

10-18-2012

The Genesis and Evolution of Legal Uncertainty About "Reasonable Medical Certainty"

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THE GENESIS AND EVOLUTION OF LEGAL UNCERTAINTY ABOUT "REASONABLE MEDICAL CERTAINTY"

JEFF L. LEWIN*

This Article traces the history of the creation and dissemination of the phrase "reasonable medical certainty," which attorneys routinely employ in questions eliciting opinion testimony from physicians. In disputes ranging from mundane slip-and-fall cases to complex toxic tort class actions, the outcome of litigation frequently hinges on the willingness of physicians to express opinions about causation or damages with a "reasonable degree of medical certainty." Although judges expect, and sometimes insist, that expert opinions be expressed with "reasonable medical certainty," and although attorneys ritualistically intone the phrase, no one knows what it means! No consensus exists among judges, attorneys, or academic commentators as to whether "reasonable medical certainty" means "more probable than not" or "beyond a reasonable doubt" or something in between.

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This Article is dedicated to Donna M. Byrne for her courage in confronting the absence of "reasonable medical certainty."

Written in 1997, this Article commemorates the centenary of the birth of Judge Irving Goldstein (1897-1968). For assistance in obtaining information about Judge Goldstein, I am grateful to attorney Fred Lane of Illinois, Kevin Leonard of the Northwestern University Archives, and Pegeen Bassett of the Northwestern University Law Library. Fred Lane persisted in several months of voice-mail tag in order to share the insights and information gained through his years of collaboration with Judge Goldstein. Kevin Leonard deserves special thanks for sending me copies of several items from the Northwestern University Archives and for patiently reading me excerpts from documents that could not readily be photocopied.

In order to verify the results of the numerous database searches described in the Article, the editors repeated all of these searches. Unless otherwise indicated, the dates set forth in the footnotes reflect searches performed by the *Maryland Law Review* staff.

I want to express my appreciation for the assistance of several friends and colleagues on my own campus. Melanie Susan Williams-Lewonski diligently assisted in compiling the cases and statutes containing the phrase "reasonable medical certainty." John Culhane offered perceptive editorial comments on an earlier draft. Thomas J. Reed patiently waded through two drafts and challenged me to explain why anyone should care about this history. David Hodas encouraged my perseverance on this project and made helpful suggestions about its scope. Still closer to home, Alison Williams Lewin provided essential emotional support and her usual editorial insight, while Gregory Pearce Lewin tolerated my monopolization of our personal computer.

This inquiry into the origins of the phrase grew out of efforts to determine the "best" interpretation of the phrase in current usage. Whereas previous commentators concluded that its origins were "obscure" or "somewhat of a mystery," this Article concludes that the phrase originated in Chicago, Illinois, sometime between 1915 and 1930, and that a singular Illinois opinion served as both the inspiration and the template for the creation of the phrase. The Article then traces the appearance of the phrase in published judicial opinions and analyzes the judicial interpretations of the meaning and legal significance of the phrase prior to 1970.

The history depicts the genesis and dissemination of the phrase "reasonable medical certainty" as an evolutionary process involving the dynamic interaction among various components of the legal system. Without proposing a theory of legal evolution, the Article suggests that the emerging field of Complexity Theory, the science of nonlinear dynamic systems, may illuminate our understanding of the mechanisms by which legal change occurs. While the phrase was generated by the efforts of Illinois attorneys to comply with legal doctrine, litigators in other states adopted this curious phrase through unreflective imitation of models provided in a best-selling manual on trial technique. The phrase was then incorporated into legal doctrine through the judiciary's uncritical acceptance of this attorney usage. The judicial response to the phrase thus exemplifies the generation of legal rules by chance instead of by deliberate judicial choice. This history tends to refute the Panglossian adaptationist notion that appropriate legal rules inevitably evolve as the legal system progressively responds to changing social needs.

Consistent with Complexity Theory, this evolutionary process was "chaotic" insofar as it was highly contingent on chance events, and it manifested "path dependence" insofar as it irreversibly altered the legal landscape to generate a stable equilibrium of doctrine and usage. Although developments in evidence and tort law since 1970 have raised questions about the appropriateness of the phrase as a legal standard, it remains firmly entrenched in legal practice, and its incorporation in dozens of statutes assures that attorneys, physicians, and judges will continue to wrestle with this oxymoronic phrase into the next century.

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INTRODUCTION

"Doctor, do you have an opinion with reasonable medical certainty as to the cause of the plaintiff's injuries?" In disputes ranging from mundane slip-and-fall cases to exotic toxic tort litigation, attorneys throughout the United States routinely request that physicians express their expert opinions with "reasonable medical certainty" or "a reasonable degree of medical certainty" (hereinafter "the phrase").¹ As the Supreme Court of the United States has recognized, "[w]ithin the medical discipline, the traditional standard for 'factfinding' is a 'reasonable medical certainty.'"²

Physicians provide essential opinion testimony on the issues of causation and damages in virtually all civil actions for wrongful death

1. For ease of exposition, "the phrase" refers to "reasonable medical certainty," "reasonable degree of medical certainty," and other variant forms, such as "reasonable certainty from a medical viewpoint" or "a reasonable degree of medical and surgical certainty." Reference in certain contexts to "the precise phrase" is meant to exclude all variant forms other than "reasonable medical certainty" or "reasonable degree of medical certainty."

2. *Addington v. Texas*, 441 U.S. 418, 430 (1979).

or personal injury,³ actions which generate well over half of all civil trials.⁴ Likewise, in workers' compensation claims, which frequently are handled in administrative proceedings, physicians must supply reports or testimony to establish the extent and permanence of each claimant's injuries and the crucial element of the causal connection to a workplace accident.⁵ In all such proceedings, the outcome may hinge on the willingness of a physician to express an opinion with "reasonable medical certainty."⁶

Persuasive opinion testimony with "reasonable medical certainty" was crucial, for example, to the plaintiffs' victories in two of the most controversial toxic tort cases from the 1980s,⁷ while physicians' inability to express opinions with "reasonable medical certainty" was fatal to plaintiffs' claims in other high profile toxic tort litigation.⁸ In the protracted litigation over birth defects allegedly caused by the anti-nausea drug Bendectin, experts on both sides expressed their opinions about

3. In a 1985-1986 study of civil jury trials in California, expert witnesses, primarily physicians, testified in 95% of all trials involving wrongful death or personal injury. Samuel R. Gross, *Expert Evidence*, 1991 WIS. L. REV. 1113, 1119.

4. In studies of civil jury trials in California in 1985-1986 and 1990-1991, over 70% of the cases involved personal injury claims of one sort or another. Samuel R. Gross & Kent D. Syverud, *Don't Try: Civil Jury Verdicts in a System Geared to Settlement*, 44 UCLA L. REV. 1, 5-6, 11 & n.32 (1996).

5. See, e.g., *Johnson v. Industrial Comm'n*, 93 N.W.2d 439, 445 (Wis. 1958) (discussed *infra* note 305).

6. See, e.g., *infra* notes 7-9, 68-78, 415-416, 426-435.

7. See *Wells v. Ortho Pharm. Corp.*, 615 F. Supp. 262, 266, 272, 286, 292-95 (N.D. Ga. 1985) (relying on expert testimony with a "reasonable degree of medical certainty" that the spermicide Ortho-Gynol caused birth defects), *aff'd and modified in part*, 788 F.2d 741, 743, 745 (11th Cir. 1986); *Ferebee v. Chevron Chem. Co.*, 552 F. Supp. 1293, 1296 (D.D.C. 1982) (mem.) (noting doctors' testimony with a "reasonable degree of medical certainty" that the herbicide paraquat caused decedent's illness), *aff'd*, 736 F.2d 1529 (D.C. Cir. 1984). *But cf.* Bert Black, *A Unified Theory of Scientific Evidence*, 56 FORDHAM L. REV. 595, 670-74 (1988) (criticizing *Wells* and *Ferebee*); Harold P. Green, *The Law-Science Interface in Public Policy Decisionmaking*, 51 OHIO ST. L.J. 375, 390 (1990) ("The scientific community responded to this case [*Wells*] with great vigor. . . . The [*New York Times*] labelled Judge Shoob's and the Court of Appeals' position an 'intellectual embarrassment'. . . ."); *id.* at 393 ("If one assumes that the judge accurately and fairly characterized the testimony of the experts, his conclusion about these matters seems to be sound and reasonable, although not necessarily correct."); Gross, *supra* note 3, at 1121-24 (criticizing *Wells*); Marc S. Klein, *After Daubert: Going Forward with Lessons from the Past*, 15 CARDOZO L. REV. 2219, 2222 & n.18 (1994) (stating that 90 journal and law review articles cite *Wells*, frequently in conjunction with *Ferebee*, and that "[m]ost commentators agree that the trial judge in *Wells* . . . clearly erred in his factual finding . . .").

8. E.g., *Brown v. Southeastern Pa. Transp. Auth.* (*In re Paoli R.R. Yard PCB Litig.*), 35 F.3d 717, 750-72 (3d Cir. 1994) (applying Pennsylvania law); *Sterling v. Velsicol Chem. Corp.*, 855 F.2d 1188, 1203-04 (6th Cir. 1988) (applying Tennessee law); *Johnston v. United States*, 597 F. Supp. 374, 412 (D. Kan. 1984) (mem.) (applying Kansas law).

the drug's teratogenicity with a reasonable degree of medical or scientific certainty.⁹

The phrase "reasonable medical certainty" appears in roughly 4000 state court appellate opinions¹⁰ and nearly 1000 opinions from the federal trial and appellate courts,¹¹ while the equivalent expressions of "reasonable [you-name-it] certainty" by non-physician experts appear in hundreds of other cases.¹² These published opinions repre-

9. *E.g.*, DeLuca v. Merrell Dow Pharms., Inc., 911 F.2d 941, 943-44 (3d Cir. 1990); Turpin v. Merrell Dow Pharms., Inc., 736 F. Supp. 737, 739 (E.D. Ky. 1990) (mem.), *aff'd*, 959 F.2d 1349 (6th Cir. 1992); Daubert v. Merrell Dow Pharms., Inc., 727 F. Supp. 570, 574-75 (S.D. Cal. 1989) (mem.), *aff'd*, 951 F.2d 1128 (9th Cir. 1991), *vacated*, 509 U.S. 579 (1993); Richardson v. Richardson-Merrell, Inc., 649 F. Supp. 799, 801 (D.D.C. 1986) (mem.), *aff'd*, 857 F.2d 823 (D.C. Cir. 1988); Oxendine v. Merrell Dow Pharms., Inc., No. CIV. 82-1245, 1996 WL 680992, at *2 (D.C. Super. Ct. Oct. 24, 1996) (mem.); Merrell Dow Pharms., Inc. v. Havner, 907 S.W.2d 535, 556-57 (Tex. App. 1994), *rev'd*, 953 S.W.2d 706 (Tex. 1997).

10. Search of WESTLAW, Allstates Database (Oct. 16, 1997) (da(bef 1/1/1997) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 3987 cases); Search of WESTLAW, Allstates-old Database (Oct. 25, 1997) ("reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 22 cases). These search results are broken down on a year-by-year basis in Appendix A and on a state-by-state basis in Appendix B.

The narrow search for these precise phrases excludes several significant variant forms, such as "reasonable certainty from a medical viewpoint" or "reasonable degree of medical and surgical certainty." Broader searches capture most of these variants but also include many opinions in which these words were not used in the sense of "reasonable medical certainty." Search of WESTLAW, Allstates Database (Oct. 16, 1997) (da(bef 1/1/1997) & reasonable /s medical /s certainty) (retrieving 4521 cases); Search of WESTLAW, Allstates-old Database (Oct. 20, 1997) (reasonable /s medical /s certainty) (retrieving 85 cases); Search of WESTLAW Allstates Database (da(bef 1/1/1997) & reasonable /6 medical /6 certainty) (retrieving 4228 cases); Search of WESTLAW, Allstates-old Database (Oct. 20, 1997) (reasonable /6 medical /6 certainty) (retrieving 39 cases).

11. Search of WESTLAW, Allfeds Database (Oct. 20, 1997) (da(bef 1/1/1997) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 896 cases); Search of WESTLAW, Allfeds-old (Oct. 20, 1997) ("reasonable degree of medical certainty" "reasonable medical certainty") (retrieving 3 cases); *see also* Appendix A (presenting year-by-year figures). Broader searches yielded a few additional cases, not all of which use the words in the sense of "reasonable medical certainty." Search of WESTLAW, Allfeds Database (Oct. 20, 1997) (da(bef 1/1/1997) & reasonable /s medical /s certainty) (retrieving 1015 cases); Search of WESTLAW, Allfeds Database (Oct. 20, 1997) (da(bef 1/1/1997) & reasonable /6 medical /6 certainty) (retrieving 957 cases); Search of WESTLAW, Allfeds-old Database (Jan. 26, 1998) (reasonable /s medical /s certainty) (retrieving 9 cases); Search of WESTLAW, Allfeds-old Database (Jan. 26, 1998) (reasonable /6 medical /6 certainty) (retrieving 4 cases).

12. The phrase "reasonable medical certainty" has spawned numerous variants for non-physician experts. The WESTLAW Allcases database contains hundreds of cases in which experts expressed opinions with a "reasonable (degree of) _____ certainty," with the blank filled by "scientific" (479), "professional" (62), "psychological" (97), "psychiatric" (40), "chiropractic" (24), "dental" (23), or "nursing" (6). Search of WESTLAW, Allcases Database (Oct. 27, 1997) (da(bef 1/1/1997) & "reasonable degree of _____ certainty" "reasonable _____ certainty") (retrieving numbers of cases indicated for each variant).

sent only a minute percentage of cases in which physicians have been asked to express opinions with "reasonable medical certainty" in trials, depositions, or expert reports.¹³

Because these "magic words"¹⁴ have achieved "occult"¹⁵ or "talismanic"¹⁶ status in the interrogation of medical witnesses, one would expect the phrase to have a definite and ascertainable meaning. Yet, the phrase seems to have various meanings in different jurisdictions and different contexts,¹⁷ generating substantial confusion among the

As a teacher of trial advocacy, my personal favorite was attorney Thomas Demetrio's attempt to elicit an opinion "based upon a reasonable degree of nuclear radiation safety certainty" in NITA's "Training the Advocate" videotape series. See ROBERT E. OLIPHANT, TRAINING THE ADVOCATE: PROGRAM PLANNER'S GUIDE 6-20 (1983).

13. See *infra* notes 231-232 and accompanying text for a discussion of the empirical shortcomings of using reported cases as evidence of the actual practices of lawyers in pre-trial and trial proceedings.

14. Opinions referring to the phrase as "magic" or "magical words" include *Redland Soccer Club, Inc. v. Department of the Army of the United States*, 55 F.3d 827, 852 (3d Cir. 1995), *Blake v. Juskevich*, No. 92-2514, 1993 WL 281668, at *3 (4th Cir. July 28, 1993) (per curiam), *Thompson v. Underwood*, 407 F.2d 994, 997 (6th Cir. 1969), *Ferebee v. Chevron Chemical Co.*, 552 F. Supp. 1293, 1302 (D.D.C. 1982) (mem.), *aff'd*, 736 F.2d 1529 (D.C. Cir. 1984), *Aspiazu v. Orgera*, 535 A.2d 338, 342 (Conn. 1987), *Castro v. Florida Juice Division*, 400 So. 2d 1280, 1282 (Fla. Dist. Ct. App. 1981), *Kunnanz v. Edge*, 515 N.W.2d 167, 172 (N.D. 1994), *Williams v. Workmen's Compensation Appeal Board*, 562 A.2d 437, 440 (Pa. Commw. Ct. 1989), and *Island Creek Coal Co. v. Breeding*, 365 S.E.2d 782, 788 (Va. Ct. App. 1988).

15. See *Breidler v. Industrial Comm'n*, 383 P.2d 177, 179 (Ariz. 1963) (referring to the phrase as "occult words").

16. Opinions referring to the phrase as "talismanic" include *Holbrook v. Lykes Bros. Steamship Co.*, 80 F.3d 777, 785 (3d Cir. 1996), *Aspiazu*, 535 A.2d at 342, *Thornhill v. City of Detroit*, 369 N.W.2d 871, 872 (Mich. Ct. App. 1985) (per curiam), *Bynote v. National Super Markets, Inc.*, 891 S.W.2d 117, 125 (Mo. 1995) (en banc), *Loura v. Adler*, 664 N.E.2d 1002, 1005 (Ohio Ct. App. 1995) (per curiam), *Westmoreland Coal Co. v. Campbell*, 372 S.E.2d 411, 416 (Va. Ct. App. 1988), and *Hashimoto v. Marathon Pipe Line Co.*, 767 P.2d 158, 164 n.9 (Wyo. 1989) (quoting *Aspiazu*, 535 A.2d at 342). See also Nancy Levit, *Ethereal Torts*, 61 GEO. WASH. L. REV. 136, 168 (1992) ("[T]he talismanic formula for establishing causation in any suit for bodily injury is a probabilistic one: the expert's opinion must be to a 'reasonable degree of medical certainty.'" (emphasis added)).

17. WILLIAM J. CURRAN & E. DONALD SHAPIRO, LAW, MEDICINE, AND FORENSIC SCIENCE 265 (3d ed. 1982) ("The minimum degree of certainty with which a medical expert must speak varies according to the subject matter of the case and according to the jurisdiction."); Marvin Firestone, *With Reasonable Medical Certainty (Probability): The Correct Answer Is Not the Right Answer, but the Best Answer*, LEGAL ASPECTS MED. PRAC., June 1984, at 1, 1 ("The exact meaning of medical certainty and medical probability varies somewhat from jurisdiction to jurisdiction and on the circumstances involved."); Jonas R. Rappeport, *Reasonable Medical Certainty*, 13 BULL. AM. ACAD. PSYCHIATRY & L. 5, 8 (1985) ("Again, there are different rules in different jurisdictions. The standard of certainty required also varies depending on whether the issue is causation, present condition, or future problems."); cf. Richard Rogers, *Ethical Dilemmas in Forensic Evaluations*, 5 BEHAV. SCI. & L. 149, 155-56 (1987) (noting the "considerable variability in the definition of 'reasonable degree' and 'certainty'" when courts review expert opinion under the "reasonable degree of medical or psychological certainty" standard, and providing "a tentative model for ascertaining the

bench and bar,¹⁸ as well as for physicians who are called upon to provide expert testimony.¹⁹

Existing legal confusion about the meaning and purpose of the phrase represents a potential trap for unwary attorneys and their clients. Courts frequently exclude reliable and probative medical testimony or treat it as legally insufficient because physician witnesses fail to express their opinions with "reasonable medical certainty" or are unable to do so when asked.²⁰ Conversely, the rhetorical power of the phrase may seduce judges and jurors into accepting conclusory expressions of certitude in lieu of meaningful analysis of the underlying methodology and data.²¹

Although the phrase "reasonable medical certainty" has no definitive meaning today, it must have meant something to those who first used it. My research into the origins of the phrase began as part of a

degree of certainty [that a court may require] in comparison to legal analogues and representative criteria"). The cases are discussed *infra* notes 375-471.

18. Black, *supra* note 7, at 669 ("[R]easonable certainty adds nothing to the law except the opportunity for confusion."); James E. Hullverson, Jr., *Reasonable Degree of Medical Certainty: A Tort et a Travers*, 31 ST. LOUIS U. L.J. 577, 577 (1987) ("The phrase has been a source of confusion, frustration, and endless interpretation for litigants, trial judges, and appellate courts.").

19. See Mark D. Howard, *Proving Causation with Expert Opinion: How Much Certainty Is Enough?*, 74 ILL. B.J. 580, 584 (1986) ("Most experts, other than professional witnesses, are unfamiliar with the 'reasonable certainty' language used in court."); Rappeport, *supra* note 17, at 5 ("Doctors testify to it daily, but they do not know what it means."); Edward R. Stein, *The Direct Examination of the Expert Witness*, in FAUST F. ROSSI, *EXPERT WITNESSES* 193, 220 (1991) ("[P]ractically nobody knows what it means. Many experts can be frightened off the witness stand if they have not been prepared for a question that includes the word 'certainty.' They think it means 'for sure,' a concept that does not exist for most expert witnesses."). For examples of witnesses' different interpretations, see *infra* notes 87-88, 92, 426-431, 461-467 and accompanying text.

20. See *Bertram v. Wunning*, 385 S.W.2d 803, 807 (Mo. Ct. App. 1965) (deeming testimony as to 90% probability insufficient because it was not expressed with "reasonable medical certainty"); see also *infra* notes 426-434 and accompanying text (discussing *Bertram*). Appellate courts have reversed judgments resulting from witness confusion about the meaning of "reasonable medical certainty" that misled trial courts into ruling that their testimony was inadmissible or insufficient to support a verdict. *E.g.*, *Dellenbach v. Robinson*, 642 N.E.2d 638, 648 & n.6 (Ohio Ct. App. 1993) (reversing a judgment for a defendant, because the trial court erred in excluding the testimony of a physician who misunderstood the meaning of "reasonable degree of medical certainty" and therefore failed to express his opinion using those exact words). Although a reversal corrects the unjust outcome in such cases, the flawed initial trial imposes unnecessary costs on the parties and taxpayers. More fundamentally, because appellate courts cannot correct all such errors, the confusion associated with the phrase undoubtedly yields unjust results in many cases.

21. Black, *supra* note 7, at 667-74. For example, expressions of "reasonable medical certainty" contributed to the courts' acceptance of arguably unreliable expert testimony in *Ferebee* and *Wells*. See *supra* note 7.

quest for the "best" interpretation of the phrase in current usage.²² I suspected that an inquiry into the "original intent" of the creators of this phrase might shed some light on its current meaning.²³ In particular, I hypothesized that certain current usages might be consistent with the phrase's original meaning, while others might represent extensions or distortions thereof.²⁴ An alternative hypothesis was that the phrase had been created to meet a need which no longer exists.²⁵

22. That inquiry continues. See Jeff L. Lewin, *Toward the End of Legal Uncertainty About "Reasonable Medical Certainty"* (current working draft manuscript, on file with author). (The concept of the "best" interpretation derives from RONALD DWORKIN, *LAW'S EMPIRE* 225-28 & *passim* (1986).)

23. Of course, there is substantial controversy among both constitutional scholars and literary theorists about the relevance of authorial intent and the possibility of ascertaining it. See generally Paul Brest, *The Fundamental Rights Controversy: The Essential Contradictions of Normative Constitutional Scholarship*, 90 *YALE L.J.* 1063, 1065 (1981) (arguing that no defensible criteria exist to assess theories of judicial review as "non-originalist, substantive, value-oriented constitutional adjudication"); Owen M. Fiss, *Objectivity and Interpretation*, 34 *STAN. L. REV.* 739, 750-51 (1982) (explaining "how objective interpretation becomes possible in the law" and how "adjudication [as] an interpretive activity . . . possesses an objective character"); Sanford Levinson, *Law as Literature*, 60 *TEX. L. REV.* 373 (1982) (discussing authorial intent in the context of the Constitution); Symposium, *Interpretation Methodologies from Other Disciplines*, 58 *S. CAL. L. REV.* 1 (1985) (describing interpretation problems in four nonlegal disciplines—science, literature, anthropology, and theology—and discussing hermeneutics and legal interpretation); Mark V. Tushnet, *Following the Rules Laid Down: A Critique of Interpretivism and Neutral Principles*, 96 *HARV. L. REV.* 781 (1983) (discussing the shortcomings of interpretivism and the search for the Framers' intent).

