability standard under Rule 702 should be considered relative. Indeed, a synthesis of those respects has the promise to furnish a working approach to the problem of deciding whether a proponent’s reliability foundation suffices under Rule 702. It is submitted that the judge should initiate his or her analysis by identifying the precise theory or technique on which the expert contemplates relying. If the expert refuses to articulate a general theory or technique, the expert gives the judge no choice; the judge must conclude that the expert’s opinion rests only on *ipse dixit*. The Supreme Court has twice made it quite clear that, as a matter of law, this is an inadequate basis for an expert

⁹⁶ Nance, *supra* note 1, at 237.

⁹⁷ *Id.* at 231.

⁹⁸ See, e.g., Warren Burger, *Abuses of Discovery*, 20 TRIAL 19 (Aug. 1984).

⁹⁹ GEORGE VETTER, SUCCESSFUL CIVIL LITIGATION 145 (1977); see also Lieberman v. United States, 839 F. Supp. 263, 265 (S.D.N.Y. 1983) (asserting that protracted pretrial litigation “can be a weapon of oppression”).

¹⁰⁰ Lloyd Dixon & Brian Gill, *Changes in the Standard for Admitting Expert Evidence in Federal Civil Cases Since the Daubert Decision*, 8 PSYCHOL., PUB. POL’Y & L. 251, 292-99 (2002); see also GEORGE FISHER, EVIDENCE 638 (2002).

¹⁰¹ Joseph Sanders, *The Merits of the Paternalistic Justification for Restrictions on the Admissibility of Expert Evidence*, 33 Seton Hall L. Rev. 881 (2003).

opinion.¹⁰² Once the expert identifies his or her major premise, the judge will know what must be validated.

At the next step, the judge should press the expert's proponent to specify why the proponent wants to introduce the testimony about the theory or technique. Is the proponent introducing the testimony for purely descriptive or summarizational purposes? If so, the proponent's reliability foundation must demonstrate that the expert has had a large number of similar experiences. In contrast, if the proponent wants to proffer the testimony for inferential or translational purposes, the reliability foundation must be more extensive. Ideally, the proponent can marshal testimony about controlled experimentation and induction validating the inference. Even in the case of non-scientific expertise, however, the proponent should usually be obliged to lay a foundation establishing the results of the use of the theory or technique and demonstrating that those results show that the theory or technique enables the expert to accurately draw the inference in question.

Finally, particularly in the case of inferential or translational claims, the judge ought to insist that the expert specify the degree of certitude of his or her final opinion. The degree of allowable certitude depends in large part on the state of the research data cited as validation for the theory or technique. In some cases, the state of those data will not support anything beyond a conclusion that there is a possible nexus between *A* and *B*.

The answers to these three questions specify the proponent's "claim" about the proffered expert evidence. For example, after analyzing the questions, the judge might conclude that the proponent is essentially claiming that by invoking the rape trauma syndrome theory (step #1), the proponent's expert can accurately determine whether there is a probability (step #3) that the complainant was in fact (step #2) raped. To make the required "reliability" determination, the judge would inquire whether, as a matter of logic, the proponent's foundation is adequate to support that precise claim. At each step in the analysis, the judge would be making a familiar inquiry. The first step is similar to the starting point in authentication analysis, the next step is analogous to a common stage in character and hearsay analysis, and the final step is parallel to a frequent inquiry in applying the personal knowledge doctrine.

Admittedly, this approach does not constitute a mathematical

¹⁰² *Kumho*, 526 U.S. at 157; *Joiner*, 522 U.S. at 146.

algorithm, and it will not mechanically yield judicial rulings. To an important degree, this approach requires the trial judge to exercise prudential judgment in making such determinations as whether there are enough prior experiences and whether they are similar enough to the facts in the instant litigation. Ultimately, no matter what verbal formula we add as gloss to Rule 702, there may be no escape from reliance on the trial judiciary's judgment and common sense. In the final analysis, however, that conclusion should come as no surprise. As the late Karl Popper once remarked, science itself is only "common-sense knowledge writ large."¹⁰³

¹⁰³ K.R. POPPER, *THE LOGIC OF SCIENTIFIC DISCOVERY* 22 (1959); *see also Daubert*, 509 U.S. at 593-94; ZIMAN, *supra* note 26, at 135.