24. That certain usages were inconsistent with the original meaning of the phrase would not necessarily render them invalid or inappropriate, however, for common law courts frequently use a single term to serve multiple purposes in diverse contexts. See, e.g., JESSE DUKEMINIER & JAMES E. KRIER, *PROPERTY* 37 (3d ed. 1993) (citing cases holding that government "owns" wild animals for purposes of hunting regulation but does not "own" wild animals with respect to liability for damages they cause to farmers); *id.* at 736 (discussing the proposition that A's late-recorded deed may not give C constructive notice but may preclude C from being first-to-record in a notice-race jurisdiction: "Why should the word 'recorded' be given one meaning when the problem is whether A's deed is recorded so as to give constructive notice and another when the problem is whether C has recorded first?").

25. Again, this would not necessarily render current usages invalid so long as they could be justified in relation to contemporary applications. Oliver Wendell Holmes noted:

The customs, beliefs, or needs of a primitive time establish a rule or a formula. In the course of centuries the custom, belief, or necessity disappears, but the rule remains. The reason which gave rise to the rule has been forgotten, and ingenious minds set themselves to inquire how it is to be accounted for. Some ground of policy is thought of, which seems to explain it and to reconcile it with the present state of things; and then the rule adapts itself to the new reasons which have been found for it, and enters on a new career. . . .

. . . .
 . . . But just as the clavicle in the cat only tells of the existence of some earlier creature to which a collar-bone was useful, precedents survive in the law long after the use they once served is at an end and the reason for them has been forgotten. . . .

A third possibility was that the phrase was generated and disseminated by a series of historical accidents and never served any purpose whatsoever.²⁶

Whereas previous commentators concluded that the source of the phrase was “obscure”²⁷ or “somewhat of a mystery,”²⁸ I believe that I have discovered its roots. With the aid of on-line computer databases, I traced the phrase back to Chicago, Illinois, in the early 1930s, and I pinpointed a 1916 case that, with reasonable certainty, inspired the creation of the phrase.²⁹ Even more significantly, I discovered how the phrase spread beyond the borders of Illinois after 1935 and took root in the legal lexicon by the end of the 1950s.

While the history of the genesis and propagation of the phrase “reasonable medical certainty” is crucial to understanding its current meaning, it also provides a fascinating case study of the evolution of legal doctrine in relation to the actual practice of trial attorneys. Moreover, this history illustrates the relative influence of “scholarly” versus “practical” legal publications as exemplified in the works of two members of the Northwestern University law faculty: John Henry Wig-

... [I]t will be found that, when ancient rules maintain themselves . . . , new reasons more fitted to the time have been found for them, and that they gradually receive a new content, and at last a new form, from the grounds to which they have been transplanted.

...
 When we find that in large and important branches of the law the various grounds of policy on which the various rules have been justified are later inventions to account for what are in fact survivals from more primitive times, we have a right to reconsider the popular reasons, and, taking a broader view of the field, to decide anew whether those reasons are satisfactory. They may be, notwithstanding the manner of their appearance.

OLIVER WENDELL HOLMES, JR., *THE COMMON LAW* 5, 35-37 (1881).

26. Cf. Robert W. Gordon, *Critical Legal Histories*, 36 *STAN. L. REV.* 57, 71-125 (1984) (criticizing the legal functionalist view, which posits that legal rules are progressive adaptations to changing social needs); STEPHEN JAY GOULD, *THE PANDA'S THUMB: MORE REFLECTIONS IN NATURAL HISTORY* 19-26 (1980) (explaining that the evolution of the panda's thumb is inconsistent with the adaptationist view of evolutionary biology, which purports to justify all anatomical structures in terms of their original contribution to evolutionary fitness); Stephen Jay Gould, *Evolution: The Pleasures of Pluralism*, N.Y. REV. BOOKS, June 26, 1997, at 47, 52 (“[E]ven the strictest operation of pure Darwinism builds organisms full of nonadaptive parts and behaviors.”).

27. See Hullverson, *supra* note 18, at 578 (“The origins of the phrase are obscure, its evolution accidental”); cf. Michael M. Martin, *The Uncertain Rule of Certainty: An Analysis and Proposal for a Federal Evidence Rule*, 20 *WAYNE L. REV.* 781, 786-808 (1974) (tracing the development of the “rule of certainty,” without focusing on reasonable *medical* certainty, as a standard of admissibility in Illinois, Pennsylvania, and New York).

28. Walter E. Smith & S. Victor Tipton, *A Quest for “Reasonable Medical Certainty” in Florida*, 30 *FLA. B.J.* 327, 327 (1956).

29. See *Fellows-Kimbrough v. Chicago City Ry. Co.*, 111 N.E. 499 (Ill. 1916); see also *infra* notes 137-138, 152-160 and accompanying text (discussing *Fellows-Kimbrough*).

more,³⁰ the dean of the law school and the author of the definitive scholarly treatise on American evidence law,³¹ and Irving Goldstein,³² an adjunct instructor at the law school³³ and the author of a best-selling practical manual on trial technique.³⁴ Because the history of "reasonable medical certainty" raises jurisprudential issues that do not bear directly on the significance of the phrase in modern evidence and tort law, this Article will focus on the evolution of the phrase prior to 1970, leaving questions of current doctrine for consideration in a subsequent piece.³⁵

This Article depicts the genesis and dissemination of the phrase "reasonable medical certainty" as an evolutionary process involving the dynamic interaction among various components of the legal system, including the interplay between legal doctrine and legal practice and the influence of practical legal publications as well as jurisprudential theory. Without proposing a theory of legal evolution, this Article suggests that the emerging field of "Complexity Theory"³⁶ may illumi-

30. John Henry Wigmore (1863-1943) joined the faculty of the Northwestern University Law School in 1893. WILLIAM R. ROALFE, JOHN HENRY WIGMORE 32 (1977). He accepted the position as dean in 1901, *id.* at 45, serving in that capacity until 1929. *Id.* at 78-80.

31. See JOHN HENRY WIGMORE, A TREATISE ON THE SYSTEM OF EVIDENCE IN TRIALS AT COMMON LAW (1st ed. 1905) [hereinafter WIGMORE, first edition] (4 volumes); JOHN HENRY WIGMORE, A TREATISE ON THE ANGLO-AMERICAN SYSTEM OF EVIDENCE IN TRIALS AT COMMON LAW (2d ed. 1923) [hereinafter WIGMORE, second edition] (5 volumes); JOHN HENRY WIGMORE, A TREATISE ON THE SYSTEM OF EVIDENCE IN TRIAL AT COMMON LAW (3d ed. 1940) [hereinafter WIGMORE, third edition] (10 volumes). Subsequent to Wigmore's death, a revised fourth edition of 11 volumes was published between 1961 and 1988.

32. Irving Goldstein (1897-1968) graduated from John Marshall Law School in 1919 and was admitted to the Illinois bar later that year. He practiced with several Chicago firms between 1919 and 1924 before founding the firm of Cohon & Goldstein, of which he was a member until 1954. From 1926 to 1928, he served as Assistant State's Attorney in Cook County. Goldstein became an associate judge on the Circuit Court of Cook County in 1964, serving on the court until his death in 1968. 5 MARQUIS WHO'S WHO, WHO WAS WHO IN AMERICA, 1969-1973, at 276 (1973); Northwestern University Archives Series 17/13; Editorial, MED. TRIAL TECH. Q., Summer 1972, at iii.

33. Goldstein taught trial technique at Northwestern University's School of Law for many years as an instructor (1934-1947) and later as a professorial lecturer (1949-1964). He also served as a lecturer on medical jurisprudence at Northwestern's School of Medicine (1944-1951). 5 MARQUIS WHO'S WHO, *supra* note 32, at 276; Northwestern University Archives Series 17/13.

34. IRVING GOLDSTEIN, TRIAL TECHNIQUE (1935). Working with attorney Fred Lane, Goldstein produced a revised second edition that was published in the year after his death. IRVING GOLDSTEIN & FRED LANE, GOLDSTEIN TRIAL TECHNIQUE (2d ed. 1969) (3 volumes, looseleaf). The third edition is still in print. See FRED LANE, GOLDSTEIN TRIAL TECHNIQUE (3d ed. 1996 & Supp. 1997) (3 volumes, looseleaf).

35. See *supra* note 22.

36. See *infra* notes 44-57 and accompanying text for a definition of Complexity Theory and a rudimentary explanation of its relevant teachings.

nate our understanding of the mechanisms by which legal change occurs.

Scholars frequently write about the "evolution" of legal rules or systems,³⁷ but they most commonly use the term as a synonym for "change" without having an evolutionary theory about the mechanisms of legal change.³⁸ "Evolutionary theories typically have three basic components: a theory of variation, a theory of selection, and a theory of transmission or retention."³⁹ The neo-Darwinian theory of biological evolution, for example, posits transmission of genetic information encoded in DNA, variation by genetic mutation and sexual recombination, and natural selection through differential rates of reproduction and survival ("survival of the fittest") in the interaction of organisms with their environment.⁴⁰

Law, like other cultural institutions, arises from conscious human activity, raising fundamental questions about the applicability of the neo-Darwinian evolutionary metaphor to legal change. Human institutions are inherently non-Darwinian insofar as they evolve through cultural transmission, a Lamarckian process involving the "inheritance of acquired characters."⁴¹ The retention and transmission of Ameri-

37. Variants of the words "evolution" or "evolve" appear in the titles of nearly 400 articles published since 1980. Search of WESTLAW, Jlr Database (Oct. 26, 1997) (da(bef 10/23/1997) & ti(evolution! evolve!)). Two excellent works examining the use of evolutionary models in American legal theory are E. Donald Elliott, *The Evolutionary Tradition in Jurisprudence*, 85 COLUM. L. REV. 38 (1985) and Herbert Hovenkamp, *Evolutionary Models in Jurisprudence*, 64 TEX. L. REV. 645 (1985). Other works examine the application of the evolutionary model to legal development. See generally Mark J. Roe, *Chaos and Evolution in Law and Economics*, 109 HARV. L. REV. 641, 641 (1996) (refining "the classical evolutionary model from law and economics by modifying it to accommodate three related concepts—one from chaos theory, another of path dependence, and a final one from modern evolutionary theory"); M.B.W. Sinclair, *Evolution in Law: Second Thoughts*, 71 U. DET. MERCY L. REV. 31, 31 (1993) [hereinafter Sinclair, *Second Thoughts*] (explaining "the attraction of the theory of evolution" and the "difficulties in applying the theory to law"); M.B.W. Sinclair, *The Use of Evolution Theory in Law*, 64 U. DET. L. REV. 451 (1987) [hereinafter Sinclair, *Evolution Theory*] (discussing evolutionary theory and its application to the law, and criticizing other authors' analyses of the subject). For a survey of pre-Darwinian European works on legal evolution, see PETER STEIN, *LEGAL EVOLUTION* (1980). For a cogent summary of the prior literature on evolutionary theory and its relationship to Complexity Theory, see J.B. Ruhl, *The Fitness of Law: Using Complexity Theory to Describe the Evolution of Law and Society and Its Practical Meaning for Democracy*, 49 VAND. L. REV. 1407 (1996).

38. Elliott, *supra* note 37, at 90-91; Sinclair, *Second Thoughts*, *supra* note 37, at 32.

39. Sinclair, *Second Thoughts*, *supra* note 37, at 36.

40. See Ruhl, *supra* note 37, at 1423. Ruhl notes that Darwin contributed only a theory of selection. Subsequent discoveries in genetics and population biology established the mechanisms of transmission and variation and refined our understanding of the selective advantage conferred by genetic mutation. *Id.* at 1434-35.

41. STEPHEN JAY GOULD, *BULLY FOR BRONTOSAURUS: REFLECTIONS IN NATURAL HISTORY* 63-65, 165 (1991); accord Gould, *supra* note 26, at 49-50; Sinclair, *Second Thoughts*, *supra* note 37, at 32-33.

can law result from its embodiment in written form (judicial opinions, constitutions, statutes, and regulations) in conjunction with the doctrine of stare decisis and related institutional and constitutional constraints.⁴² While some of the factors promoting retention of existing legal forms may operate subconsciously, the generation of new legal forms (i.e., variation) and the determination of which among various alternative forms will survive (i.e., selection) both involve conscious decisions by human actors. When a judge, legislator, or administrator is "making" law, any contemplated change necessarily must be the product of human design, and it is not obvious how the decisionmaker benefits from perceiving the change in evolutionary terms.⁴³

The insights offered by Complexity Theory,⁴⁴ the science of nonlinear dynamical systems,⁴⁵ provide a plausible justification for persisting in efforts to view the legal system from an evolutionary perspective. Complexity Theory has been used to model collective interactions of physical and biological systems such as weather and ecosystems.⁴⁶ Complexity Theory also purports to encompass

42. See Sinclair, *Evolution Theory*, *supra* note 37, at 456-59 (discussing factors promoting inertial retention of common law rules).

43. See Sinclair, *Second Thoughts*, *supra* note 37, at 39 ("That the variation or selection mechanisms in a developing system involve rational agency does not preclude an evolutionary explanation; however, it may diminish the value of such explanation" (footnote omitted)).

44. J.B. Ruhl explains:

Complexity Theory has been described as "the study of behavior of macroscopic collections of [interacting] units that are endowed with the potential to evolve over time." Peter Coveney and Roger Highfield, *Frontiers of Complexity: The Search for Order in a Chaotic World* 7 (Faber, 1995). Complexity Theory . . . is an overarching field of mathematical analysis of the behavior of nonlinear dynamical systems.

Ruhl, *supra* note 37, at 1409-10 n.5. In this and two related works, Ruhl provides a clear and accessible presentation of Complexity Theory, along with extensive citation to primary sources. See generally J.B. Ruhl, *Complexity Theory as a Paradigm for the Dynamical Law-and-Society System: A Wake-Up Call for Legal Reductionism and the Modern Administrative State*, 45 DUKE L.J. 849 (1996); J.B. Ruhl & Harold J. Ruhl, Jr., *The Arrow of the Law in Modern Administrative States: Using Complexity Theory to Reveal the Diminishing Returns and Increasing Risks the Burgeoning of Law Poses to Society*, 30 U.C. DAVIS L. REV. 405 (1997). My rudimentary knowledge (or my misunderstanding) of Complexity Theory derives almost entirely from my (mis)reading of Ruhl's articles. Interest in the topic was stimulated by an earlier reading of Andrew W. Hayes, *An Introduction to Chaos and Law*, 60 UMKC L. REV. 751 (1992).

45. Ruhl notes:

A system exists whenever two or more phenomena interact. The system is dynamical if the interactive relationship changes over time, and the system is nonlinear if the relationship of change is not strictly proportionate and thus cannot be graphed by a straight line.

Ruhl, *supra* note 37, at 1409 n.4.

46. *Id.* at 1438.

evolutionary biology and to reconcile certain anomalies within the neo-Darwinian evolutionary model.⁴⁷ More fundamentally, because Complexity Theory “is about evolution of all dynamical systems, biological, physical, and social,”⁴⁸ it should apply, at least by analogy,⁴⁹ to the relationship between law and society in a dynamical sociolegal system.⁵⁰

This Article suggests that Complexity Theory provides a fruitful metaphor for understanding the legal system itself, or more precisely, the relationships among its component parts. Instead of viewing “law” and “society” as the interacting entities in a “sociolegal” system,⁵¹ this Article views the law as a nonlinear dynamical system in its own right. This system consists of lawyers, judges, legislators, bureaucrats, law enforcement officers, and law professors, along with their respective institutional embodiments (the bar, the judiciary, the legislature, the administration, the police, and the academy). Such a system operates within and across national, state, and local jurisdictional boundaries.

In order to appreciate the relevance of Complexity Theory as a metaphor for legal evolution, one need not have a comprehensive or

47. *Id.* at 1416. In particular, the neo-Darwinian model suggests a pattern of gradual evolutionary change, whereas the fossil record depicts a pattern of “punctuated equilibrium” in which long periods of stability alternate with brief periods of mass extinction and rapid and dramatic diversification. See STEPHEN JAY GOULD, *WONDERFUL LIFE: THE BURGESS SHALE AND THE NATURE OF HISTORY* 227-39 (1989) (discussing Darwinian theory in the context of ecological change of the Burgess fauna); Gould, *supra* note 26, at 47 (discussing Daniel Dennett’s attacks on Gould and Eldredge’s theory of “punctuated equilibrium”). Punctuated equilibrium remains a contested theory among evolutionary theorists. Roe, *supra* note 37, at 663 n.44. Compare DANIEL C. DENNETT, *DARWIN’S DANGEROUS IDEA: EVOLUTION AND THE MEANINGS OF LIFE* 282-99 (1995) (disputing punctuated equilibrium) with NILES ELDRIDGE, *REINVENTING DARWIN: THE GREAT DEBATE AT THE HIGH TABLE OF EVOLUTIONARY THEORY* 93-124 (1995) (defending punctuated equilibrium), Stephen Jay Gould, *Darwinian Fundamentalism*, N.Y. REV. BOOKS, June 12, 1997, at 34, 36 (criticizing Dennett and defending punctuated equilibrium) and Gould, *supra* note 26, at 47-51 (same).

48. Ruhl, *supra* note 37, at 1417.

49. Because Complexity Theory involves mathematical analysis of dynamical systems whose components interact according to determinate rules, it cannot strictly apply to a legal or sociolegal system in which human actors are capable of exercising free will to violate any algorithms that might, in theory, govern human behavior. Although I remain an agnostic in the “free will versus determinism” debate, for purposes of engagement in normative legal scholarship, I presume that legal actors are capable of exercising free will. Cf. *infra* note 524 (discussing the controversy concerning the epistemological foundation of normative legal scholarship).

50. Ruhl, *supra* note 37, at 1417; Ruhl, *supra* note 44, at 854, 862.

51. In his discussion of the interaction of the “law-and-society” system, Ruhl generally treats “law” as a monolithic entity, and he implicitly assumes that the law can be shaped by conscious human manipulation. See Ruhl, *supra* note 44, at 916-26. He does not address the extent to which the law, as a nonlinear dynamical system, may prove resistant to such prescriptions for structural change. See *id.*

sophisticated understanding of nonlinear dynamical systems theory.⁵² With respect to the evolution of "reasonable medical certainty," the salient teachings of Complexity Theory are, quite simply, that a nonlinear dynamical system has the following three related characteristics: stability of potentially suboptimal local equilibria, "chaos" or contingency, and "path dependence."⁵³ Complexity Theory depicts evolutionary change occurring on a "fitness landscape," which constitutes a topographic representation of the relative fitness of each potential combination of the various qualities of the system components.⁵⁴ Evolution involves incremental movement to local "fitness peaks" that are marginally superior to nearby points on the fitness landscape, although they may be inferior to more distant points on that landscape. A component of a complex system may thus attain equilibrium in a configuration that is suboptimal with respect to present or future system conditions. Although not adaptively superior in a global sense, these local "fitness peaks" may represent stable equilibria and can be expected to persist until interrupted by some crisis or perturbation of the system.⁵⁵ A complex system exhibits "chaos" insofar as future configurations of the system are highly sensitive to contingent variations in the initial conditions and are thus difficult, if not impossible, to predict.⁵⁶ A complex system exhibits "path dependence" insofar as change in one component affects all other components of the system in ways that make change irreversible.⁵⁷

52. At least I hope this is true, because systematic treatment of Complexity Theory is beyond the scope of this Article, as well as beyond the competence of its author. Indeed, the discussion in this Article should be comprehensible on its own terms, even without regard to Complexity Theory.

53. The focus on these three characteristics follows Roe, *supra* note 37, at 642-43, who proposed to augment the "evolution-to-efficiency" hypothesis of Law and Economics with the "paradigms" of chaos, path dependence, and local equilibrium. Although derived from Complexity Theory, these characteristics of nonlinear dynamic systems can be derived without reference to that theory. For example, although Stephen Jay Gould does not employ the terminology of Complexity Theory, his theory of punctuated equilibrium in biological evolution emphasizes the importance of contingency and path dependence in a manner entirely consistent with these aspects of Complexity Theory. See Gould, *supra* note 47, at 35.

54. Ruhl, *supra* note 37, at 1448-50.

55. See Roe, *supra* note 37, at 642-43, 663-65 (noting the stability of local equilibrium until punctuated by crisis); Ruhl, *supra* note 37, at 1456-62 (emphasizing the stability of local equilibrium until "long jumps" occur across the fitness landscape).

56. See Ruhl, *supra* note 37, at 1438-39 ("[S]nowflakes form according to fixed rules of physics and chemistry, yet no two look alike . . . because no two undergo the exact same conditions of formation. . . . This is the *chaos* property—sensitive dependence on conditions in a system based on deterministic rules produces what appears to be random behavior.").

57. Ruhl & Ruhl, *supra* note 44, at 434-36 ("[A] system can not turn back along its trajectory to a point in the past. It may only make forward turns and curves."). Mark Roe

The history of the phrase “reasonable medical certainty” illustrates an evolutionary process consistent with these characteristics of Complexity Theory. The dynamic interplay of legal doctrine, legal practice, legal theory, and legal publications yielded a stable equilibrium of usage among attorneys that was reinforced only occasionally by legal doctrine.⁵⁸ The evolutionary process was chaotic insofar as it was highly contingent on chance events, and it manifested path dependence to the extent that it has irreversibly altered the legal landscape.

Whereas most articles begin with a survey of the historical background, this Article starts by surveying the contemporary foreground. Part I briefly summarizes the current diversity of opinion about the legal significance and meaning of “reasonable medical certainty,” providing both a justification for the historical inquiry into the creation, dissemination, and evolution of the phrase and a context for evaluating the results of this inquiry.

Part II investigates the genesis of “reasonable medical certainty,” explaining how the phrase arose from the efforts of the Illinois bar to accommodate two mutually inconsistent evidentiary rules adopted by the Illinois Supreme Court in the early years of the twentieth century: the “reasonable-certainty rule” and the “ultimate-issue rule.” The reasonable-certainty rule initially limited recovery of future damages to those damages that were “reasonably certain” to be incurred, but it was transformed from a rule of proof into a rule of admissibility, excluding testimony about future problems or conditions that were not

illustrates path dependence with the example of a winding road that cannot readily be straightened because it now is lined with homes and factories that were built along what originally was a fur trader’s path that wound through the woods to avoid a wolves’ den and other then-dangerous sites. Although the original reason for the curves in the road have long since vanished, intervening historical developments impede, if they do not absolutely preclude, construction of a better road. Roe, *supra* note 37, at 643-44.

Roe distinguishes among three degrees of path dependence: weak, semi-strong, and strong. *Id.* at 646-53. Weak path dependence attributes the survival of competing forms to contingent events, but without regard to their past or current efficiency. *Id.* at 647-48. Semi-strong path dependence, as in the winding road example, explains the current prevalence of suboptimal forms as resulting from their selective advantage in the past, coupled with subsequent investments that increase the cost of adopting alternative forms that later may turn out to be superior. *Id.* at 648-50. Strong path dependence would explain the current prevalence of suboptimal forms as resulting from changes in the landscape created by the path itself. “[B]eyond the sunk costs, . . . two path-created features . . . systematically impede change”: public choice, the political dynamic associated with the advantages of economic incumbents, and information barriers, whereby “society cannot think effectively about the alternative path because it lacks the vocabulary, concepts, or even belief that the other path could exist . . .” *Id.* at 651.

58. The sequel to this Article will argue that this equilibrium is suboptimal. See *supra* note 22.

reasonably certain to arise. The ultimate-issue rule precluded expert witnesses from "invading the province of the jury" by expressing definitive opinions related to such ultimate issues as causation. Thus, medical experts were *required* to testify with reasonable certainty concerning future damages, while at the same time they were *forbidden* from expressing definitive opinions concerning causation.

Dean Wigmore fulminated against these absurd rules, both in law review articles and in his treatise on evidence,⁵⁹ but to no avail. Meanwhile, the Illinois bar, taking its cue from a 1916 opinion of the Illinois Supreme Court, began framing questions that asked whether, "with reasonable medical certainty," the accident "might or could" have been the cause of the plaintiff's injuries. Between 1916 and 1935, this formula took root and became an established element in the lexicon of Illinois trial attorneys, including Irving Goldstein.

Part III explores the dissemination of the phrase beyond the borders of Illinois between 1935 and 1960. It explains how Goldstein's 1935 manual on *Trial Technique*⁶⁰ and his co-authored 1942 book on *Medical Trial Technique*⁶¹ served as the vectors that spread this unique Illinois form of expert interrogation to the remainder of the United States. The history of attorney usage of the phrase "reasonable medical certainty" and the judicial response thereto, as reflected in published judicial opinions, is consistent with the thesis that the phrase entered the legal lexicon through the bar's imitation of models in Goldstein's texts rather than as a result of judicial mandate. The systematic use of the phrase throughout the *American Jurisprudence Proof of Facts* series, which commenced publication in 1959, elevated the phrase above all competing formulations, assuring its singular role in the framing of questions to physicians. Thus, through unreflective imitations of models provided in practitioner-oriented texts, attorneys throughout the nation adopted this curious phrase for reasons having nothing to do with its original function.

Part IV studies the interpretation of the phrase during the 1960s. In states other than Illinois, the phrase interacted with indigenous doctrines respecting admissibility and sufficiency of proof, generating diverse interpretations of the phrase that enabled it to fill different ecological niches in a variety of dissimilar legal environments. The most unexpected conclusion from the review of judicial opinions through 1969 is that while most courts *expected* to hear medical opin-

59. See *infra* notes 106-107, 112, 134, 139-141 and accompanying text.

60. GOLDSTEIN, *supra* note 34.

61. IRVING GOLDSTEIN & L. WILLARD SHABAT, *MEDICAL TRIAL TECHNIQUE* (1942).

ions expressed with “reasonable medical certainty,” courts in surprisingly few jurisdictions *required* the phrase for purposes of admissibility or evidentiary sufficiency. In those jurisdictions that attributed legal significance to the phrase, the incorporation of the phrase into legal doctrine resulted from the judiciary’s uncritical acceptance of attorney usage without conscious consideration of its meaning. Insofar as courts defined the phrase, most treated it as equivalent to an expression that a fact was “probably” true, while only a few treated it as requiring a higher degree of certitude. At the beginning of the 1960s, the Illinois Supreme Court repudiated the ultimate-issue rule that had contributed to the birth of the phrase, but Illinois attorneys continued to use the phrase in eliciting expert opinions. At the end of the decade, an Illinois appellate court supplied a novel interpretation of the phrase that justified its continued survival in the new legal environment.

Part V explains the selection of 1970 as a terminal date for the historical analysis. It briefly surveys the transformations in evidence and tort law subsequent to 1970, including the adoption of the Federal Rules of Evidence, the new probabilistic approach to causation in toxic tort litigation, the recognition of novel causes of action in toxic tort and medical malpractice litigation, and the Supreme Court’s decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*⁶² These recent developments demonstrate that any meaningful evaluation of the current significance of the phrase “reasonable medical certainty” must occur in the context of a more comprehensive analysis of the role of expert medical testimony in modern tort litigation. While these cataclysmic changes in the legal environment threaten the continued viability of “reasonable medical certainty” as a term of art in litigation, the phrase has acquired a new role as a legal standard in modern legislation on a diverse array of subjects, assuring that lawyers and judges will continue to wrestle with the meaning of “reasonable medical certainty” well into the next century.

The conclusion of this Article assesses the history of the genesis and dissemination of the phrase from the perspective of Complexity Theory. The history reflects an evolutionary process involving a dynamical interplay among legal doctrine, legal practice, legal theory, and legal scholarship. Both the genesis and dissemination of the phrase resulted from practitioners’ efforts to conform with legal doctrine, and in turn, the resulting legal usage influenced the further development of legal doctrine. A discussion of the relationship be-

62. 509 U.S. 579 (1993).

tween academic and practical legal scholarship culminates in the recognition that, in addition to its impact on legal usage and legal doctrine, Goldstein's manual had a profound influence on trial practice and on the teaching of trial technique. Semantic analysis of the phrase with respect to jurisprudential issues associated with Legal Realism helps explain the rapidity of the diffusion of the phrase. The history of the phrase lends support to the claim that law is a complex adaptive system, characterized by contingency and path dependency, while it undermines the functionalist notion that law adapts to meet social needs.

I. FOREGROUND: CONTEMPORARY SIGNIFICANCE AND INTERPRETATIONS

According to conventional wisdom, attorneys were, and perhaps still are, compelled to use the phrase, because in many jurisdictions, common law rules of evidence require that medical opinion testimony be expressed with "reasonable medical certainty."⁶³ Today's leading trial advocacy texts declare that judges in "some," "many," or "most" jurisdictions will not admit a medical opinion into evidence unless it is expressed with "reasonable medical certainty."⁶⁴ Regardless of

63. See 1 PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, *SCIENTIFIC EVIDENCE* 155 (2d ed. 1993) ("Some jurisdictions require an expert to express an opinion in terms of reasonable scientific probability or certainty."); EDWARD J. IMWINKELRIED, *EVIDENTIARY FOUNDATIONS* 255 (3d ed. 1995) ("Some jurisdictions insist that the expert vouch that his or her opinion is 'reasonably certain.' Other jurisdictions demand a 'reasonably probable' opinion. The witness must be willing to testify that he or she has formed the opinion to a reasonable medical or scientific certainty or probability."); Stein, *supra* note 19, at 219 ("[The degree of certainty] can relate to the admissibility of the opinion. Some jurisdictions, and some judges, require that all questions calling for an opinion must call for it to a certain standard, usually 'a reasonable degree of medical certainty.'"). See generally Hullverson, *supra* note 18, at 578 (discussing the "semantic nuisance" of defining the phrase in various jurisdictions); Martin, *supra* note 27, at 782 (analyzing "the rule of certainty . . . in its various forms"); Phillip E. Hassman, Annotation, *Admissibility of Expert Medical Testimony as to Future Consequences of Injury as Affected by Expression in Terms of Probability or Possibility*, 75 A.L.R.3D 9, § 5, at 25-27 (1977) (citing cases requiring reasonable medical certainty in determining future consequences of injuries).

64. See ROGER HAYDOCK & JOHN SONSTENG, *TRIAL THEORIES, TACTICS, TECHNIQUES* 428 (1991) ("Some judges may require the attorney to use specific traditional words (legal jargon) as a predicate to the introduction of an opinion. Example: Q: Do you have an opinion based upon a reasonable degree of medical (or psychiatric, accounting, or other) certainty?"); JAMES W. JEANS, SR., *TRIAL ADVOCACY* 394 (2d ed. 1993) ("['Reasonable scientific certainty'] is the verbiage that establishes the threshold of admissibility in most jurisdictions."); THOMAS A. MAUET, *TRIAL TECHNIQUES* 276 (4th ed. 1996) ("[T]he expert can testify to an 'opinion' or, as is required in some jurisdictions, an 'opinion to a reasonable degree of scientific certainty.'"); JAMES W. McELHANEY, *McELHANEY'S TRIAL NOTEBOOK* 472 (3d ed. 1994) ("Some states said it was foundational to any opinion, while others said it was required only on the issue of causation in personal injury cases.").

whether this was ever true in any but a handful of jurisdictions,⁶⁵ the liberalization of the rules of evidence, especially since the enactment of the Federal Rules of Evidence in 1975, has led most courts to reject any mandatory formulaic expressions of medical certainty or probability as a prerequisite to admissibility.⁶⁶ Today, expressions of reasonable medical certainty are essential to admissibility of opinion testimony in at most a handful of states.⁶⁷

Beyond serving as a standard of admissibility, in many states the phrase is associated with legal doctrines establishing the standards for proof of liability or damages. Physician opinions expressed with "reasonable medical certainty" may thus be necessary to establish one or more elements of a *prima facie* case, such as causation⁶⁸ or future

65. For a discussion of pre-1970 decisions bearing on admissibility, see *infra* notes 386-413 and accompanying text.

66. *E.g.*, *Aspiazu v. Orgera*, 535 A.2d 338, 342-43 (Conn. 1987); *Noblesville Casting Div. of TRW, Inc. v. Prince*, 438 N.E.2d 722, 726 (Ind. 1982); *State v. Woodbury*, 403 A.2d 1166, 1170 (Me. 1979); *Kostamo v. Marquette Iron Mining Co.*, 274 N.W.2d 411, 425 (Mich. 1979); *Catchings v. State*, 684 So. 2d 591, 597-98 (Miss. 1996); *Dallas v. Burlington N., Inc.*, 689 P.2d 273, 277 (Mont. 1984); *Matott v. Ward*, 399 N.E.2d 532, 536 (N.Y. 1979); *Kunanz v. Edge*, 515 N.W.2d 167, 173-74 (N.D. 1994); *Stormo v. Strong*, 469 N.W.2d 816, 824 (S.D. 1991); *Drexler v. All Am. Life & Cas. Co.*, 241 N.W.2d 401, 408 (Wis. 1976); *Hashimoto v. Marathon Pipe Line Co.*, 767 P.2d 158, 165-66 (Wyo. 1989); see also MAUET, *supra* note 64, at 289-90, 303, 308 (illustrating alternative methods of eliciting expert opinions under Rule 702 of the Federal Rules of Evidence in lieu of the traditional request for opinion with a reasonable degree of medical certainty); McELHANEY, *supra* note 64, at 476 ("[Since enactment of the Federal Rules of Evidence,] [s]ome of the stultifying formalism has gradually eroded. The 'magic words' that were always recited before any expert opinion are not heard so often as they once were.").

67. The states that have most consistently conditioned admissibility on expressions of "reasonable medical certainty" or similar formulas are Illinois (regarding future damages), see *infra* notes 193-196, 461-466 and accompanying text, Pennsylvania (regarding causation), see *infra* notes 332-342 and accompanying text, and Tennessee (regarding causation and future damages), see *infra* notes 399-413 and accompanying text. Even in these states, recent decisions of intermediate appellate courts have questioned the need for expressions of reasonable medical certainty. See *Dominguez v. St. John's Hosp.*, 632 N.E.2d 16, 19 (Ill. App. Ct. 1993) ("[T]here is no magic to the phrase itself."); *Hoffman v. Brandywine Hosp.*, 661 A.2d 397, 402 (Pa. Super. Ct. 1995) ("[T]estimony need not be expressed in precisely the language used to enunciate the legal standard."); *Youngblood v. Solomon*, No. 03A10-9601-CV-00037, 1996 WL 310015, at *4 n.5 (Tenn. Ct. App. June 11, 1996) ("[T]he phrase 'reasonable medical certainty' is not a magic phrase which is required in the testimony of a medical expert.").

68. See, e.g., *Aguilera v. Mt. Sinai Hosp. Med. Ctr.*, 668 N.E.2d 94, 97 (Ill. App. Ct. 1996) ("Proximate cause in a malpractice case must be established by expert testimony to 'a reasonable degree of medical certainty.'" (emphasis added)); *Bertram v. Wunning*, 385 S.W.2d 803, 807 (Mo. Ct. App. 1965) (per curiam) ("But if the doctor who was an expert in the field and who had treated plaintiff would not say with *reasonable medical certainty* that the hernia resulted from the accident, then certainly a jury composed of laymen would not be justified in making such a finding." (emphasis added)); *McCann v. Amy Joy Donut Shops, A Div. of Am. Snacks, Inc.*, 472 A.2d 1149, 1150-51 (Pa. Super. Ct. 1984) ("[C]ausation . . . was not in evidence" because "appellants' expert never stated that he believed 'to a reason-

damages.⁶⁹ As embodied in substantive doctrine, the phrase figures prominently in many controversial decisions in the fields of toxic torts and medical malpractice.

In toxic tort cases, plaintiffs are denied recovery when their experts cannot testify with "reasonable medical certainty" that toxic exposures were a cause of their current condition⁷⁰ or that such exposures will result in future injury or disease.⁷¹ Even the emerging rules that address the uncertainty of toxic causation by allowing plaintiffs a limited measure of recovery for the emotional distress associated with fear of disease⁷² or for the cost of medical monitor-

able degree of medical certainty' or that 'in his professional opinion' the pastries appellant ate caused his gastritis." (emphasis added)); Kilpatrick v. Bryant, 868 S.W.2d 594, 602 (Tenn. 1993) ("Causation in fact is a matter of probability, not possibility, and in a medical malpractice case, such must be shown to a *reasonable degree of medical certainty*." (emphasis added)); Moore v. Walwyn, No. 01A01-9507-CV-00295, 1996 WL 17143, at *4 (Tenn. Ct. App. Jan. 19, 1996) ("[T]he report failed to provide the expert testimony needed to contradict appellee's affidavit because it failed to establish within a *reasonable degree of medical certainty* that the failure to use the antibiotics probably caused Mr. Moore's injuries." (emphasis added)). For a discussion of pre-1970 cases addressing sufficiency of proof of causation, see *infra* notes 415-436 and accompanying text.

69. See, e.g., South v. AMTRAK, 290 N.W.2d 819, 842 (N.D. 1980) ("In order to recover for future medical services there must be substantial evidence to establish with *reasonable medical certainty* that such future medical services are necessary." (emphasis added)). For a discussion of pre-1970 cases addressing sufficiency of proof of future damages, see *infra* notes 437-447 and accompanying text.

70. See, e.g., Roberts v. United States, No. 85-1733, 1996 WL 241549, at *3 (9th Cir. May 9, 1996) (mem.) (stating that under Nevada law, "Roberts had not established by a preponderance of the evidence and to a *reasonable degree of medical certainty* that the radiation caused the leukemias" (emphasis added)); Brown v. Southeastern Pa. Transp. Auth. (*In re Paoli R.R. Yard PCB Litig.*), 35 F.3d 717, 750-52 (3d Cir. 1994) (stating that under Pennsylvania law, "We will uphold the district court's grant of summary judgment for the defendants in those instances when the plaintiffs' expert states the [sic] he or she could not testify that a plaintiff's illness was caused by PCBs with a *reasonable degree of medical certainty*" (emphasis added)); Sterling v. Velsicol Chem. Corp., 855 F.2d 1188, 1200, 1203-04 (6th Cir. 1988) (stating that under Tennessee law, "In seeking damages for actual physical injuries, a plaintiff must prove to a *reasonable medical certainty* that his or her injuries were caused by a defendant's acts or omissions" (emphasis added)); Johnston v. United States, 597 F. Supp. 374, 412 (D. Kan. 1984) (mem.) ("Kansas law requires that causation must be proven to a *reasonable degree of medical certainty*." (emphasis added)).

71. See, e.g., Sterling, 855 F.2d at 1204-05 ("Tennessee law requires that the plaintiff prove there is a *reasonable medical certainty* that the anticipated harm will result in order to recover for a future injury." (emphasis added)); Potter v. Firestone Tire & Rubber Co., 863 P.2d 795, 814-15 n.15 (Cal. 1993) (in bank) ("[C]laims seeking recovery for future injuries that have less than a *reasonable probability or medical certainty* of occurring are denied as speculative." (emphasis added)); Mauro v. Raymark Indus., 561 A.2d 257, 260 (N.J. 1989) ("[U]nless plaintiff could prove to a *reasonable degree of medical certainty* that cancer was more probable than not, his claim for increased risk of cancer could not be sustained." (emphasis added)).

72. See David Carl Minneman, Annotation, *Future Disease or Condition, or Anxiety Relating Thereto, as Element of Recovery*, 50 A.L.R.4TH 13, § 3, at 49-52 (1986).

ing⁷³ nevertheless require testimony with "reasonable medical certainty" as to the existence of a substantial risk of disease to justify the reasonableness of the plaintiff's fear⁷⁴ or the necessity of medical monitoring.⁷⁵

In actions for medical malpractice, seriously ill patients who entered treatment with less than a fifty-percent chance of recovery traditionally could not recover because of their inability to prove with "reasonable medical certainty" that the physician's negligence was the proximate cause of death, i.e., that "but for" the physician's malpractice, the patient probably would have survived.⁷⁶ The phrase "reasonable medical certainty" plays a role in recent decisions that allow these plaintiffs to recover complete damages based on a finding that the defendant's negligence substantially increased the risk of death,⁷⁷ or partial damages for the "lost chance" represented by the percentage by which the defendant's negligence reduced the likelihood of survival.⁷⁸

The universal use of the phrase "reasonable medical certainty," and the importance that some courts attach to this phrase, cannot be explained by its intrinsic meaning, for the phrase has no readily apparent meaning.⁷⁹ The very notion of "reasonable certainty" is almost

73. See Allan L. Schwartz, Annotation, *Recovery of Damages for Expense of Medical Monitoring to Detect or Prevent Future Disease or Condition*, 17 A.L.R.5TH 327, § 6, at 346-49 (1994).

74. Cf. *Sterling*, 855 F.2d at 1205-06 & n.23 (noting that Tennessee law allows recovery of emotional distress only if there is reasonable medical certainty that future injury or disease is probable).

75. See, e.g., *Brown v. Monsanto Co. (In re Paoli R.R. Yard PCB Litig.)*, 916 F.2d 829, 851 (3d Cir. 1990) (stating that under Pennsylvania law, "the appropriate inquiry is . . . whether medical monitoring is, to a reasonable degree of medical certainty, necessary in order to diagnose properly the warning signs of disease"); *Askey v. Occidental Chem. Corp.*, 477 N.Y.S.2d 242, 247 (App. Div. 1984) ("The future expense of medical monitoring, could be a recoverable consequential damage provided that plaintiffs can establish with a reasonable degree of medical certainty that such expenditures are 'reasonably anticipated' to be incurred by reason of their exposure."). But cf. *Stead v. F.E. Myers Co., Div. of McNeil Corp.*, 785 F. Supp. 56, 57 (D. Vt. 1990) ("[Q]uantification of the increased risk to a reasonable degree of medical certainty is not required." (emphasis added)).

76. See John D. Hodson, Annotation, *Medical Malpractice: "Loss of Chance" Causality*, 54 A.L.R.4TH 10, § 10, at 62 (1987).

77. See, e.g., *Hamil v. Bashline*, 392 A.2d 1280, 1289 (Pa. 1978) ("[A] prima facie case of liability is established where expert medical testimony is presented to the effect that defendant's conduct did, with a reasonable degree of medical certainty, increase the risk that the harm sustained by plaintiff would occur." (emphasis added)).

78. Cf. *Wollen v. DePaul Health Ctr.*, 828 S.W.2d 681, 682 (Mo. 1992) (en banc) ("[I]t is impossible for a medical expert to state with 'reasonable medical certainty' the effect of the failure to diagnose on a specific patient, other than the fact that the failure to diagnose eliminated whatever chance the patient would have had.").

79. In this regard, the definition of "reasonable certainty" is just as elusive as that of "beyond a reasonable doubt." See *Victor v. Nebraska*, 511 U.S. 1, 5 (1994) (stating that the

an oxymoron,⁸⁰ because the adjective "reasonable" qualifies and essentially negates the absolute implications of the noun "certainty."⁸¹ Insertion of the adjective "medical" does not reduce the tension between "reasonable" and "certainty," for the concept of certainty is just as elusive in medicine as in other scientific disciplines,⁸² and perhaps more so.

standard "beyond a reasonable doubt . . . defies easy explication"); *id.* at 26 (Ginsburg, J., concurring in part and in the judgment) ("[T]he words 'beyond a reasonable doubt' are not self-defining for jurors.").

80. See *Hashimoto v. Marathon Pipe Line Co.*, 767 P.2d 158, 165 n.10 (Wyo. 1989) ("In technical context of the words themselves, it may not be totally facetious to compare 'reasonably certain' with 'somewhat' pregnant or 'half' dead.").

81. One commentator criticizes the phrase "a fair degree of medical certainty":

If you analyze it, it doesn't mean anything. What's a "fair" degree? It's a weasel word. It can mean almost whatever you want it to mean. And then what's a "fair degree of certainty"? I thought certainty was 100%. And what's a "medical certainty" as opposed to some other kind of certainty?

Irving Younger, *Expert Witnesses*, 48 INS. COUNS. J. 267, 277 (1981). In *Wheeler v. Central Vermont Medical Center, Inc.*, 582 A.2d 165 (Vt. 1990), the Supreme Court of Vermont likewise found confusion in the phrase "reasonable medical certainty." The court explained that "[w]hile 'reasonable degree of certainty' contains the word 'certainty,' which might connote some marginally higher standard of proof than a mere preponderance, the modifier 'reasonable' returns the standard to the level of preponderance." *Id.* at 170. Another observer concludes that the word "reasonable" has the same effect in this phrase as it does in the phrase "beyond a reasonable doubt":

The source of the perplexity stems from the definitions of the root words "certain" and "reasonable." "Certain" is defined as "sure; true; undoubted; unquestionable." In comparison, "reason" is defined as "an explanation or justification of an act." Joined together as "reasonable certainty," the obvious literal meaning of the phrase is *absence of doubt after thoughtful analysis*. In that phrase, "reason" does not diminish the exactitude of "certainty." Instead, "reasonable" explains how that exactitude is derived. Thus, the literal meaning of "reasonable certainty" fits nicely with the criminal standard of "beyond reasonable doubt," but clashes with the civil burden of "more likely than not."

Hullverson, *supra* note 18, at 589 (footnotes omitted).

82. See *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 590 (1993) ("[A]rguably, there are no certainties in science."); see also SHEILA JASANOFF, *SCIENCE AT THE BAR: LAW, SCIENCE, AND TECHNOLOGY IN AMERICA* xv (1995) ("Science . . . emerges from this analysis not as an independent, self-regulating producer of truths about the natural world, but as a dynamic social institution, fully engaged with other mechanisms for creating social and epistemological order in modern societies."); Black, *supra* note 7, at 613-27 (discussing the law's traditional "logical positivist" or "mechanistic materialist" "view of the scientific method [which] implies an exactness and certainty that simply cannot exist."); Margaret G. Farrell, *Daubert v. Merrell Dow Pharmaceuticals, Inc.: Epistemology and Legal Process*, 15 CARDOZO L. REV. 2183, 2189-98 (1994) (contrasting the traditional "positivist" view of science with the "constructionist" view, according to which "prediction can consist only in statements about probability"); Heidi Li Feldman, *Science and Uncertainty in Mass Exposure Litigation*, 74 TEX. L. REV. 1, 18 (1995) (noting that under the "revised empiricist" view of science, "[a] dynamic enterprise like science does not produce fixed, unassailable conclusions. . . . [but rather] uncertainty among scientists is a natural state of affairs"); Laurence H. Tribe, *The Curvature of Constitutional Space: What Lawyers Can Learn from Modern Physics*, 103 HARV. L. REV. 1, 2 (1989) ("Science is not so much about proving as it is about improv-

While some judges and attorneys assume that "reasonable medical certainty" must be a medical term of art,⁸³ the meaning of which is well known to physicians, nothing could be further from the truth. Physicians are not accustomed to thinking in terms of certainty.⁸⁴ Because physicians do not use the phrase in their daily practice, most texts and journal articles addressed to medical audiences warn physicians to expect lawyers and judges to insist upon the use of this unfamiliar terminology.⁸⁵ Physicians differ widely in their interpretation of the phrase. Works written by physicians with legal training most frequently advise physicians that the phrase "reasonable medical certainty" is a legal term of art meaning "more probable than not" or a 51% probability.⁸⁶ Nevertheless, physician witnesses frequently assume that the phrase means something more than a probability,⁸⁷ and

ing. To look to the natural sciences for authority—that is, for certainty—is to look for what is not there.”).

83. See, e.g., *Addington v. Texas*, 441 U.S. 418, 430 (1979) (“Within the medical discipline, the traditional standard for ‘factfinding’ is a ‘reasonable medical certainty.’”).

84. See Earl F. Rose, *A Pragmatic Approach to Medical Evidence and the Lawsuit*, 5 U. Tol. L. Rev. 237, 252 (1974) (“[R]endering an expert opinion on disease or injury which requires a degree of certainty presents a most vexing situation for a physician. . . . [P]hysicians are unaccustomed to thinking in terms of certainty.”).

85. See, e.g., HAROLD A. LIEBENSON, *YOU, THE MEDICAL WITNESS* 129 (1961) (“What is this thing called ‘reasonable degree of medical certainty’? It is a legal fiction.”); Rappoport, *supra* note 17, at 8 (“As men of law they are trying to force us aliens to speak their language.”).

86. See, e.g., Douglas Danner & Elliot L. Sagall, *Medicolegal Causation: A Source of Professional Misunderstanding*, 3 AM. J.L. & MED. 303, 305 (1977) (“The legal requirement for establishing proximate cause generally is ‘probability,’ ‘50.1 percent,’ ‘more likely than not,’ or ‘reasonable medical certainty’—all of which are requirements far less demanding than the scientific proof sought by physicians.”); Cyril H. Wecht, *Forensic Use of Medical Information*, in *LEGAL MEDICINE* 558, 560 (S. Sandy Sanbar et al. eds., 3d ed. 1995) (“Reasonable medical certainty is a catch phrase meaning ‘more likely than not’ in a medical sense. In other words, if the likelihood of an event is more probable than not, given the facts, the physician can testify with a ‘reasonable medical certainty.’”).

87. See, e.g., *Brown v. Baden (In re Yagman)*, 796 F.2d 1165, 1174 (9th Cir. 1986) (a forensic pathologist testified, “I do not think there is sufficient evidence to say beyond a reasonable—to a reasonable medical certainty death is by chokehold. But I think it is more likely—51 percent versus 49 percent.”); *People v. Ahmad*, 565 N.E.2d 137, 145 (Ill. App. Ct. 1990) (a forensic psychiatrist testified that “a reasonable degree [of medical certainty] is approximately 70 percent” (internal quotation marks omitted)); *Dellenbach v. Robinson*, 642 N.E.2d 638, 648 n.6 (Ohio Ct. App. 1993) (“[T]he medical expert misunderstood the term ‘reasonable degree of medical certainty,’ as requiring a higher standard than probability.”); *Ritzschke v. Department of Labor & Indus.*, 454 P.2d 850, 851 (Wash. 1969) (“[The doctor] was asked the further question of whether his ‘. . . diagnosis [was] based on possibility, probability or reasonable medical certainty?’ He answered, ‘I think it would be between probability and reasonable medical certainty.’” (ellipsis and second alteration in original)); *State v. Terry*, 520 P.2d 1397, 1403-04 (Wash. Ct. App. 1974) (“Dr. Lovell stated on three occasions that he could not give his opinion as to the cause of . . . death with ‘reasonable medical certainty’ but that he could indicate a cause of death that was ‘more probable than not.’”).

they often assume it indicates a near absolute certainty, on the order of 90% or even 99.99% probability,⁸⁸ corresponding to the standard of scientific proof that rules out the null hypothesis with 95% confidence.⁸⁹ In contrast to the prevailing view that "reasonable medical certainty" represents some fixed quantitative standard, one physician said that the phrase should mean "that level of certainty which a physician would use in making a similar clinical judgement,"⁹⁰ implying that the meaning of the phrase would vary according to the context. For some physician witnesses, the phrase represents nothing more than the formal expression of the concept of an "educated guess."⁹¹ Other physician witnesses have been completely unable to define the term.⁹²

Nor has the legal profession achieved any consensus on the meaning of the phrase.⁹³ Most courts interpret "reasonable medical

88. See, e.g., *Rhoto v. Ribando*, 504 So. 2d 1119, 1122 n.2 (La. Ct. App. 1987) ("[T]he defendants averred the proper standard was a 'reasonable medical certainty,' which Dr. Singer understood to mean 'almost 100% certain.'"); *Bertram v. Wunning*, 385 S.W.2d 803, 805 (Mo. Ct. App. 1965) (providing testimony of a witness unwilling to equate 90% likelihood of causation with reasonable medical certainty); *State v. Austin*, 368 N.E.2d 59, 64 (Ohio Ct. App. 1976) ("[The doctor testified,] 'when I speak of medical certainties, I like to be up in the ninety-nine point nine nine percentage range.'").

89. See *Hullverson*, *supra* note 18, at 590-91 (explaining the null hypothesis and relating it to scientists' interpretations of "reasonable certainty"); see also *Troyen A. Brennan, Causal Chains and Statistical Links: The Role of Scientific Uncertainty in Hazardous-Substance Litigation*, 73 CORNELL L. REV. 469, 510-12 (1988) (explaining statistical significance in relation to the null hypothesis); *Michael D. Green, Expert Witnesses and Sufficiency of Evidence in Toxic Substances Litigation: The Legacy of Agent Orange and Bendectin Litigation*, 86 Nw. U. L. REV. 643, 682-94 (1992) (same); *D.H. Kaye, Is Proof of Statistical Significance Relevant?*, 61 WASH. L. REV. 1333, 1337-56 (1986) (same).

90. *Rappeport*, *supra* note 17, at 9 (internal quotation marks omitted).

91. See, e.g., *Bridges v. Householder*, 385 S.W.2d 314, 316 (Tenn. Ct. App. 1964) ("Dr. Tauxe explained that by using the term 'educated guess' he meant an opinion 'based on a reasonable degree of medical certainty, training, etc.'"); cf. *Allith-Prouty Co. v. Industrial Comm'n*, 185 N.E. 267, 268 (Ill. 1933) ("[The witness] stated that by a degree of medical certainty he meant 'the best we can ascertain—that is, the best we can guess.'").

92. See, e.g., *Tompkins v. Cervantes*, 917 S.W.2d 186, 189-90 (Mo. Ct. App. 1996) (discussing a physician who at one point stated that "reasonable medical certainty" meant "more likely than not" but later found that the two standards were not identical); see also *infra* notes 428-431, 462-463 (providing additional examples from excerpts of physician testimony); cf. *Bondi v. Pole*, 587 A.2d 285, 287 (N.J. Super. App. Div. 1991) (discussing a physician who defined "reasonable medical probability" as "[w]ithin the action of a normal individual with good common sense and proper wits"); *Schrantz v. Luancing*, 527 A.2d 967, 968-69 (N.J. Super. Ct. 1986) (discussing a physician who equated "reasonable medical probability" with "accepted standards of medical practice").

93. See *JOSEPH H. KING, JR., THE LAW OF MEDICAL MALPRACTICE IN A NUTSHELL* 200 (2d ed. 1986) ("Unfortunately, there has been little concensus [sic] on either the meaning of this phrase or how strictly such semantic preferences should be enforced."); *Black, supra* note 7, at 667-68 ("'Reasonable medical certainty' usually serves as nothing more than an undefined label. . . . The wide variation in the way they apply the concept of reasonable

certainty” as a substantive comment about the likelihood that a proposition is true. While the majority equate “reasonable medical certainty” with “reasonable medical probability” or a preponderance of the evidence standard,⁹⁴ courts in a number of jurisdictions view the “reasonable medical certainty” test as more demanding,⁹⁵ perhaps even approaching the “beyond a reasonable doubt” standard.⁹⁶ Moreover, contrary to the prevailing view of the phrase as a comment on the *substantive* likelihood that a proposition is true, a handful of courts have declared that the phrase does not refer to the underlying statisti-

medical certainty makes it clear that the standard has no analytical value.”); Firestone, *supra* note 17, at 1 (“[T]he term is rarely given a clear definition in court opinions.”); Joseph D. Piorkowski, Jr., *Medical Testimony and the Expert Witness*, in *LEGAL MEDICINE*, *supra* note 86, at 141, 151 (“Courts differ, however, as to how much certainty is enough to constitute a reasonable degree of medical certainty.”).

94. See, e.g., *Dallas v. Burlington N., Inc.*, 689 P.2d 273, 277 (Mont. 1984) (stating that the evidentiary standard for “reasonable medical certainty” is satisfied “if medical testimony is based upon an opinion that it is ‘more likely than not’”); *Lane v. State Farm Mut. Auto. Ins. Co.*, 308 N.W.2d 503, 512 (Neb. 1981) (recognizing that the court has frequently held that “reasonable certainty” and “reasonable probability” mean the same thing); *Wheeler v. Central Vt. Med. Ctr., Inc.*, 582 A.2d 165, 170 (Vt. 1990) (concluding that while the word “certainty” may connote a standard higher than a preponderance, “the modifier ‘reasonable’ returns the standard to the level of preponderance”); *National Indus. Constructors, Inc. v. Williams*, No. 2009-95-3, 1996 WL 246496, at *1 (Va. Ct. App. May 14, 1996) (mem.) (holding that the “reasonable degree of medical certainty” standard requires a “doctor to conclude that it is more probable than not”); *In re Twining*, 894 P.2d 1331, 1336-37 (Wash. Ct. App. 1995) (noting that a number of Washington cases have interpreted “reasonable medical certainty” to mean “more likely than not”). For pre-1970 authority, see *infra* notes 389-393, 416, 418.

95. See, e.g., *Johnston v. United States*, 597 F. Supp. 374, 412 (D. Kan. 1984) (mem.) (“Kansas law requires that causation must be proven to a reasonable degree of medical certainty. A statistical method which shows a greater than 50% probability does not rise to the required level of proof.” (citations omitted)); *Bowman v. Twin Falls Constr. Co.*, 581 P.2d 770, 775 (Idaho 1978) (holding that proof of causation to a reasonable degree of medical certainty “is to ask for too much . . . [as] one cannot expect the claimant to prove that his occupation necessarily caused his disabling condition”); *Parker v. Employers Mut. Liab. Ins. Co.*, 440 S.W.2d 43, 47 (Tex. 1969) (explaining that “reasonable medical certainty . . . is even more stringent than the reasonable medical probability required to submit a causation issue to the jury”); *Hovermale v. Berkeley Springs Moose Lodge No. 1483*, 271 S.E.2d 335, 340-41 (W. Va. 1980) (holding that the trial court erred in using a “reasonable medical certainty” standard when instructing the jury on causation, because a testifying physician “need only state the matter in terms of a reasonable probability”).

96. Cf. *Hashimoto v. Marathon Pipe Line Co.*, 767 P.2d 158, 165-67 (Wyo. 1989) (rejecting the use of the phrase “reasonable certainty” in a jury instruction on future damages because “to say that proof of a fact must be made reasonably certain is by the literal import of the words tantamount to saying the proof must be made beyond a reasonable doubt” (quoting *McElroy v. Luster*, 254 S.W.2d 893, 895 (Tex. Civ. App. 1953, writ *ref'd*))).

cal probabilities but instead refers to the *foundation* for the opinion as resting on established principles of medical science.⁹⁷

Academic commentators mirror this split of authority. Most writers interpret the phrase as a substantive evaluation of the probabilities, with many treating it as equivalent to "more probable than not,"⁹⁸ while others view it as a higher standard.⁹⁹ A distinguished minority, however, interpret the phrase as indicating the existence of a scientific foundation for the opinion as opposed to a comment on the underlying probabilities.¹⁰⁰

Thus, while courts continue to attribute legal significance to expressions of "reasonable medical certainty," and attorneys routinely

97. See, e.g., *Boose v. Digate*, 246 N.E.2d 50, 53 (Ill. App. Ct. 1969) (reasonable medical certainty "refers to the general consensus of recognized medical thought and opinion concerning the probabilities of conditions in the future based on present conditions"); *Schrantz v. Luancing*, 527 A.2d 967, 969-70 (N.J. Super. Ct. 1986) (same) (citing *Boose*, 246 N.E.2d at 53); cf. *Noblesville Casting Div. of TRW, Inc. v. Prince*, 438 N.E.2d 722, 729 (Ind. 1982) ("[R]easonable certainty' is primarily a formulation designed to guarantee the trustworthiness or reliability of the opinion offered, rather than the fact to be proved." (citing *Boose*)). The opinion in *Boose* is discussed *infra* notes 461-467 and accompanying text.

98. See, e.g., *Danner & Sagall*, *supra* note 86, at 305, 307 (equating "reasonable medical certainty" with "probability," "50.1 percent," "more likely than not," or "reasonable medical certainty"); Stein, *supra* note 19, at 220 (claiming that in expressing opinions with "'reasonable degree of [whatever] certainty' . . . all we are going is using a fancy phrase for 'probably'" (alteration in original)).

99. Cf. *Hullverson*, *supra* note 18, at 588-91 (noting that both the literal meaning of the words and the high levels of certainty associated with scientific verification suggest a meaning that "fits nicely with the criminal standard of 'beyond reasonable doubt,' but clashes with the civil burden of 'more likely than not'"); Younger, *supra* note 81, at 277 (asserting that an expert's opinion should be admissible only if the witness has a 75% conviction as to its truth).

One commentator states:

Lawyers often elicit opinion testimony from a medical witness by asking if the witness can offer an opinion "to a reasonable degree of medical certainty." That formulation is appropriate. Although reasonable certainty does not imply any "special degree of certainty," it certainly means a degree of certainty *less* than more probable than not.

Kermit V. Lipez, *The Child Witness in Sexual Abuse Cases in Maine: Presentation, Impeachment, and Controversy*, 42 ME. L. REV. 283, 305 n.103 (1990) (emphasis added). While this excerpt says that "reasonable medical certainty" involves a *lower* degree of certitude than "more probable than not," Judge Lipez or his editors may have inadvertently substituted "less" for "more" in this passage.

100. See, e.g., Michael H. Graham, *Expert Witness Testimony and the Federal Rules of Evidence: Insuring Adequate Assurance of Trustworthiness*, 1986 U. ILL. L. REV. 43, 44 n.5 ("The phrase 'reasonable degree of [scientific, medical, or other technical] certainty' refers to whether the expert witness, in deriving an opinion, relied on an explanatory theory which experts in the discipline substantially accept." (alteration in original)); Rose, *supra* note 84, at 252 ("Reasonable medical certainty or reasonable medical probability means to the physician that the conclusions which can be drawn from the data would have a high degree of acceptance by other qualified physicians." (footnote omitted)).

use the phrase in eliciting expert testimony from medical witnesses, none of the participants seems to know what the phrase means or why it is being used. An inquiry into the creation and dissemination of the phrase will explain how it took root and may help determine how best to prune or eradicate it.

II. GENESIS: 1885-1935

The phrases “medical certainty” and “reasonable medical certainty” did not appear in any opinions prior to 1930 that are available on-line,¹⁰¹ nor could any reference to these phrases be found in any legal materials prior to that date. Both “medical certainty” and “reasonable medical certainty” made their first appearance during the 1930s in opinions of the Illinois state¹⁰² and federal

101. Search of WESTLAW, Allcases-old Database (Feb. 18, 1998) (“reasonable medical certainty” “reasonable degree of medical certainty”) (retrieving 25 cases, none of which was decided before 1930); Search of WESTLAW, Allcases-old Database (Jan. 26, 1998) (“medical certainty”) (retrieving 37 cases, none of which was decided before 1930). The research for this Part of the Article was conducted primarily within the WESTLAW Allcases, Allcases-old, Allstates, Allstates-old, Allfeds, and Allfeds-old databases. References to “published” opinions means opinions available in these databases. In order to track down precursors and variants of the phrase, the search terms “reasonable certainty,” “medical certainty,” and “reasonable /s medical /s certainty” were used to find pre-1960 cases using those terms.

Systematic research into the genesis and dissemination of the phrase would not have been possible prior to the advent of on-line databases. Within West Publishing Company’s National Reporter System, the phrase can be found in the headnotes of only about 10% of the opinions that contain the phrase “reasonable medical certainty.” Searches of WESTLAW, Allcases and Allcases-old Databases (Feb. 18, 1998) (“reasonable medical certainty” & da(bef 1960)) (retrieving 98 and 20 cases, respectively); Searches of WESTLAW, Allcases and Allcases-Old Databases (Feb. 18, 1998) (he(“reasonable medical certainty”) & da(bef 1960)) (retrieving 10 and 3 cases, respectively). Moreover, even this sample could not be found through a manual search because of the multiplicity of contexts in which the phrase may be relevant and the vagaries of the indexing system. The phrase has appeared within headnotes under the key numbers of such diverse topics as Action k13, Appeal and Error k30, Criminal Law k110, Damages k115, Death k117, Evidence k157, Federal Courts k170B, Homicide k203, Insurance k217, Judgment k228, Physicians and Surgeons k299, Pretrial Procedure k307A, Seamen k348, Trial k388, and Workers Compensation k413.

102. The phrase “reasonable medical certainty” or “reasonable degree of medical certainty” appeared in 10 opinions of the Illinois state courts during the 1930s. See *Shell Petroleum Corp. v. Industrial Comm’n*, 10 N.E.2d 352, 354 (Ill. 1937); *Ford Motor Co. v. Industrial Comm’n*, 192 N.E. 345, 346 (Ill. 1934); *Burns v. Industrial Comm’n*, 191 N.E. 225, 229 (Ill. 1934); *Plano Foundry Co. v. Industrial Comm’n*, 190 N.E. 255, 260 (Ill. 1934); *Allith-Prouty Co. v. Industrial Comm’n*, 185 N.E. 267, 268 (Ill. 1933); *Sanitary Dist. v. Industrial Comm’n*, 175 N.E. 372, 373 (Ill. 1931); *Gaydos v. Peterson*, 20 N.E.2d 837, 840 (Ill. App. Ct. 1939); *Kilroy v. Retirement Bd. of Park Policemen’s Annuity & Benefit Fund*, 17 N.E.2d 527, 529 (Ill. App. Ct. 1938); *Ebbert v. Metropolitan Life Ins. Co.*, 7 N.E.2d 336, 339 (Ill. App. Ct. 1937), *aff’d*, 16 N.E.2d 749 (Ill. 1938); *People ex rel. Oemke v. Schuring*, 6 N.E.2d 217, 219 (Ill. App. Ct. 1937).

courts.¹⁰³ Only after 1940 did these phrases begin to appear in opinions from other states.¹⁰⁴

The available evidence suggests that the phrase "reasonable medical certainty" originated in Chicago prior to 1930 as a unique local usage. Although its precise origins cannot be determined, the phrase appears to have been generated by the efforts of Illinois attorneys to accommodate two inconsistent rules of evidence that were adopted almost simultaneously by the Illinois Supreme Court in the early years of this century: the "reasonable-certainty rule," which prohibited experts from expressing speculative opinions about damages, and the "ultimate-issue rule," which prohibited experts from "invading the province of the jury" by expressing definitive opinions on disputed issues.¹⁰⁵ These rules received intense criticism from Northwestern University's Dean John Henry Wigmore, both in law review articles¹⁰⁶ and in his treatise on evidence,¹⁰⁷ but they remained the law of Illinois for more than half a century.¹⁰⁸

103. The phrase appeared in two cases involving appeals of judgments entered following trials in the Eastern Division of the Northern District of Illinois. See *Mangol v. Metropolitan Life Ins. Co.*, 103 F.2d 14, 15 (7th Cir. 1939); *Alexander v. Missouri State Life Ins. Co.*, 68 F.2d 1, 2 (7th Cir. 1933).

104. See discussion *infra* Part III.B.

105. See *infra* notes 109-120 for a discussion of the reasonable-certainty rule, and *infra* notes 121-138 for a discussion of the ultimate-issue rule. Cf. Hullverson, *supra* note 18, at 587 ("In the early part of this century, trial lawyers charted a course of dialogue between the Scylla of inadmissible speculation, and the Charybdis of invading the province of the jury."). See generally WILLARD L. KING & DOUGLASS PILLINGER, *A STUDY OF THE LAW OF OPINION EVIDENCE IN ILLINOIS* 71-88 (1942) (providing a definitive analysis of the impact of these doctrines in Illinois).

106. See John H. Wigmore, *Evidence: Opinion as to Cause of Injury*.—[Illinois], 26 ILL. L. REV. 431, 432 (1931) [hereinafter Wigmore, *Cause of Injury*] (complaining that these rules "have now reached such a climax of nonsense that they are almost symptomatic of some general failing in the professional intellect"); John H. Wigmore, Comment, *Evidence: Opinion of a Medical Expert as to Causes of Plaintiff's Illness*, 2 ILL. L. REV. 467, 467 (1908) [hereinafter Wigmore, *Medical Expert*] (referring to the ultimate-issue rule as "the quibbling view" and applauding its apparent demise).

107. See 4 WIGMORE, second edition, *supra* note 31, § 1920, at 115-16 (criticizing the ultimate-issue rule in a section entitled "Usurping the Function of the Jury"); *id.* § 1976, at 198 (criticizing the reasonable-certainty rule in a section entitled "Probability and Possibility; Capacity and Tendency; Cause and Effect"); see also 3 WIGMORE, first edition, *supra* note 31, § 1920, at 2555-56 (explaining that allowing an expert witness to express his opinion risks usurping the function of the jury).

108. See *infra* notes 141-146, 450-458.

A. *The Reasonable-Certainty Rule*

The reasonable-certainty rule, which is still discussed in many jurisdictions,¹⁰⁹ relates to the standard of proof for establishing damages, especially with respect to conditions or illnesses that the plaintiff might suffer in the future. To prevent sympathetic juries from awarding substantial damages based on speculation that the plaintiff's condition might not improve or might worsen, in the latter half of the nineteenth century, courts in many jurisdictions developed a "rule of certainty" that required plaintiffs to establish proof of future damages with certainty through expert medical testimony.¹¹⁰ Recognizing that medical science would not warrant expressions of "absolute certainty," these courts declared that the rule could be satisfied by expressions of "reasonable certainty."¹¹¹ Although the reasonable-certainty rule initially was expressed as a rule relating to sufficiency of proof, courts in several states extended it to questions of admissibility, ruling that speculative or conjectural testimony, expressed with insufficient certainty, was not probative and therefore not admissible.¹¹²

109. Several opinions explicitly refer to a "rule of certainty" or "reasonable-certainty rule" as a standard of proof in tort law. *See, e.g.*, *Allen v. Devereaux*, 426 P.2d 659, 661 (Ariz. Ct. App. 1967) (following the rule); *Largent v. Acuff*, 317 S.E.2d 111, 114 (N.C. Ct. App. 1984) (same); *Johnson v. English*, 214 N.E.2d 254, 259 (Ohio Ct. App. 1966) (same); *Potts v. Celotex Corp.*, 796 S.W.2d 678, 681 (Tenn. 1990) (applying the discovery rule to a statute of limitations for latent diseases, because the "reasonable certainty rule" precluded recovery at the time of exposure); *Robinson v. Argonaut Ins. Co.*, 534 S.W.2d 953, 958-59 (Tex. Civ. App. 1976, writ ref'd n.r.e.) (noting that while the rule prevails in some jurisdictions, it is not recognized in Texas); *Peck v. Bez*, 40 S.E.2d 1, 7 (W. Va. 1946) (following the rule); *Hashimoto v. Marathon Pipe Line Co.*, 767 P.2d 158, 163-64 (Wyo. 1989) (rejecting the rule). A search of WESTLAW for "rule of certainty" discloses that courts also use this phrase to describe doctrines relating to civil pleadings, contract damages, and criminal indictments, as well as in a number of unrelated contexts. Search of WESTLAW, Allcases Database (Jan. 26, 1998) (da(bef 1/1/1997) & to(110) /p "rule of certainty") (retrieving 1 case under the topic "Civil Pleadings"); Search of WESTLAW, Allcases Database (Jan. 26, 1998) (da(bef 1/1/1997) & to(115) /p "rule of certainty") (retrieving 7 cases under the topic "Contract Damages"); Search of WESTLAW, Allcases Database (Jan. 28, 1998) (da(bef 1/1/1997) & to(302) /p "rule of certainty") (retrieving 3 cases under the topic "Criminal Indictments").

110. *See* *Martin*, *supra* note 27, at 786-97 (providing a discussion on the development of the rule of certainty in New York, Pennsylvania, and Illinois).

111. *E.g.*, *McClain v. Brooklyn City R. Co.*, 22 N.E. 1062, 1064 (N.Y. 1889); *McCrosson v. Philadelphia Rapid Transit Co.*, 129 A. 568, 568-69 (Pa. 1925). Not all courts required expressions of reasonable certainty; in fact, many held that expressions of "reasonable probability" sufficed. *E.g.*, *Griswold v. New York Cent. & H.R.R. Co.*, 21 N.E. 726, 726 (N.Y. 1889); *Gallamore v. City of Olympia*, 75 P. 978, 980 (Wash. 1904).

112. The leading case was *Strohm v. New York, Lake Erie & Western Railroad Co.*, 96 N.Y. 305 (1884). *See* 2 WIGMORE, second edition, *supra* note 31, § 1976, at 200 (noting that courts "sometimes misapply the Opinion rule," requiring experts to express only those opinions that are certain or fairly probable, and excluding from evidence an expert's opinion expressed in terms of possibility only); *see also* *Hassman*, *supra* note 63, at 25-27 (citing

In Illinois, the reasonable-certainty rule was well established by the end of the nineteenth century.¹¹³ The Illinois Supreme Court initially treated the requirement that damages be proved with reasonable certainty as a rule of substantive proof, enforceable by appropriate jury instructions and appellate review.¹¹⁴ In two later opinions, one from 1909 and one from 1910, however, the court ruled that unduly speculative medical testimony about the consequences of an injury was inadmissible *ab initio*.¹¹⁵ In *Amann v. Chicago Consol. Traction Co.*,¹¹⁶ the Supreme Court of Illinois declared that the trial court erred in allowing a physician to discuss the "possibility" that the injury "might aggravate" the plaintiff's existing paralysis.¹¹⁷ In *Lauth v. Chicago Union Traction Co.*,¹¹⁸ the court reversed a judgment for the plaintiff because of an error in allowing a physician to answer a hypo-

cases which held that in order to be admissible, expert medical testimony as to future consequences of an injury must be expressed with reasonable certainty).

113. See, e.g., *Lake Shore & M.S. Ry. Co. v. Conway*, 48 N.E. 483, 484 (Ill. 1897) (holding that in order for an alleged disability to be a ground for damages, it must be "reasonably certain to result from the injury").

114. E.g., *Donnelly v. Chicago City Ry. Co.*, 85 N.E. 233, 235 (Ill. 1908); *Chicago & M. Elec. Ry. Co. v. Ullrich*, 72 N.E. 815, 816 (Ill. 1904). In *Donnelly*, the court rejected the defendant's contention that a physician's testimony was "uncertain and conjectural" and found that it was sufficient to support a verdict for the plaintiff:

Damages can only be recovered for future disability when it is reasonably certain that it was the result of the alleged injury. . . .

. . . The question whether this dislocation would have a tendency to predispose the shoulder to a second dislocation was a proper subject for expert testimony. We think it was correct practice for the court to permit appellee to prove the facts with reference to these subsequent dislocations and submit the question of their cause, as one of fact, to the jury, under proper instructions, as was done here.

85 N.E. at 235.

115. See *Lauth v. Chicago Union Traction Co.*, 91 N.E. 431, 434 (Ill. 1910); *Amann v. Chicago Consol. Traction Co.*, 90 N.E. 673, 674 (Ill. 1909); accord *KING & PILLINGER*, *supra* note 105, at 90 (referring to *Amann* and *Lauth* in noting that "the prior rule seems to have been reversed by two cases decided in 1910 [sic] which now dominate the field").

116. 90 N.E. 673 (Ill. 1909).

117. *Id.* at 674. The court explained:

The witness was then asked if the abrasion would tend to make the paralysis worse or aggravate it, and he answered that it might aggravate it. On motion to strike out the answer the court ruled that it might stand, and, the witness being asked what would be the probabilities, he said he could not tell. These rulings were wrong. A mere possibility, or even a reasonable probability, that future pain or suffering may be caused by an injury, or that some disability may result therefrom, is not sufficient to warrant an assessment of damages. . . . To justify a recovery for future damages the law requires proof of a reasonable certainty that they will be endured in the future.

Id. The court affirmed the judgment, however, because the damages awarded by the jury did not exceed the amount warranted by the admissible evidence. *Id.*

118. 91 N.E. 431 (Ill. 1910).

thetical question about the possibility that the plaintiff might die if his hernia strangulated and was not promptly treated.¹¹⁹ Thereafter, Illinois courts consistently treated the rule of "reasonable certainty" as a standard governing the admissibility of medical opinion testimony on the subject of future damages.¹²⁰

B. *The Ultimate-Issue Rule*

At almost exactly the same time that the Supreme Court of Illinois established a reasonable-certainty rule that *mandated* expression of definitive medical opinions on the question of *future injuries*, the court also adopted an ultimate-issue rule that *prohibited* expression of definitive medical opinions on the question of *causation of existing injuries*.¹²¹ The rationale for the ultimate-issue rule stemmed from judicial fear that definitive testimony by expert witnesses would so overwhelm the jurors as to prevent reasoned deliberation and thus "usurp" the jury's function.¹²² To prevent experts from "invading the province of the jury," Illinois and a number of other states required that expert opinions on the "ultimate issue" of causation be expressed with qualifications such as "may," "might," or "could" instead of the more definitive "is," "did," or "will."¹²³

119. *Id.* at 435. The court declared:

To form a proper basis for recovery, however, it is necessary that the consequences relied on must be reasonably certain to result. They cannot be purely speculative. . . .

. . . Before death could result two contingencies must arise: First, the strangulation of the bowel; and, second, the inability to reduce it. The first, considering the experience of appellee and the liability of all hernias to become strangulated, is quite probable, while the second is a remote possibility. . . . There is not such a degree of probability that death will result from this injury as amounts to a reasonable certainty, and it was error to admit this testimony.

Id. at 434-35.

120. *See, e.g.,* *Fellows-Kimbrough v. Chicago City Ry. Co.*, 111 N.E. 499, 502 (Ill. 1916); *Lyons v. Chicago City Ry. Co.*, 101 N.E. 211, 214 (Ill. 1913); *Gaydos v. Peterson*, 20 N.E.2d 837, 841 (Ill. App. Ct. 1939); *see also* KING & PILLINGER, *supra* note 105, at 92 n.67 (noting additional early cases).

121. For the definitive account of the development of the ultimate-issue in Illinois through 1942, see KING & PILLINGER, *supra* note 105, at 1-20, 73-85. For a more abbreviated treatment that includes the rule's demise, see Martin, *supra* note 27, at 793-97.

122. 3 WIGMORE, first edition, *supra* note 31, § 1920, at 2555; H.D. Warren, Annotation, *Admissibility of Opinion Evidence as to Cause of Death, Disease, or Injury*, 66 A.L.R.2d 1082, § 6, at 1112-18 (1959).

123. *See* 4 WIGMORE, second edition, *supra* note 31, § 1920, at 115; 3 WIGMORE, first edition, *supra* note 31, § 1920, at 2555; Warren, *supra* note 122, at 1112; *see also* *Cherry v. Harrell*, 353 S.E.2d 433, 436-37 (N.C. Ct. App. 1987) (discussing the history of the ultimate-issue rule in North Carolina); *cf.* Richard L. Miller, *The Rule of Medical Certainty*, in EVIDENCE: THE RULE OF MEDICAL CERTAINTY 4, 4-7 (The Defense Research Inst., Inc. Series,

Illinois first adopted the ultimate-issue rule in the 1904 case of *Illinois Cent. R. Co. v. Smith*.¹²⁴ In *Smith*, the court reversed a judgment for the plaintiff, because two medical expert witnesses had testified that the injury to the plaintiff's foot had been caused by contact with an uneven surface (testimony consistent with the plaintiff's allegation that his foot went through a hole in the platform and into machinery below) and not by a flat or even surface.¹²⁵ The court said that witnesses are permitted to testify about what "might have caused" the injury but not what "did cause" the injury.¹²⁶ Analyzing the trial testimony, the court noted that "the opinions of the physicians took the form, not of opinions as to how the injury might have been produced, but of direct testimony as to how it occurred and what caused it, which was the very question which the jury were called upon to decide."¹²⁷ Hence, the court concluded that the trial court erred in permitting the physicians to "usurp the province of the jury."¹²⁸

The incongruity of the ultimate-issue rule with the reasonable-certainty rule manifested itself in the Illinois Supreme Court's 1907 opinion in *Chicago Union Traction Co. v. Ertrachter*.¹²⁹ In *Ertrachter*, the

1967) (criticizing courts that *allowed* testimony in the "might or could" form, without acknowledging that many courts at one time *required* testimony in that form).

124. 70 N.E. 628 (Ill. 1904).

125. *Id.* at 631-32.

126. After reviewing at great length the prior authorities from Illinois and other jurisdictions, the court concluded:

An examination of those cases discloses the fact that they, generally, are cases where physicians have been allowed to express an opinion as to what *might have caused* the injury, the cause of which was then being investigated; but none of them, so far as we have been able to discover, sustain a course of examination which calls for an opinion from the expert as to what caused the injury, and they all recognize the fact that the question of what *did cause* the injury is a question of fact for the jury, and not for the witness.

Id. at 631 (emphasis added). King and Pillinger commented that "[t]his is hardly a fair statement of the prior cases." KING & PILLINGER, *supra* note 105, at 73 n.5.

127. *Smith*, 70 N.E. at 631.

128. *Id.* at 629. The court explained:

[T]o permit the witnesses to testify the injury was caused from the foot being caught between two uneven, and not two even, surfaces, was to permit them to usurp the province of the jury, and to testify to the facts which were to be determined by the jury, which all the authorities agree is not permissible.

Id.

129. 81 N.E. 816 (Ill. 1907). The discussion in this paragraph of the text draws upon the following excerpt from the court's opinion:

Several physicians testified, for appellee, that the accident set out in the declaration could or might have caused the still-birth of the child in 1903 and the miscarriage in 1905. Appellant insists that this evidence is too conjectural to be admitted; that such evidence must show with reasonable certainty what the consequences are—not what might possibly follow. One of the physicians testified positively that in his judgment the accident caused the child to be still-born and the

defendant's counsel invoked the ultimate-issue rule and objected when "[o]ne of the physicians testified positively that in his judgment the accident caused the child to be still-born and the miscarriage."¹³⁰ After this objection was sustained, plaintiff's counsel apparently rephrased the question to obtain a qualified opinion whether the accident "could or might have caused" these damages. Defendant's counsel then objected that the question was unduly speculative. This second objection was overruled, and the defendant contended on appeal that the evidence on this aspect of damages was "conjectural" because it was not expressed with "reasonable certainty."¹³¹ Affirming the decision below, the Illinois Supreme Court held that the qualified opinion testimony was appropriate and not improperly speculative. The court pointed out the inconsistency in counsel's objection to the speculativeness of the testimony, inasmuch as the questions were "being asked in the form that he had apparently contended for when he had obtained the court's ruling striking out the answer wherein the physician testified positively."¹³²

Subsequent cases substantially limited the *Smith* rule,¹³³ and Dean Wigmore wrote a case note lauding the Illinois court for its apparent

miscarriage. This answer was stricken out, on motion of appellant, as improperly invading the province of the jury. In making this motion appellant apparently cited, and the court in ruling relied on, *Illinois Central Railroad Co. v. Smith*, 208 Ill. 608, 70 N.E. 628. After this motion was allowed, appellant's counsel objected to questions being asked in the form that he had apparently contended for when he had obtained the court's ruling striking out the answer wherein the physician testified positively that in his judgment the accident caused the birth of the child still-born and the miscarriage.

Id. at 818.

130. *Id.*

131. *Id.*

132. *Id.*

133. See, e.g., *Chicago Union Traction Co. v. Roberts*, 82 N.E. 401, 402 (Ill. 1907) ("It is entirely immaterial whether the witness testified that the injury *was* the cause of the condition, or that the injury was sufficient to cause the condition or *might* have caused it. . . . The question may be asked in either form." (emphasis added)); *City of Chicago v. Didier*, 81 N.E. 698, 700 (Ill. 1907) (holding that the restrictions of the ultimate-issue rule are inapplicable "where there is no dispute as to the manner of the injury"); *City of Chicago v. McNally*, 81 N.E. 23, 25 (Ill. 1907) (determining that a physician could testify that a condition "*must have been caused by some* traumatism or injury" (emphasis added)); see also KING & PILLINGER, *supra* note 105, at 76 ("In 1907, the Supreme Court made a series of exceptions to the rule of *Illinois C. R.R. Co. v. Smith*, which considerably weakened the force of that case as a precedent." (footnote omitted)).

repudiation of *Smith*.¹³⁴ Thus, by 1909 it appeared that *Smith* "was in the process of being overruled by erosion."¹³⁵

In the following decade, however, the Illinois Supreme Court reinterpreted these exceptions and reaffirmed its mandate for qualified expressions of expert opinion with respect to disputed facts.¹³⁶ The 1916 opinion in *Fellows-Kimbrough v. Chicago City Ry. Co.*¹³⁷ represented the court's most definitive statement of the ultimate-issue rule:

One of the objections of the plaintiff in error to the foregoing questions was that they were improper, as invading the province of the jury and calling for an opinion on an ultimate fact. Where there is a conflict in the evidence, as in this case, as to whether or not the party suing was injured in the manner charged, it is not competent for witnesses, even though testifying as experts, to give their opinions on the very fact the jury is to determine. . . .

. . . A physician may be asked whether the facts stated in a hypothetical question are *sufficient*, from a medical or surgical point of view, *to cause* and bring about a certain condition or malady, or he may be asked whether or not a given condition or malady of a person *may or could result from and be caused by* the facts stated in the hypothetical question; but he

134. See Wigmore, *Medical Expert*, *supra* note 106. The Note, reproduced below in its entirety, demonstrates both the strength of Wigmore's convictions and the fallibility of his predictions:

In *Chicago Union Traction Co. v. Roberts*, 229 Ill. 481, 82 N.E. 401 (Oct. 23, 1907), the Supreme Court plainly decides, per Dunn, J., writing the opinion, that "it is entirely immaterial whether the witness testified that the injury *was* the cause of the condition, or that the injury was sufficient to cause the condition or *might* have caused it. * * * The question may be asked in either form." We note with pleasure this plain declaration of a common-sense rule, because the question (which is a common one in personal-injury cases) has lately been the subject of much vain quibbling in some Courts, notably in that of Missouri. Even in our own State the quibbling view (by which the latter form of the question is alone allowed) was approved as recently as the opinion in *Illinois Central R. Co. v. Smith*, 208 Ill. 608, 70 N.E. 628 (1904). Three years afterward the sound view was taken in *Chicago v. Didier*, 227 Ill. 517, 81 N.E. 698 (1907), followed in *Chicago Union Traction Co. v. Extrachter*, 228 Ill. 114, 81 N.E. 816 (1907). The *Roberts* case now clinches this. We may expect to hear no more of the *Smith* case on this point. *Requiescat in pace; haud nimis infantem sepeliverunt mortuum.*

Id. (star ellipsis in original). As recounted *infra*, reports of *Smith's* death were premature.

135. KING & PILLINGER, *supra* note 105, at 80.

136. See *id.* at 80-83 (discussing cases which held that medical experts may testify that a subsequent condition was caused by the original injury only when there is no dispute as to the manner and cause of the injury); see also *Schlauder v. Chicago & S. Traction Co.*, 97 N.E. 233, 236 (Ill. 1911) (holding that it was improper for a medical expert to testify that the plaintiff's injury had no relation to or connection with the accident).

137. 111 N.E. 499 (Ill. 1916).

should *not* be asked whether or not such facts *did cause* and bring about such condition or malady.¹³⁸

C. *Tension Between the Two Rules*

The ultimate-issue rule was directly inconsistent with the reasonable-certainty rule, both in its underlying premises and in its application. Dean Wigmore was an early and vociferous critic of these rules, especially as applied by the courts of his own state. In the first and second editions of his treatise, Wigmore had this to say about the ultimate-issue rule's prohibition against "usurping the function of the jury":

This phrase is made to imply a moral impropriety or a tactical unfairness in the witness' expression of opinion. In this aspect the phrase is so misleading, as well as so unsound, that it should be entirely repudiated. It is a mere bit of empty rhetoric. There is no such reason for the rule, because the witness, in expressing his opinion, is not attempting to "usurp" the jury's function, nor could if he desired.¹³⁹

With respect to the reasonable-certainty rule, Wigmore criticized the decisions that had transformed the rule from a standard of proof into a limitation on admissibility. In the second edition of his treatise, he noted the inconsistency between these decisions and those requiring qualified expressions of opinion under the ultimate-issue rule:

It should be added that Courts sometimes misapply the Opinion rule to enforce the doctrine of Torts that a recovery for future *personal injuries* must include only the certain or fairly *probable*, but not the merely *possible* consequences; so that the judge instead of covering the subject by an instruction to the jury as to the measure of recovery, excludes from evidence a physician's opinion expressed in terms of possibility only. This attempt to control the course of expert testimony is of course unreasonable in itself. But its unsoundness becomes the more notable when the same Court is found ruling, in another line of precedents, that the physician may express an opinion as to what *might* have caused an injury, but not as to what *did* cause it. In other words, possibility, as affecting *consequences*, is tabooed, and

138. *Id.* at 502 (emphasis added).

139. 3 WIGMORE, first edition, *supra* note 31, § 1920, at 2556 (footnote omitted). Wigmore repeated this oft-quoted criticism verbatim in the second edition. See 4 WIGMORE, second edition, *supra* note 31, § 1920, at 115-16.

only actuality is to be accepted; but possibility, as affecting *causes*, is sanctioned, while actuality is tabooed.

This is only one of the many instances in which the subtle mental twistings produced by the Opinion rule have reduced this part of the law to a congeries of non-sense which is comparable to the incantations of medieval sorcerers and sullies the name of Reason.¹⁴⁰

Despite the obvious inconsistency between these two rules and the strong criticism from Dean Wigmore, the Illinois courts persisted in their adherence to the reasonable-certainty and ultimate-issue rules.¹⁴¹ While there has been "some diversity in the application" of the reasonable-certainty rule,¹⁴² the Illinois courts have recognized it even as recently at 1991.¹⁴³ With respect to the ultimate-issue rule, Dean Wigmore's view eventually prevailed.¹⁴⁴ Long after the courts of

140. 4 WIGMORE, second edition, *supra* note 31, § 1976, at 200-06. The two quoted paragraphs did not appear in the first edition of the treatise. See 3 WIGMORE, first edition, *supra* note 31, § 1976. In the second edition, this section was over eight pages long, more than double its length in the first edition. The three paragraphs of text (one old, two new) were supported by a single footnote consisting of roughly seven pages of small print in which Wigmore summarized all of the pertinent cases from each state. Wigmore devoted nearly a full page of the footnote to cases from Illinois, most of which post-dated the first edition of his treatise. About *Smith*, Wigmore said, "[T]his is a good example of that legal quibbling which creates for the law of trials a disrespect in the minds of competent physicians . . ." 4 WIGMORE, second edition, *supra* note 31, § 1976, at 200 n.1. About *Fellows-Kimbrough*, Wigmore added, "unsound; if there is no dispute as to the cause, why take testimony on the point; . . . the error arises from a misquotation of *Chicago v. Didier* . . ." *Id.*

141. With respect to the ultimate-issue rule, the Illinois courts were not alone in ignoring Wigmore's advice:

The father of the idea of repealing the ultimate-issue rule is Dean Wigmore, who, as early as 1899, in his edition of *Greenleaf on Evidence* dropped out entirely the sections of the prior editions relating to the ultimate-issue rule and inserted a condemnation of that rule. He has maintained the same position throughout the subsequent editions of his work on Evidence. Despite the great deference universally paid Wigmore, both in England and America, as the leading authority on evidence, the courts have not followed his ideas on this subject. Instead, by a great flood of decisions, they have adopted and strengthened the ultimate-issue rule

KING & PILLINGER, *supra* note 105, at 19 (footnotes omitted).

142. *Id.* at 92 & n.67.

143. See, e.g., *Rainey v. City of Salem*, 568 N.E.2d 463, 469 (Ill. App. Ct. 1991) (rejecting an objection to testimony about future damages as "based on mere surmise or conjecture," because the opinion was expressed with "reasonable medical certainty"); see also *Overocker v. Retoff*, 234 N.E.2d 820, 825 (Ill. App. Ct. 1968) ("[T]he doctor should not have been allowed to give his opinion as to what 'might' develop in the future."); *Gaydos v. Peterson*, 20 N.E.2d 837, 841 (Ill. App. Ct. 1939) (noting that testimony that opacities "may be permanent" should have been stricken, because the opinion was not held with "reasonable medical certainty").

144. See *infra* notes 450-455 and accompanying text.

other jurisdictions had begun to heed Wigmore's advice,¹⁴⁵ however, he remained a prophet without honor in his own land.¹⁴⁶

D. *The Genesis of "Reasonable Medical Certainty" in Illinois*

The phrase "reasonable medical certainty" quite obviously derives from the phrase "reasonable certainty." Given the relationship between the latter phrase and the rule of certainty applicable to medical testimony about future damages, one might have expected to find the earliest examples of the phrase "reasonable medical certainty" in the examination of doctors on the subject of the permanence or future consequences of their patients' injuries. Surprisingly, however, none of the earliest appearances of the phrase involved testimony about future damages.¹⁴⁷ Even more surprisingly, nearly all of the earliest appearances of the phrase occurred in questions about *causation*,¹⁴⁸ a topic on which definitive expressions of opinion were forbidden by the ultimate-issue rule.

While it would be understandable if attorneys cognizant of the reasonable-certainty rule had begun to phrase questions about *future damages* with expressions of reasonable certainty, it is not readily apparent why attorneys would use this phrase in asking questions about *causation*. It is possible that once attorneys had developed the practice of using the phrase "reasonable certainty" in hypothetical questions about damages, they became so habituated to its use that they began to include the phrase in all hypothetical questions posed to physicians—including those addressing the issue of causation—without any conscious awareness that the phrase was not appropriate in this particular context. Another possibility is that attorneys purposely prefaced their questions about causation with the "reasonable certainty" formulation in an effort to offset or mask the conjectural nature of the qualified opinions they were required to elicit under the ultimate-issue

145. See *infra* note 449.

146. The Illinois courts adhered to the ultimate-issue rule throughout the 1950s, insisting that medical experts express opinions on causation in the qualified "might or could" form. *E.g.*, *Smith v. Illinois Valley Ice Cream Co.*, 156 N.E.2d 361, 366 (Ill. App. Ct. 1959); *Santiemmo v. Days Transfer, Inc.*, 133 N.E.2d 539, 544 (Ill. App. Ct. 1956). In *Clifford-Jacobs Forging Co. v. Industrial Commission*, 166 N.E.2d 582, 587 (Ill. 1960), the Illinois Supreme Court at last rejected the ultimate-issue rule to the extent of allowing experts to give definitive medical opinions on causation when asked to assume the truth of facts testified to, even if they were in dispute. See discussion *infra* notes 450-453 and accompanying text.

147. The phrase did not appear in conjunction with testimony about future damages until the 1939 case, *Gaydos v. Peterson*, 20 N.E.2d 837 (Ill. App. Ct. 1939), discussed *infra* notes 193-196 and accompanying text.

148. See cases cited *infra* notes 168 and 179.

rule.¹⁴⁹ While we probably will never know why attorneys began to use the phrase "reasonable certainty" to preface questions about causation, we do know that by 1913 at least one member of the Illinois bar had done so.¹⁵⁰

A search of all published American cases in which the three words—"reasonable," "medical," and "certainty"—appear in a single sentence and are used together to express the concept of "reasonable medical certainty" identified a singular Illinois opinion from which the phrase is reasonably certain to have originated.¹⁵¹ Although these three words appear in the same sentence in a number of earlier opinions, the first case in which they are employed in the sense of "reasonable medical certainty" is *Fellows-Kimbrough v. Chicago City Ry. Co.*,¹⁵² the 1916 opinion in which the Illinois Supreme Court definitively reaffirmed the ultimate-issue rule.¹⁵³

The plaintiff in *Fellows-Kimbrough* had sought recovery for various ailments, including breast cancer and a traumatic neurasthenia, allegedly resulting from injuries sustained when she was thrown to the floor of a railway car when two trains collided.¹⁵⁴ At the 1913 trial,¹⁵⁵

149. Courts and commentators in North Carolina noted that the phrase "reasonable medical certainty" served to mask the speculative character of "might or could" opinion testimony that was required under the ultimate-issue rule in that state. A leading authority on the law of evidence in North Carolina observed:

Lockwood v. McCaskill, 262 N.C. 663, 138 S.E.2d 541 (1964), interpreted literally, created a dilemma—i.e., "could or might" was not positive enough to justify a finding, but no more positive opinion was admissible. In practice, the dilemma was resolved by treating "could or might" as sufficient, though the questions were frequently embroidered by such phrases as "to a reasonable degree of medical certainty."

1 HENRY BRANDIS, JR., BRANDIS ON NORTH CAROLINA EVIDENCE § 137, at 549 n.57 (2d rev. ed. 1982) (quoted in *Cherry v. Harrell*, 353 S.E.2d 433, 437 (N.C. Ct. App. 1987)).

150. See *infra* text accompanying note 156.

151. Astute readers will note that this opinion is expressed with a reasonable degree of legal certainty.

152. 111 N.E. 499, 502 (Ill. 1916).

153. See *supra* notes 137-138 and accompanying text.

154. *Fellows-Kimbrough*, 111 N.E. at 500-01. As described in the opinion, the plaintiff emerges as a striking character who led a difficult life. The court noted that she was "a colored woman and physician in active practice and earning \$200 per month by her profession . . . Her evidence also tended to show that she was a strong, robust, lively, energetic woman of the age of 41 years and weighing 250 pounds when injured." *Id.* at 501. In addition to denying liability, the defendant asserted that her traumatic neurasthenia was "the result of a series of troubles that she experienced as the result of three marriages and two divorces and two long spells of sickness and confinement in a hospital, during which time she underwent two severe surgical operations." *Id.*

155. The accident occurred in 1907. At the first trial, in 1909, the jury rendered a verdict for the plaintiff in the amount of \$7000, and the trial court subsequently ordered a remittitur reducing the award to \$4000. The appellate court then reversed this judgment because of improper conduct by one of the plaintiff's attorneys. At the second trial, in

plaintiff's counsel posed the following hypothetical question to the plaintiff's physician:

"Doctor, referring to the supposititious [sic] or hypothetical patient and taking into account the elements of the hypothesis, have you an opinion *as a medical man, and based upon reasonable certainty, as to what was the cause of the neurasthenia and the tumor in the hypothetical patient?*"¹⁵⁶

The court held that this question was improper because it called for a definitive opinion by asking what "was" the cause instead of what "may or could be" the cause.¹⁵⁷ Although the court held that the question was improper because it called for a definitive opinion, the court did not criticize the use of the phrase "reasonable certainty." Moreover, earlier in the opinion, the court *encouraged* the expression of medical opinions with "reasonable certainty" insofar as it found error in the admission of testimony about future damages that it deemed unduly speculative under the reasonable-certainty rule.¹⁵⁸

Given the court's holding that the error in the above question stemmed from the use of the word "was" instead of "might or could," an attorney seeking to rephrase that question in accordance with the court's holding could request a medical opinion about causation in the "might or could" form and yet retain the reference to "reasonable certainty." Literal compliance with the court's directions would yield the following rephrasing of the lawyer's question:

March 1913, the jury rendered a verdict for \$3750, upon which judgment was entered. The case reached the Supreme Court of Illinois from the appellate court's affirmance of the judgment in this second trial. *Id.* at 500-01.

156. *Id.* at 502 (emphasis added).

157. The court stated:

A physician may be asked whether the facts stated in a hypothetical question are sufficient, from a medical or surgical point of view, to cause and bring about a certain condition or malady, or he may be asked whether or not a given condition or malady of a person may or could result from and be caused by the facts stated in the hypothetical question; but he should not be asked whether or not such facts did cause and bring about such condition or malady.

Id.

158. With regard to the testimony about future damages, the court said:

It is clear that the evidence thus elicited and objected to by plaintiff in error is purely speculative evidence—that is, the conjecture of the witness as to consequences that are mere possibilities—and was therefore incompetent.

. . . Mere surmise or conjecture cannot be regarded as proof of an existing fact or of a future condition that will result. *Expert witnesses can only testify or give their opinion as to future consequences that are shown to be reasonably certain to follow.*

Id. (emphasis added). The italicized sentence also appeared in the third headnote to the opinion, indexed under "Evidence k547—Experts—Scope of Opinion." *Id.* at 500 headnote 3.

Doctor, [based on the assumed facts], have you an opinion *as a medical man, and based upon reasonable certainty, as to what may or could have been the cause of [plaintiff's condition]?*

Moreover, the court itself suggested an alternative rephrasing of the question when it declared:

A physician may be asked whether the facts stated in a hypothetical question are sufficient, *from a medical or surgical point of view*, to cause and bring about a certain condition or malady, or he may be asked whether or not a given condition or malady of a person may or could result from and be caused by the facts stated in the hypothetical question¹⁵⁹

The West Publishing Company incorporated this passage in one of the headnotes,¹⁶⁰ thereby encouraging attorneys to use this phrase in formulating questions on causation. Replacing "as a medical man" with "from a medical or surgical point of view" would yield the following question:

Doctor, [based on the assumed facts], have you an opinion *from a medical and surgical point of view, and based upon reasonable certainty, as to what may or could have been the cause of [plaintiff's condition]?*

Questions in almost precisely this form appeared in Goldstein's 1935 manual on *Trial Technique*:

Doctor, have you an opinion, *based upon reasonable certainty and from a medical and surgical viewpoint, if the facts assumed could cause the condition assumed and existing up to the present time?*¹⁶¹

. . . .

. . . Doctor, assuming these facts to be true, have you an opinion *based upon reasonable certainty, and from a medical and surgical standpoint as to whether there might or could be a causal connection between the accident described and the condition of ill-being found as set forth in this question?*¹⁶²

159. *Id.* at 502 (emphasis added).

160. The fifth headnote to the opinion, indexed under "Evidence k553—Expert Witness—Hypothetical Question," reads:

A physician may be asked whether the facts stated in a hypothetical question are sufficient *from a medical or surgical point of view* to bring about a certain condition or malady, or he may be asked whether or not a given condition or malady of a person may or could result from the facts stated in the hypothetical question.

Id. at 500 headnote 5 (emphasis added).

161. GOLDSTEIN, *supra* note 34, § 507, at 455 (emphasis added).

162. *Id.* § 523, at 465 (emphasis added).

Beginning in the 1940s, Illinois attorneys frequently employed these "medical and surgical" variants of "reasonable medical certainty" in framing questions for physicians.¹⁶³

Finally, it is easy to understand how the rephrased question in *Fellows-Kimbrough* could be further refined to generate the phrase "reasonable medical certainty." An attorney seeking to shorten the question could condense "as a medical man" or "from a medical and surgical point of view" into the adjective "medical" and insert it between "reasonable" and "certainty." The lexical evidence thus supports the hypothesis that the phrase "reasonable medical certainty" was developed by personal injury attorneys through conscious adaptation of the model provided by the opinion in *Fellows-Kimbrough*.¹⁶⁴

The one weakness in the hypothesis that the phrase originated through refinement of the model provided in *Fellows-Kimbrough* is the absence of the phrase "reasonable medical certainty" from subsequent appellate opinions involving personal injury litigation between 1916 and 1930.¹⁶⁵ If the phrase arose in response to that opinion, one would have expected to find examples of the phrase in personal injury litigation thereafter. Curiously, the phrase is not found in any pub-

163. The first case reflecting the "medical and surgical" form of question was published in 1943. *Hogmire v. Voita*, 49 N.E.2d 811 headnote 6 (Ill. App. Ct. 1943) ("from a medical and surgical point of view, with a reasonable degree of certainty"). Search of WESTLAW, Allcases-old Database (Feb. 20, 1998) (reasonable /s "medical and surgical" /s certainty) (retrieving 3 cases, of which only *Hogmire* used these terms in the sense of a "reasonable degree of medical and surgical certainty"). Thereafter, the phrase appears in 54 opinions, of which 45 issued from federal or state courts in Illinois. Search of WESTLAW, Allcases Database (Feb. 20, 1998) (da(bef 1997) & reasonable /s "medical and surgical" /s certainty) (retrieving 62 cases, of which 54 used these terms to quote or paraphrase testimony based on a "reasonable degree of medical and surgical certainty"); see also *infra* notes 233 and 456.

Numerous "medical and surgical" variants appear in a book written for medical witnesses by Chicago attorney Harold Liebenon. See LIEBENON, *supra* note 85, at 146-50 (providing 18 sample questions employing this phrase for civil cases and 6 for criminal cases); see also *id.* at 129, 141 (explaining that "the law" wants doctors to give opinions based on "a reasonable degree of medical and surgical certainty"). Of the 54 published opinions that contain these medical and surgical variants of the phrase, 49 post-date Liebenon's book, and 42 of these are from courts in Illinois.

164. That *Fellows-Kimbrough* may have served as a model for development of the phrase "reasonable medical certainty" is especially ironic in light of the dual holdings in that case. On the one hand, the court found a violation of the ultimate-issue rule in the admission of a definitive medical opinion on causation that was expressed with reasonable certainty. On the other hand, the court found a violation of the reasonable-certainty rule in the admission of medical evidence on future damages that was *not* expressed with reasonable certainty. See *supra* notes 152-160 and accompanying text. Indeed, it is possible that the court's discussion of the reasonable-certainty rule was a critical factor in legitimizing and reinforcing what may have been an inadvertent use of the phrase "reasonable certainty" to preface the hypothetical question about causation.

165. See *supra* note 101 and accompanying text.

lished decisions until 1931,¹⁶⁶ and the "medical and surgical" variants do not appear until 1943.¹⁶⁷ Moreover, the phrase "reasonable medical certainty" makes its first appearance not in personal injury litigation but in proceedings involving claims for workers' compensation. Indeed, all five Illinois cases in which the phrase "reasonable medical certainty" or "reasonable degree of medical certainty" appeared prior to 1935 were workers' compensation proceedings.¹⁶⁸ This suggests that the phrase may have evolved independently of *Fellows-Kimbrough* in the practice of attorneys specializing in workers' compensation claims.¹⁶⁹

A chronological analysis of Illinois cases containing the phrases "reasonable certainty" and "reasonable (degree of) medical certainty" is consistent with the hypothesis that the phrase arose in workers' compensation cases, independently of *Fellows-Kimbrough*, through the efforts of attorneys to offset the speculative quality of opinions on causation that were cast in the qualified "might or could" form as mandated by the ultimate-issue rule. Three workers' compensation cases from the late 1920s reflect testimony by physicians on the issue of causation that were phrased in the qualified (i.e., "might" or "could") form but prefaced with expressions of "reasonable certainty."¹⁷⁰ Like-

166. See *Sanitary Dist. v. Industrial Comm'n*, 175 N.E. 372, 373 (Ill. 1931) (per curiam); see also *infra* notes 172-173 (discussing *Sanitary Dist.*).

167. See *Hogmire v. Voita*, 49 N.E.2d 811 headnote 6 (Ill. App. Ct. 1943) ("from a medical and surgical point of view, with a reasonable degree of certainty").

168. See *Ford Motor Co. v. Industrial Comm'n*, 192 N.E. 345, 346 (Ill. 1934); *Burns v. Industrial Comm'n*, 191 N.E. 225, 229 (Ill. 1934); *Plano Foundry Co. v. Industrial Comm'n*, 190 N.E. 255, 260 (Ill. 1934); *Allith-Prouty Co. v. Industrial Comm'n*, 185 N.E. 267, 268 (Ill. 1933); *Sanitary Dist.*, 175 N.E. at 373.

169. This supposed distinction between the personal injury and workers' compensation bar may be untenable insofar as many attorneys probably practiced in both fields. To the extent that substantial overlap existed, the initial appearance of the phrases "reasonable medical certainty" and "reasonable degree of medical certainty" in workers' compensation proceedings would not be inconsistent with the hypothesis that the phrase arose through conscious adaptation of the hypothetical question in *Fellows-Kimbrough*.

170. See *Philadelphia & Reading Coal & Iron Co. v. Industrial Comm'n*, 165 N.E. 161, 162 (Ill. 1929) (discussing a physician who testified in response to a hypothetical question "that the necessary result of the work [claimant] was doing 'would be to increase the blood pressure, and such an increase in the blood pressure, with a diseased heart, *might with all reasonable certainty* over tax—over-dilate—the heart and result in his collapse and death'" (emphasis added)); *Armour Grain Co. v. Industrial Comm'n*, 153 N.E. 699, 701 (Ill. 1926) (discussing a physician who "gave it as his judgment that that condition *might with reasonable certainty* be due to the accident [claimant] sustained" (emphasis added)); *Benton Coal Mining Co. v. Industrial Comm'n*, 151 N.E. 520, 525 (Ill. 1926) (discussing a physician who "gave it as his judgment that [claimant's condition] *might, and could with reasonable certainty*, have been caused by the contact with the electric wire and his fall on the steel rail" (emphasis added)).

wise, *Sanitary Dist. v. Industrial Commission*,¹⁷¹ the very first opinion containing the phrase "reasonable medical certainty," involved testimony in the "might or could" form on the issue of causation in a workers' compensation case.

Sanitary Dist. arose on the employer's appeal from an award to the claimant for a nervous condition supposedly caused by a work-related fall into the Chicago River. The court's summary of the testimony before the Industrial Commission disclosed two expert opinions expressed with "reasonable medical certainty" and one with "a degree of medical certainty."¹⁷² Despite these expressions of medical certainty, the court concluded that the testimony "that there might or could be a direct causal connection between the accident and the condition" was unduly speculative and was insufficient to support the award, which the court found to be "contrary to the manifest weight of the evidence."¹⁷³

171. 175 N.E. 372 (Ill. 1931) (per curiam).

172. *Id.* at 373-74. The questions in this case had requested definitive opinions, but the physician qualified his answers with expressions of "might or could":

Doctor Scott, a specialist in treatment of traumatic cases, testified A hypothetical question was put to the doctor . . . , and he was asked whether he had an opinion, with *a reasonable degree of medical certainty*, as to whether there was a causal relationship between the accident of May 25, 1927, and the ill being as stated in the hypothetical question. An objection to the question was overruled. *His answer was that there might or could be a direct causal connection between the accident and the condition described in the hypothetical question. . . .*

Dr. Stevens [a treating physician] . . . was asked a hypothetical question . . . , and *his reply was that there could be a causal relation* between the facts as outlined in the hypothetical question and English's [the claimant's] present condition. He testified that from the fact, as he had been informed, that English's decline began after the accident, the submerging in the water of the canal *could, with reasonable medical certainty*, aggravate a pre-existing nervous tension and increase it to a point where eventually he became disabled. . . .

Dr. Goodman [a treating physician] testified A hypothetical question was put to the doctor . . . , and he was asked whether he had an opinion, *based on a degree of medical certainty*, as to what was the matter with this man.

Id. (emphasis added).

173. *Id.* at 375. Two years later, the Illinois Supreme Court indicated that the "might or could" form of the hypothetical question was unnecessary in workers' compensation cases. *Porter v. Industrial Comm'n*, 186 N.E. 110, 113 (Ill. 1933). In holding that a physician's definitive testimony was competent evidence to support the award, the court declared:

The physician testified as an expert witness, and it was immaterial whether he expressed the opinion that the injury was the cause, or was sufficient to cause, or might have caused, the condition. The answer was merely the opinion of the witness upon a state of facts assumed to be true. It still remained for the arbitrator, the commission, and the circuit court successively to determine the facts.

Id. The opinion in *Porter* strongly suggested that the ultimate-issue rule did not apply to hypothetical questions in workers' compensation proceedings. KING & PILLINGER, *supra* note 105, at 86. Read together, *Porter* and *Sanitary Dist.* sent the message that in eliciting

The phrase "reasonable medical certainty" appeared in six more workers' compensation cases in the ten years following *Sanitary Dist.*¹⁷⁴ In none of these cases did the court attach any legal significance to the phrase.¹⁷⁵ Nevertheless, by 1942, the phrase had become a term of art in practice before the Industrial Commission:

The stock form of hypothetical question in such [workers' compensation] cases asks the doctor if he has an opinion as to whether or not there was a "causal relation based upon a reasonable degree of medical certainty between the accident and the subsequent condition of ill-being as described in the hypothetical question."¹⁷⁶

The chronological evidence thus supports the hypothesis that the phrase "reasonable medical certainty" originated in the practice of attorneys handling workers' compensation claims. This evidence fails to explain, however, why Illinois attorneys would insert the adjective "medical" between "reasonable" and "certainty." The alternative hypothesis, that the opinion in *Fellows-Kimbrough* served as the model, provides an explanation for the insertion of the word "medical." Nevertheless, this theory leaves an unexplained gap of fifteen years between that decision and the first appearance of the phrase in a published opinion.

This gap may be more apparent than real, however. The absence of the phrase from published opinions does not mean that attorneys were not using the phrase. In Pennsylvania, for example, a single fed-

expert testimony with respect to causation in workers' compensation cases, the qualified "might or could" form of question was neither necessary nor sufficient.

174. See *Stewart Warner Corp. v. Industrial Comm'n*, 33 N.E.2d 196, 198 (Ill. 1941); *Shell Petroleum Corp. v. Industrial Comm'n*, 10 N.E.2d 352, 354 (Ill. 1937); *Ford Motor Co. v. Industrial Comm'n*, 192 N.E. 345, 346 (Ill. 1934); *Burns v. Industrial Comm'n*, 191 N.E. 225, 229 (Ill. 1934); *Plano Foundry Co. v. Industrial Comm'n*, 190 N.E. 255, 260 (Ill. 1934); *Allith-Prouty Co. v. Industrial Comm'n*, 185 N.E. 267, 268 (Ill. 1933).

175. In one case, the Illinois Supreme Court reversed an award to the claimant despite the existence of testimony expressed with "reasonable medical certainty." See *Allith-Prouty*, 185 N.E. at 269. The Industrial Commission had awarded benefits to the worker's widow based on testimony from two physicians that, with "reasonable medical certainty," the working conditions at the factory "necessarily accentuated the natural hazards" and bore a "causal relation" to his death from pneumonia. *Id.* at 268. The Supreme Court reversed the award, however, because neither witness was able to affirm the existence of either an accident or a preexisting disease that was aggravated by the working conditions. *Id.* at 268-69.

In *Plano Foundry Co.*, 190 N.E. at 260-61, the court affirmed an award for the claimant where all ten medical witnesses—six for the claimant and four for respondent—had expressed their opinions in response to hypothetical questions phrased "as a matter of reasonable medical certainty."

176. KING & PILLINGER, *supra* note 105, at 86 (footnote omitted).

eral opinion disclosed that the phrase was in use in that state by 1955;¹⁷⁷ yet, the phrase did not appear in an opinion of the state courts until 1968.¹⁷⁸

Moreover, it is clear that by the early 1930s, Illinois attorneys were using the phrase "reasonable medical certainty" in contexts other than workers' compensation proceedings. The second case in which the phrase appeared was a 1933 federal appellate decision arising from an action to recover benefits under a life insurance policy.¹⁷⁹ In addition, from 1935 through 1940, the phrase appeared in appellate opinions in two other federal cases¹⁸⁰ and five state cases,¹⁸¹ only one

177. See *Vaccaro v. Marra Bros., Inc.*, 130 F. Supp. 12, 13 (E.D. Pa. 1955).

178. See *DeVirgiliis v. Gordon*, 243 A.2d 459, 460 (Pa. Super. Ct. 1968) (Hannum, J., dissenting). For further discussion of this gap between the first appearances of the phrase in federal and state court opinions in Pennsylvania and other states, see *infra* notes 232, 331-342, 380-381 and accompanying text.

179. See *Alexander v. Missouri State Life Ins. Co.*, 68 F.2d 1, 2 (7th Cir. 1933) (applying Illinois law). In this appeal from a judgment of the District Court for the Northern District of Illinois denying plaintiff recovery under the double indemnity provision for accidental death under a life insurance policy, the phrase appeared in quotations of two hypothetical questions:

"Q. * * * Based upon the above assumption of facts have you an opinion as to whether or not the hypothetical individual received injuries evidenced by the abrasions or bruises which *with a reasonable degree of medical certainty might or could have caused* the cerebral hemorrhage resulting in the death of the hypothetical individual?

...

"Q. * * * Have you an opinion as to whether or not the accident which was evidenced by the abrasions or contusions discovered on the forehead and cheek of the hypothetical individual *might or could have had, with a reasonable degree of medical certainty, a causal connection* with the death of the hypothetical individual?"

Id. (star ellipses in original) (emphasis added). The trial court had overruled plaintiff's objection that the doctor's answer to these questions invaded the province of the jury. In affirming the judgment, the Seventh Circuit did not rely upon the "might or could" phrasing but instead distinguished *Fellows-Kimbrough* on the basis of earlier Illinois cases that allowed physicians to express definitive opinions on causation whenever the manner of injury was not disputed. *Id.* at 3.

180. See *Gray v. Pet Milk Co.*, 108 F.2d 974, 976 (7th Cir. 1940) (action for personal injuries); *Mangol v. Metropolitan Life Ins. Co.*, 103 F.2d 14, 15 (7th Cir. 1939) (action seeking indemnity for an accidental death under an insurance policy). In *Gray*, the court provided the following glimpse of the trial testimony:

In response to the question, "In your opinion, as a physician and with reasonable medical certainty, can you say that these disturbances you have told us about could, or might, have resulted from drinking milk containing the body of a mouse?" he replied, over appellant's objection, "I would say that it could, or there is a possibility of it being something else * * *"

108 F.2d at 976 (star ellipsis in original).

181. See *Shell Petroleum Corp. v. Industrial Comm'n*, 10 N.E.2d 352, 354 (Ill. 1937) (cause of death in a workers' compensation claim); *Gaydos v. Peterson*, 20 N.E.2d 837, 841 (Ill. App. Ct. 1939) (future damages for personal injury); *Kilroy v. Retirement Bd. of Park Policemen's Annuity & Benefit Fund*, 17 N.E.2d 527, 529 (Ill. App. Ct. 1938) (claim for

of which involved workers' compensation proceedings. This suggests that the phrase was already in general use by the trial bar as of the mid-1930s.

Regardless of whether the phrase was first employed in personal injury or workers' compensation proceedings, it is abundantly clear that by the mid-1930s the phrase "reasonable medical certainty" was well established in the lexicon of Chicago lawyers engaged in personal injury litigation. The most compelling evidence of the pervasiveness of the phrase among the Chicago trial bar is Irving Goldstein's 1935 manual on *Trial Technique*.¹⁸²

Goldstein practiced in Chicago,¹⁸³ and he gathered his illustrations in *Trial Technique* "from more than a thousand records of actual cases tried by leading and successful trial attorneys,"¹⁸⁴ culled from the files of the Illinois appellate court in Chicago.¹⁸⁵ Thus, his manual should be viewed as a reflection of contemporary civil litigation practice in Chicago. *Trial Technique* contained numerous examples of hypothetical questions to experts, virtually all of which employed variants of the phrase "reasonable medical certainty."¹⁸⁶ Most significantly, in the section on "Forms of conclusions," all nine of Goldstein's examples of questions addressed to doctors employed variants of the phrase "reasonable medical certainty" as a preface to requests for qualified expressions of opinion on causation or medical negligence.¹⁸⁷

death benefits resulting from injuries incurred in the line of duty); *Ebbert v. Metropolitan Life Ins. Co.*, 7 N.E.2d 336, 339 (Ill. App. Ct. 1937) (death from a disease, and not from an injury, in a claim for double indemnity on a life insurance policy), *aff'd*, 16 N.E.2d 749 (Ill. 1938); *People ex rel. Oemke v. Schuring*, 6 N.E.2d 217, 219 (Ill. App. Ct. 1937) (sterility of a putative father in paternity proceedings).

182. GOLDSTEIN, *supra* note 34.

183. For a brief presentation of Goldstein's biographical information, see *supra* note 32.

184. GOLDSTEIN, *supra* note 34, at vi.

185. Goldstein's preface acknowledged "Judge William H. McSurely of the Illinois Appellate Court (First District) for his kind permission to refer to all records of cases, and the kind assistance of Mr. Joseph Morrison, Deputy Appellate Clerk." *Id.* at viii.

186. See *id.* at 398, 455-57, 465-67, 473.

187. This section provides:

§ 507.—Forms of conclusions.

Ordinarily, in cases where the facts are in dispute, the *conclusion* must confine the opinion to be given to the probable result of the combination of facts or circumstances assumed. It may be in one of the following forms:

(1) Doctor, have you an opinion, based upon reasonable medical certainty as to whether or not there might or could be a causal connection between the accident described and the condition of ill-being found as set forth in this question?

(2) Have you an opinion, based upon a reasonable medical certainty as to whether there is or may be a direct causal connection between the particular

While Goldstein's manual reflected the pervasiveness of the phrase "reasonable medical certainty" in Illinois litigation practice as of the mid-1930s, neither the book nor the earliest reported opinions in which the phrase appears suggested that the phrase had any *legal* significance. In each of the decisions in which the phrase appeared prior to 1935, the court focused on the substance of the doctor's opinion, and in none did the court indicate that this particular phrase was essential or even helpful.¹⁸⁸ Only with respect to future damages did Illinois law tend to encourage the expression of medical opinions with reasonable certainty.¹⁸⁹

traumatism or fall described and the resulting pathology as described to you in this hypothetical question?

(3) Have you an opinion, based upon reasonable medical certainty [as to] whether or not the given condition or malady of the hypothetical person may or could result from and be caused by the facts stated in the hypothetical question?

(4) Doctor, assuming those facts to be true, have you an opinion, based upon a reasonable certainty and from a medical and surgical point of view as to whether the facts assumed in the question and the injury assumed, namely, the dislocation of the vertebrae and the fracture of the lamina of the sixth cervical vertebra, are sufficient to cause the symptoms and the conditions assumed in the question?

(5) Doctor, have you an opinion, based upon reasonable certainty and from a medical and surgical viewpoint, if the facts assumed could cause the condition assumed and existing up to the present time?

(6) Doctor, have you an opinion, based upon a reasonable medical certainty, as to what might or could have caused the death of the hypothetical man?

(7) (In an occupational disease case) Have you an opinion, doctor, as to whether there might or could, with reasonable medical certainty, be a causal relationship between this employment which I have described in this question and the condition of this young man in June 1931 and down to the present time?

(8) (Aggravation of a pre-existing ailment) Have you an opinion, based upon reasonable medical certainty as to whether or not there is or may be a direct causal connection between the accident described, the pre-existing ailment related herein, and the condition of ill-being found as set forth in this question?

(9) (In malpractice case—Doctor) Doctor, assuming the facts stated in this question to be true, have you an opinion, based upon reasonable certainty and from a medical and surgical point of view, as to whether or not the course pursued by the operating surgeon was such a course as could be pursued by a skillful and careful physician and surgeon engaged in the same line of work in the City of — and State of — in January, 1932?

(10) (In malpractice case—Lawyer) Mr. Jones, assuming the facts to be as stated in this hypothetical question, have you an opinion as to whether or not Mr. Blank in the defense and trial of the case of Henry Thompson, used and exercised the same degree of care and diligence and ability that is usually, ordinarily and reasonably used by lawyers in good standing in the City of — and State of — in June, 1933?

Id. at 455-56.

188. The cases are cited *supra* notes 168 and 179.

189. The Illinois version of the reasonable-certainty rule is discussed *supra* Part II.A.

It was not until the 1937 decision in *Shell Petroleum Corp. v. Industrial Commission*¹⁹⁰ that a court attached any significance to the failure of a witness to express an opinion with "reasonable medical certainty." The court in that case reversed an award for a mental and emotional condition supposedly caused by a blow on the head suffered during a robbery at the claimant's place of employment.¹⁹¹ The court held that the evidence was insufficient to support the award because of the absence of testimony as to "any reasonable medical certainty of a causal relationship between the blow on the head and the employee's total break down."¹⁹² By incorporating the phrase "reasonable medical certainty" in its analysis of the sufficiency of the evidence, the court transformed an established practice into an aspect of legal doctrine, thereby reinforcing the usage. As was true of Goldstein's manual, however, the opinion in *Shell Petroleum Corp.* did not explain the phrase, implying that its meaning and significance were self-evident.

190. 10 N.E.2d 352 (Ill. 1937).

191. *Id.* at 353, 356.

192. *Id.* at 354. The court's summary of the testimony provides a typical example of a physician's reluctance to express an opinion on causation with "reasonable medical certainty":

For the employee, Dr. Walton was asked a hypothetical question containing substantially all of the facts set forth in the earlier part of this opinion, and was then asked, "Now, doctor, have you an opinion as a medical man, based upon these facts, *whether there could be any medical certainty that the alleged assault on July 27, 1930, did or did not cause the present condition?*" to which the witness replied, . . . "The injury would produce some trauma of the brain. As to the causative factor of his condition, whether it was one of the causative factors, there are several others." This answer was stricken, and the previous question, in substance, was repeated, to which the witness said, "I don't think I can answer that except as one of the causative factors." He was then asked if he could answer yes or no and said, "To the general question, I would say no, it wasn't the cause." *He was then asked whether he had an opinion, as a medical man, whether there could be any medical certainty that the alleged assault caused the condition and the witness said, "You say 'certainty'?" and the attorney then asked if there was any medical certainty[.] The witness then said, "I can't state yes to that question. I don't think there is a medical certainty. There is a very strong probability. I have an opinion. I have not a certainty, my opinion is that it is a causative factor; could cause this condition—not alone, I don't think so. I don't think it could cause it alone, the injury, I mean."* The witness' answers to further questions stated that the blow could produce the condition by inciting the degenerative processes in the brain, and, in response to several further questions, gave it as his opinion that the Parkinson disease could result from the facts stated in the hypothetical question, *but, at no time, stated that the blow on the head could, with any medical certainty, be stated to have caused the existing disability. . . . A careful reading of the testimony of this doctor fails to disclose that he, at any time, definitely stated that there was any reasonable medical certainty of a causal relationship between the blow on the head and the employee's total break down. The most he said, at any time, was that there could be such a connection.*

Id. (emphasis added).

The 1939 opinion in *Gaydos v. Peterson*¹⁹³ represented the first instance in which a doctor's testimony was ruled *inadmissible* because it was not expressed with reasonable medical certainty.¹⁹⁴ In holding that testimony about the possibility of a permanent impairment should have been excluded as speculative and conjectural, the appellate court was applying the well-established reasonable-certainty rule and did not attribute any special significance to the inclusion of the word "medical."¹⁹⁵ Nevertheless, the court's reiteration of the phrase "reasonable medical certainty" and the appearance of this phrase in one of the headnotes¹⁹⁶ would have contributed to the ascendance of this phrase from legal practice to legal doctrine.

193. 20 N.E.2d 837 (Ill. App. Ct. 1939).

194. *Id.* at 841.

195. The complete quotation makes it clear that the court was simply applying the reasonable-certainty rule to the testimony of the witness as elicited by counsel and that the inclusion of the word "medical" was not meant to create a new legal standard:

One of the questions is: "In your opinion to a *reasonable medical certainty*, is that a permanent condition—first of all, the vitreous, the opacities in the vitreous?" To which the doctor answered: "Yes, it is awfully hard to say that is permanent, but on the other hand it has been there a considerable time." This was objected to and the objection sustained by the court, after which this question was asked by the plaintiff's attorney: "Have you an opinion, to a *reasonable medical certainty* about the opacities in the vitreous of the right eye?" To which the doctor answered: "I would say that they may be permanent, but there is a chance that they may absorb." To this answer a motion was made by the defendants that it be stricken, which motion was denied. The defendants contend that their motion to strike was well founded. When the doctor said the opacities may be permanent or may absorb, *it was clear that he had, on the question of permanence, no opinion to a reasonable medical certainty, which was what he was asked and the only thing he could properly be asked.* His answer showed that all he had in mind was a possibility, a conjecture, a mere speculation and the answer, if for no other reason, should have been stricken as unresponsive. The case of *Lauth v. Chicago Union Traction Co.*, 244 Ill. 244, 91 N.E. 431, 434, which was cited by the defendants, seems to be in point upon this immediate question, wherein the Supreme Court said: "In this class of cases, in estimating the pecuniary loss, all the consequences of the injury, future as well as past, which are shown by the evidence to be *reasonably certain* to result from the injury, are to be taken into consideration. * * * To form a proper basis for recovery, however, *it is necessary that the consequences relied on must be reasonably certain to result.* They cannot be purely speculative." And the court in that case reached the conclusion that the fact that a remittitur was entered and agreed to did not cure the error caused by the admission of evidence of the character before us. So we believe the court should have stricken the answers made by the doctor.

Id. at 840-41 (star ellipsis in original) (emphasis added).

196. The second headnote, indexed under "Trial k89," reads:

In personal injury action, physician's reply that opacities in vitreous of eye might be permanent or might absorb should have been stricken out as unresponsive to question whether physician had opinion to a reasonable certainty about opacities in vitreous of eye, *where physician had no opinions of reasonable medical certainty on question of permanence.*

The phrase "reasonable medical certainty" appeared in nine more Illinois cases decided between 1940 and the end of 1944,¹⁹⁷ and in three of these cases, the phrase was included in the headnotes.¹⁹⁸ In one of these three cases, the court held that testimony on the subject of future damages about "the results which might be expected" was not unduly speculative because it was expressed with "reasonable medical certainty."¹⁹⁹ In another, the court found no error or prejudice in the admission of testimony "based upon reasonable medical certainty" to the effect that plaintiff's knee had sustained permanent injury with a 25% impairment.²⁰⁰ Both of these opinions reinforced "reasonable medical certainty" as the formula for complying with the reasonable-certainty rule respecting admissibility of evidence on future damages. In the third, the court upheld the propriety of a hypothetical question about causation that was posed in the "might or could" form, prefaced with the "medical and surgical" variant of the phrase; the court further reversed a directed verdict for the defendant, which apparently resulted from the exclusion of this testimony.²⁰¹ This opinion would have reinforced the usage of expressions of "reasonable medical certainty" in conjunction with qualified expressions of opinions on causation in compliance with the ultimate-issue rule.

The analysis of Illinois decisions thus reveals that the phrase "reasonable medical certainty" had become a well-established usage among attorneys engaged in personal injury and workers' compensa-

Id. at 837 headnote 2 (emphasis added).

197. See *People v. Martin*, 34 N.E.2d 845, 848 (Ill. 1941); *Stewart Warner Corp. v. Industrial Comm'n*, 33 N.E.2d 196, 198 (Ill. 1941); *Goad v. Grissom*, 57 N.E.2d 514, 516 (Ill. App. Ct. 1944); *Meltzer v. Shklowsky*, 53 N.E.2d 272, 274 (Ill. App. Ct. 1944); *Traut v. Pacific Mut. Life Ins. Co.*, 53 N.E.2d 262, 269 (Ill. App. Ct. 1944); *Hogmire v. Voita*, 49 N.E.2d 811, 811 headnote 6 (Ill. App. Ct. 1943) (variant form); *Welter v. Bowman Dairy Co.*, 47 N.E.2d 739, 753, 764 (Ill. App. Ct. 1943); *Gray v. Richardson*, 40 N.E.2d 598, 600 (Ill. App. Ct. 1942); *Powell v. Myers Sherman Co.*, 32 N.E.2d 663, 667 (Ill. App. Ct. 1941).

198. See *Goad*, 57 N.E.2d at 514 headnote 2; *Hogmire*, 49 N.E.2d at 811 headnote 6 (variant form); *Powell*, 32 N.E.2d at 664 headnote 5.

199. *Powell*, 32 N.E.2d at 667.

200. *Goad*, 57 N.E.2d at 516.

201. *Hogmire*, 49 N.E.2d at 811 headnote 6. Only the headnotes to the opinion were published. Headnote 6 reads:

Quoted portion of hypothetical question propounded to doctor which question concluded, "Have you an opinion *from a medical and surgical point of view, with a reasonable degree of certainty*, whether the infiltration or injection of this hypodermic needle with novacaine [sic] into the gums, might or could have brought about the condition of ill being as stated in the hypothetical question to this hypothetical person?", was proper.

Id. (emphasis added). This is the first published opinion to employ the "medical and surgical" variant of the phrase as suggested by the headnote in *Fellows-Kimbrough* and as reflected in Goldstein's manual.

tion practice by 1935, long before the Illinois courts attributed any special significance to the phrase. Moreover, when the Illinois courts began to mention the phrase in their opinions, they treated the phrase as a prerequisite to admissibility only with respect to future damages under the long-established reasonable-certainty rule. In its principal usage, as a preface to expressions of opinion about causation, the phrase contributed to the sufficiency of proof but was not essential to admissibility.

III. DISSEMINATION: 1935-1960

Although the phrase "reasonable medical certainty" was already in use in Illinois by 1931, there is no evidence that the phrase was employed in any other jurisdiction prior to 1940. By 1960, however, the phrase was in use in at least twenty-two states²⁰² and had become deeply ingrained in the legal lexicon, as reflected in numerous secondary authorities.²⁰³ Analysis of published opinions containing the phrase "reasonable medical certainty" suggests that the diffusion of this phrase between 1940 and 1960 was attributable to the bar rather than the bench. As the discussion below will demonstrate, in virtually every state, the phrase was used by an attorney at trial prior to any judicial commentary attributing legal significance to the phrase. While direct empirical evidence is lacking, the most plausible explanation for the rapid diffusion of the phrase between 1940 and 1960 was that attorneys throughout the United States were employing the models provided in Goldstein's 1935 manual on *Trial Technique*²⁰⁴ and his 1942 book on *Medical Trial Technique*.²⁰⁵

A. Goldstein's Trial Technique

Goldstein wrote *Trial Technique* as a manual for trial attorneys. The preface suggests that the book be carried to court as a reference guide.²⁰⁶ The book was filled with illustrations, and Goldstein en-

202. See *infra* notes 231-259 and accompanying text.

203. See *infra* notes 353-365 and accompanying text.

204. GOLDSTEIN, *supra* note 34.

205. GOLDSTEIN & SHABAT, *supra* note 61.

206. In his preface, Goldstein declared:

A practical book on trial procedure from the viewpoint of the attorney who must try cases should have: (1) Question and answer illustrations covering the technique involved in making proof of all facts in all types of cases, (2) It should cover all phases of trial tactics and the psychology of the court-room, (3) Citations of authorities to sustain all illustrations and points of law set out, (4) Illustrations and points of law simply indexed for ready and quick reference, (5) It should be in one compact volume so as to be available for use in the court-room during the

couraged attorneys to use them as models: "With every phase of proof illustrated, it will be found that trial practice has almost been reduced to a formula, and that most of the formulas are contained herein."²⁰⁷

In the chapter on expert witnesses, Goldstein advised that hypothetical questions be prepared in advance of trial,²⁰⁸ especially their "troublesome" conclusions.²⁰⁹ The section on conclusions to hypothetical questions provided nine examples, all of which were prefaced with expressions of "reasonable medical certainty" or variants thereof.²¹⁰ Goldstein explained that qualified expressions of opinion on causation were necessary in order to avoid "invading the province of the jury."²¹¹ He offered no explanation, however, for the inclusion of the phrase "reasonable medical certainty" in these examples, implying that its meaning and significance were self-evident.

Moreover, Goldstein did not confine "reasonable medical certainty" to use with qualified expressions of opinion on the issue of causation. In another section of his manual, he used the phrase with requests for definitive opinions about permanence and future medical treatment.²¹² Nowhere in the book, however, did Goldstein define "reasonable medical certainty" or explain what purpose it served. The pervasive use of the phrase implied that it was essential and gave no

progress of the trial and (6) It should be plainly and simply written so as to be easily understandable.

It has been my endeavor to cover all of the above requirements in this book. . . .

. . . .

It has been prepared with a view to meeting the requirements for a practical trial manual available for instant use during the stress and excitement of a highly contested trial. The simplicity of its literary structure must become apparent at once. It has been written in the plainest and most simple language so as to be easily understandable.

GOLDSTEIN, *supra* note 34, at vi-vii.

207. *Id.* at vii.

208. *See id.* at 452 ("The hypothetical question to be most effective should almost always be prepared in advance.").

209. Specifically, Goldstein cautioned:

The *conclusion* is usually the most troublesome part of the hypothetical question. To keep from "invading the province of the jury" and to determine just how far a conclusion may go frequently causes great concern. An improper conclusion invalidates the entire question.

Id. at 455; *see also id.* at 453 ("Usually, the more troublesome features, in the preparation of a hypothetical question, are the *commencement* and the *conclusion* of the question.").

210. The complete text of these illustrations appears *supra* note 187.

211. GOLDSTEIN, *supra* note 34, at 455.

212. Goldstein explained:

Several conclusions or opinions may be requested of the witness, based upon the same hypothesis, for example, as to whether the condition is *temporary* or *permanent*.

hint that it reflected a unique local usage. Thus, any attorney turning to Goldstein's text for model hypothetical questions naturally would have tended to adopt this formulation when interrogating medical experts.

Trial Technique was extremely influential. It received five favorable reviews,²¹³ two of which emphasized the usefulness of the chapter on hypothetical questions.²¹⁴ The work was a "best

Illustrations

(1) Now, doctor, assuming the facts set forth in the same hypothetical question, have you an opinion, based upon reasonable medical certainty, as to whether or not the conditions described are temporary or permanent?

(2) Doctor, assuming the same hypothesis, have you an opinion, based upon reasonable certainty and from a medical and surgical viewpoint, as to whether or not the conditions set forth in the hypothetical question are temporary or permanent?

Some lawyers also follow up with a question in reference to *future medical care and attention*.

Illustration

Doctor, assuming the facts set forth in the same hypothetical question, have you an opinion, based upon reasonable medical certainty, as to whether or not it will be necessary for the hypothetical person *to continue under medical treatment?*

Id. at 456-57.

213. See Louis J. Freehof, Book Review, 1 J. MARSHALL L.Q. 446, 448 (1936) ("a distinct aid and valuable contribution"); Frank J. Lanigan, Book Review, 14 NOTRE DAME LAW. 142, 143 (1938-1939) ("indispensable to every trial lawyer however long experienced"); Harold R. Medina, Book Review, 36 COLUM. L. REV. 1188, 1188-89 (1936) ("innumerable practical hints of real value" and "a valuable addition to the literature"); Book Note, 4 KAN. CITY L. REV. 14, 14 (1935) ("possible that this book is the best book of its type ever presented the American Bar" and "loaded with practical tips"); Book Note, 85 U. PA. L. REV. 336, 336 (1937) ("competently covered the subject").

The book received a mixed review, though, from Professor Edmund Morgan. See E.M. Morgan, Book Review, 49 HARV. L. REV. 1387 (1936). As "a lawyer's guide book for the trial of law suits as they are actually conducted," Morgan described the work as "first rank." *Id.* at 1387. Morgan issued a warning, however, to any "reader who may be inclined to rely upon Mr. Goldstein's general statements as to particular rules of law." *Id.* at 1388 n.6. Morgan cited numerous examples of statements that failed to note a conflict among authorities. *Id.* More importantly, Morgan decried the work's unabashed portrayal of the trial as a "battle of wits" rather than "a proceeding for the discovery of truth by rational processes." *Id.* at 1389. Morgan further noted:

If only some lawyer could rise up and honestly denounce Mr. Goldstein as a defamer of his profession! If only Mr. Goldstein himself had written his book as an exposition of the evils inherent in our adversary system of litigation! . . . But a decent respect for the truth compels the admission that Mr. Goldstein has told his story truly. He has told it calmly, without pretense of shame, and (God save us!) without the slightest suspicion of its shamefulness. . . . In all innocence, he has produced a document which is a devastating commentary upon an important aspect of our administration of justice.

Id.

214. Harold R. Medina, who later served as a federal trial judge, evaluated the chapter on "The Expert Witness" as "good" and the chapter on "Hypothetical Questions" as "excellent." Medina, *supra* note 213, at 1188. Frank J. Lanigan declared:

seller,"²¹⁵ went through more than a dozen printings between 1935 and 1950,²¹⁶ and presumably more thereafter.²¹⁷

In 1942, working with physician L. Willard Shabat, M.D., Goldstein published a specialized book on *Medical Trial Technique*,²¹⁸ which was intended to enable trial attorneys to understand the medical issues in their cases and to interrogate medical experts at trial.²¹⁹ The first chapter of *Medical Trial Technique* provided an introduction to the law and a summary of techniques applicable to interrogation of medical experts. The remainder of the book was devoted to detailed explanations of medical terminology, anatomy, and the relevant issues that may be the subject of testimony in particular medical specialties, with separate chapters devoted to various organ systems or diseases.

Nearly all of the examples of opinion-questions included in the introductory chapter requested expressions of opinion with some variant of the phrase "reasonable medical certainty."²²⁰ Most importantly, the eleven-step model "outline" of a hypothetical question provided the following guidance for phrasing the conclusion: "11. Conclusion based on reasonable medical certainty as to whether there might or could be a causal connection (or relation) between the fall and the condition of ill-being."²²¹ In addition, the authors interspersed illustrations of direct or cross-examination throughout the text. Within each medical topic, the text was replete with illustrations of questions that asked the physician to express an opinion with some variant of "reasonable medical certainty."²²² In addition, the text regularly referred readers back to the introductory chapter for the suggested

Expert witnesses are thoroughly discussed, both as to their qualifications and cross-examination. The hypothetical questions so necessary in examining an expert are treated in a special section. It is in the handling of just such intricate problems as these that this book makes itself indispensable to every trial lawyer however long experienced.

Lanigan, *supra* note 213, at 143.

215. In the preface to the second edition, Fred Lane wrote, "[t]his all time 'best seller' has guided more trial lawyers safely and successfully through the stormy seas of litigation than any other single book in the history of law." GOLDSTEIN & LANE, *supra* note 34, at iii.

216. Charles Komaiko, *He Heckles the Lawyers*, COLLIER'S MAGAZINE, Oct. 21, 1950, at 35, 36.

217. Records of sales of the first edition were not available from the publisher, Callaghan and Company, which now is part of Clark Boardman Callaghan.

218. GOLDSTEIN & SHABAT, *supra* note 61.

219. In their preface, the authors stated, "this manuscript has been prepared with the hope that it may help the attorney in some small measure to better understand, prepare, and prove (or disprove where necessary) the medical phases of his cases." *Id.* at v.

220. *See, e.g., id.* at 15, 16, 18, 19.

221. *Id.* at 18.

222. *See, e.g., id.* at 102, 134, 154, 161, 169 (providing questions requesting opinions with "reasonable medical certainty" in the chapter on "The Head").

phrasing of conclusions to hypothetical questions relating to causation.²²³

As was true of Goldstein's earlier work, *Medical Trial Technique* did not define the phrase "reasonable medical certainty" or provide any explanation of its purpose. This book did, however, include a caveat warning that the "might or could" form of question was not universally accepted.²²⁴

Medical Trial Technique received a favorable review in the *Illinois Law Review*,²²⁵ and medico legal authority William Curran referred to it as an "important" work.²²⁶ One measure of the book's impact was that the authors, in 1954, created the periodical *Medical Trial Technique Quarterly* to publish updated articles in essentially the same format.²²⁷ Each issue of *Medical Trial Technique Quarterly* provided additional illustrations of questions asking for opinions with "reasonable medical certainty."

Moreover, Goldstein's influence on legal practice was not limited to his written works. Throughout his career, Goldstein was active in legal education. In 1933, Goldstein founded the Trial Technique Institute, which continues to conduct training for members of the Illi-

223. The authors explained:

To conserve as much space as possible, we have had to make numerous cross-references. For the same reason, it has not been possible to add a hypothetical question after each illustration. We feel that the attorney will be able to prepare a legally adequate hypothetical question if he will but follow the suggestions contained on pages 16 to 19.

Id. at v.

224. Immediately following the text of the model outline, the authors added: "(Note: In some states the conclusion 'might or could' is held not to prove a prima facie case. In such states the conclusion 'whether or not there is or was a causal connection (or relation) ['] must be used.')" *Id.* at 18. This cautionary note appeared again after the principal illustration of a complete hypothetical question. *Id.* at 19.

225. The reviewer wrote:

In all, this book is a practical course in medicine, medico-legal injuries, and trial practice. . . . which will make for a more intelligent legal and medical approach to a highly complicated field of law. . . . [The book] is an important sequel to [*Trial Technique*]. Medical experts will be unable to confound a lawyer who has made careful use of this book.

Daniel D. Carmell, Book Review, 37 ILL. L. REV. 187, 188 (1943).

226. See WILLIAM J. CURRAN, TRACY'S THE DOCTOR AS A WITNESS 79 (2d ed. 1965) ("A well known, rather outdated text for practicing attorneys. Somewhat technical for physicians, but an important work."); cf. *id.* at 107 (citing and quoting from the work and referring to Goldstein as "an attorney of great experience in the trial of cases, particularly personal injury cases").

227. Goldstein and Shabat initially served as co-editors of this journal. After Dr. Shabat's death in 1955, Nathan Flaxman, M.D., joined Goldstein as co-editor. Following Judge Goldstein's death in 1968, Flaxman continued on as sole editor. Fred Lane succeeded Flaxman as editor in 1972 and continues to serve in that capacity.

nois Bar.²²⁸ He taught trial technique at Northwestern University's School of Law from 1934 to 1964 and was a lecturer on medical jurisprudence at Northwestern's School of Medicine from 1944 to 1951.²²⁹ In addition, as Dean of the Lawyers' Post-Graduate Clinics, Goldstein taught seminars on trial technique to thousands of attorneys in Illinois and many other states.²³⁰

B. Dissemination Beyond Illinois

The dissemination of the phrase "reasonable medical certainty" can be traced indirectly by its appearance in "published" cases available through on-line databases.²³¹ The empirical shortcomings that result from using published opinions as evidence of litigation practice are obvious. Most cases are settled prior to trial, and published opinions shed almost no light on pre-trial practice—this is especially true for depositions, where the phrase would be used most frequently. Few jurisdictions publish trial court opinions, and even those that do would not necessarily refer to the use of the phrase at trial. Nearly all published cases emanate from appellate courts, representing only a small subset of cases tried to a verdict. Because appellate opinions focus on legal issues, particular phrases from the trial record would be included only by chance, unless they directly related to the matters in dispute. Restricting research to on-line databases creates even more empirical shortcomings due to the fact that such databases exclude opinions from certain intermediate appellate and trial courts. Many

228. Goldstein passed the reins of the Institute to Fred Lane, and the Institute still exists as the Fred Lane Trial Technique Institute of the Illinois Bar Association. Telephone Interview with Fred Lane (Spring 1997).

229. See *supra* note 33.

230. According to materials in the Northwestern University Archives Series 17/13, including a 1950 article in *Collier's Magazine*, see *supra* note 216, the "Lawyers' Post-Graduate Clinics" employed a "learning-by-doing" method, with groups of about 35 lawyers meeting every week in two-hour sessions over the course of nine months. Goldstein himself conducted the seminars in Chicago, and supervised other attorneys conducting seminars in Los Angeles, Milwaukee, New York City, and Philadelphia. The brochures indicated that seminars qualified for funding under the GI bill, and one listed former Governor of Illinois, Otto Kerner, as a graduate. In addition to these extensive seminars, Goldstein traveled throughout the country teaching day-long seminars on trial technique and medical trial technique. Komaiko, *supra* note 216; IRVING GOLDSTEIN, HOW TO LOSE YOUR COURTROOM JITTERS . . . IMPROVE YOUR TRIAL TECHNIQUE . . . BECOME A SUCCESSFUL TRIAL LAWYER (n.d.) (on file with Northwestern University Archives, Series 17/13, Box 1, Folder 19).

231. The research was conducted within the WESTLAW Allcases, Allcases-old, Allstates, Allstates-old, Allfeds, Allfeds-old, and individual state databases, supplemented by cross-checks using the LEXIS-MEGA database. Herein, "published" opinions refer to opinions available in these databases. Appendix B lists the date of the first appearance of the phrase in each state, as well as the number of opinions from the state courts that contain the precise phrase.

years may therefore elapse between the use of the phrase in litigation and the first appearance of the phrase in a published opinion.²³²

Nevertheless, the published opinions are significant in several respects. First, and most obviously, the appearance of the phrase "reasonable medical certainty" in an opinion demonstrates conclusively that the phrase was used by at least one attorney or physician within the jurisdiction by that date. Second, the appearance of the phrase in a published opinion could be expected to encourage further use of the phrase in that jurisdiction, especially if the court treated the phrase as significant. Third, the frequency with which the phrase appears in opinions of a given jurisdiction may provide some evidence of its significance to the bench and the bar in that jurisdiction.

In evaluating the extent of usage in other states between 1940 and 1960, the phrase's state of origin may serve as a benchmark. In Illinois state courts, the phrase "reasonable medical certainty" appeared in ten opinions during the 1930s, fifteen during the 1940s, and twelve during the 1950s.²³³ Within these Illinois opinions, the phrase appeared in the headnotes of one opinion from the 1930s, three from the 1940s, and five from the 1950s.²³⁴ In other state

232. Thus, for example, the phrase "reasonable medical certainty" did not appear in any opinions of the Pennsylvania state courts until 1968, *see DeVirgiliis v. Gordon*, 243 A.2d 459, 460 (Pa. Super. Ct. 1968) (Hannum, J., dissenting), even though a federal trial court opinion reflected that the phrase was in use in that state as early as 1955, *see Vaccaro v. Marra Bros., Inc.*, 130 F. Supp. 12, 13 (E.D. Pa. 1955), and a federal appellate opinion from 1963 referred to the phrase as a legal requirement, *see Sleek v. J.C. Penney Co.*, 324 F.2d 467, 471 (3d Cir. 1963); *see also infra* notes 331-342, 380-381 and accompanying text. A thorough review of opinions from the courts of common pleas, including those published in *District & County Reports* and those published in several individual county reporters, probably would have disclosed earlier examples of the phrase in Pennsylvania.

Likewise, in Florida the phrase did not appear in a published opinion until 1958, *see William Penn Hotel, Inc. v. Cohen*, 101 So. 2d 404 (Fla. Dist. Ct. App. 1958), but an article written two years earlier noted that the phrase "crops up from time to time" in Florida personal injury and workers' compensation cases, *Smith & Tipton, supra* note 28, at 327.

233. Search of WESTLAW, II-cs Database (Jan. 3, 1998) (da(bef 1960) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving a total of 37 cases).

To preserve comparability, these figures reflect only cases containing the precise phrases "reasonable medical certainty" or "reasonable degree of medical certainty." Variant forms of the phrase appear in several other Illinois decisions from this period. *See, e.g., Shell Oil Co. v. Industrial Comm'n*, 94 N.E.2d 888, 891 (Ill. 1950) ("based upon reasonable certainty and from a medical and surgical standpoint"); *Olson v. Chicago Transit Auth.*, 104 N.E.2d 542, 546 (Ill. App. Ct. 1952) ("reasonable degree of medical and surgical certainty"), *aff'd*, 115 N.E.2d 301 (Ill. 1953); *Hayes v. New York Cent. R. Co.*, 67 N.E.2d 215, 219 (Ill. App. Ct. 1946) (same); *Hogmire v. Voita*, 49 N.E.2d 811 headnote 6 (Ill. App. Ct. 1943) ("from a medical and surgical point of view, with a reasonable degree of certainty").

234. Search of WESTLAW, II-cs Database (Jan. 3, 1998) (da(bef 1960) & he("reasonable medical certainty" "reasonable degree of medical certainty")) (retrieving a total of 9 cases).

courts, the phrase appeared in fifteen opinions from the 1940s and eighty-two from the 1950s.²³⁵ Of these, it appeared in the headnotes of two from the 1940s and seven from the 1950s.²³⁶ In the federal courts, the phrase appeared in two opinions from the 1930s (both from Illinois), one opinion in the 1940s (again from Illinois), and nine opinions from the 1950s (one from Illinois and eight from other states).²³⁷

The phrase "reasonable medical certainty" first appeared outside of Illinois in a 1941 Michigan opinion.²³⁸ The phrase gradually spread during the 1940s, appearing in another eight states for the first time during that decade: New York (1944),²³⁹ Texas (1944),²⁴⁰

235. See Appendix A for year-by-year figures on the total number of state and federal cases containing the precise phrases. Cases from Illinois, *see supra* note 233, were subtracted from the totals to yield figures for other states. Again, these figures reflect only the precise phrases "reasonable medical certainty" or "reasonable degree of medical certainty." Thus, for example, neither the text nor Appendix A reflects the appearance of the "medical and surgical" variant of the phrase in a 1948 opinion from Idaho. *See Warlick v. Driscoll*, 200 P.2d 1014, 1016 (Idaho 1948) ("an opinion from a medical and surgical point of view and based upon a reasonable certainty").

236. Search of WESTLAW, Allstates Database (Jan. 3, 1998) (da(bef 1960) & he("reasonable medical certainty" "reasonable degree of medical certainty")) (retrieving 15 cases, of which there were 7 non-Illinois cases in the 1950s and 2 in the 1940s); Search of WESTLAW, Allstates-old Database (Jan. 3, 1998) (da(bef 1960) & he("reasonable medical certainty" "reasonable degree of medical certainty")) (retrieving 3 cases, all of which came from Illinois).

237. Search of WESTLAW, Allfeds Database (Jan. 3, 1998) (da(bef 1960) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 9 cases, 1 of which came from Illinois); Search of WESTLAW, Allfeds-old Database (Jan. 3, 1998) (da(bef 1960) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 3 cases, 1 of which is an Illinois case from the 1940s and 2 of which are Illinois cases from the 1930s).

238. *See Cole v. Simpson*, 1 N.W.2d 2, 4 (Mich. 1941). Michigan opinions from the 1940s and 1950s are discussed *infra* notes 261-268 and accompanying text.

239. *See Messinger v. State*, 51 N.Y.S.2d 506, 508 (Ct. Cl. 1944); *see also Kurtz v. State*, 52 N.Y.S.2d 7, 8 (Ct. Cl. 1944). New York decisions from the 1940s and 1950s are discussed *infra* notes 310-318.

240. *Southern States Life Ins. Co. v. Watkins*, 180 S.W.2d 977, 978-79 (Tex. Civ. App. 1944, no writ), quoted six interrogatory questions that asked for opinions "based upon reasonable medical certainty." Five opinions of Texas courts during the 1950s referred to testimony expressed with "reasonable medical certainty," but in none of these cases was the phrase important to the decision. *See Bailey v. American Gen. Ins. Co.*, 279 S.W.2d 315, 317 (Tex. 1955); *Porter v. Puryear*, 262 S.W.2d 933, 937 (Tex. 1953), *judgment set aside by* 264 S.W.2d 689 (Tex. 1954); *American Gen. Ins. Co. v. Florez*, 327 S.W.2d 643, 647 (Tex. Civ. App. 1959, no writ); *Missouri Pac. R.R. Co. v. Ramirez*, 326 S.W.2d 50, 55 (Tex. Civ. App. 1959, writ ref'd n.r.e.); *Stahl v. Firemen's Fund Indem. Co.*, 295 S.W.2d 473, 475 (Tex. Civ. App. 1956, no writ). The phrase also appeared in two federal appellate cases from the 1950s that were tried in the Texas district courts. *See Whitten v. Liberty Mut. Ins. Co.*, 257 F.2d 699, 701 n.2 (5th Cir. 1958); *Phillips v. Employers Mut. Liab. Ins. Co.*, 239 F.2d 79, 80 n.3 (5th Cir. 1956).

Minnesota (1945),²⁴¹ Missouri (1945),²⁴² New Jersey (1946),²⁴³ Wisconsin (1947),²⁴⁴ Indiana (1948),²⁴⁵ and Ohio (1949).²⁴⁶ The phrase spread more rapidly during the 1950s, especially in the second half of the decade, appearing in opinions from twelve more states between 1950 and 1959: Rhode Island (1953),²⁴⁷ Washington (1954),²⁴⁸ California (1955),²⁴⁹ Pennsylvania (1955),²⁵⁰ North Carolina (1956),²⁵¹ Oklahoma (1957),²⁵² Florida (1958),²⁵³ Idaho

241. See *Burke v. B.F. Nelson Mfg. Co.*, 18 N.W.2d 121, 123 (Minn. 1945). Minnesota decisions from the 1940s and 1950s are discussed *infra* notes 279-290.

242. See *Waterous v. Columbian Nat. Life Ins. Co.*, 186 S.W.2d 456, 459 (Mo. 1945). Missouri decisions from the 1940s and 1950s are discussed *infra* notes 269-278.

243. See *Jackson v. Mallinckrodt Chem. Works*, 50 A.2d 106, 111 (N.J. Ct. C.P. 1946) (paraphrasing physician testimony in workers' compensation case). The phrase also appeared in three cases from the 1950s. See *Yeomans v. Jersey City*, 143 A.2d 174, 179 (N.J. 1958) (quoting a question in a workers' compensation case); *Loew v. Borough of Union Beach*, 151 A.2d 568, 571-72 (N.J. Super. Ct. App. Div. 1959) (same); *State v. Colmer*, 132 A.2d 325, 329 (N.J. Super. Ct. App. Div. 1957) (quoting testimony about whether the patient was pregnant in a prosecution for abortion).

Although the phrase was used by New Jersey attorneys, it was not used by the New Jersey courts. For example, in the leading cases from the era on the subject of future damages, the New Jersey courts rejected the rule of "reasonable certainty," opting instead for a standard of "reasonable probability." See *Coll v. Sherry*, 148 A.2d 481, 486 (N.J. 1959) (noting that with physician testimony about the probability of future medical treatment, "the accepted verbal rituals are widely diversified, [but explaining that] . . . we think 'reasonable probability' or its equivalent is sufficient" (quoting *Budden v. Goldstein*, 128 A.2d 730, 734 (N.J. Super. Ct. App. Div. 1957), *overruled in part* by *Botta v. Brunner*, 138 A.2d 713 (N.J. 1958)); *Botta*, 138 A.2d at 717 (holding that a jury charge erroneously required proof of future injuries by clear, convincing evidence and with "reasonable certainty"); *Budden*, 128 A.2d at 734 (rejecting the standard of "reasonable certainty" for proof of future damages, and holding that "reasonable probability is the just yardstick to be applied").

244. See *Vogelsburg v. Mason & Hanger Co.*, 26 N.W.2d 678, 686 (Wis. 1947). Wisconsin decisions from the 1940s and 1950s are discussed *infra* notes 291-306.

245. See *Cochran v. Wimmer*, 81 N.E.2d 790, 792 (Ind. Ct. App. 1948) (in banc); see also *United States Steel Corp. v. Weatherston*, 131 N.E.2d 335, 336 (Ind. Ct. App. 1956) (en banc); cf. *Slaubaugh v. Vore*, 110 N.E.2d 299, 303 (Ind. Ct. App. 1953) (en banc) ("Even though not sufficient to diagnose decedent's death with medical certainty, the questions were sufficient to be of probative value.").

246. See *McNees v. Cincinnati St. Ry. Co.*, 89 N.E.2d 138, 144 (Ohio 1949); *id.* at 146 (Hart, J., dissenting). Ohio decisions from the 1950s are discussed *infra* notes 307-309.

247. See *Priscilla Worsted Mills v. Vizzacco*, 96 A.2d 835, 837 (R.I. 1953).

248. See *Halder v. Department of Labor & Indus.*, 268 P.2d 1020, 1023, 1024 (Wash. 1954); see also *infra* notes 319-330 (discussing *Halder*).

249. See *Kalmus v. Cedars of Lebanon Hosp.*, 281 P.2d 872, 875 (Cal. Dist. Ct. App. 1955); see also *Lutz v. Schendel*, 345 P.2d 488, 491 (Cal. Dist. Ct. App. 1959); *Church v. Capital Freight Lines*, 296 P.2d 563, 565 (Cal. Dist. Ct. App. 1956).

250. See *Vaccaro v. Marra Bros., Inc.*, 130 F. Supp. 12, 13 (E.D. Pa. 1955).

251. See *Cudworth v. Reserve Life Ins. Co.*, 91 S.E.2d 580, 583 (N.C. 1956); see also *Hincher v. Hospital Care Ass'n*, 103 S.E.2d 457, 460 (N.C. 1958).

252. See *New York Life Ins. Co. v. Kramer*, 324 P.2d 270, 272 (Okla. 1957).

253. See *William Penn Hotel, Inc. v. Cohen*, 101 So. 2d 404, 404 (Fla. Dist. Ct. App. 1958); cf. *Martin v. Board of County Comm'rs*, 79 So. 2d 513, 514-15 (Fla. 1955) (basing

(1958),²⁵⁴ Maine (1958),²⁵⁵ Kansas (1959),²⁵⁶ Louisiana (1959),²⁵⁷ and South Carolina (1959).²⁵⁸ Thus, by the end of 1959, the phrase was in use in at least twenty-two states, and presumably in many others as well.²⁵⁹

In most of these cases, the appellate courts simply quoted or paraphrased the trial testimony, and such cases merely reflected that attor-

the decision in part on the fact that the physician could not "say with medical certainty just what caused or aggravated [patient's] condition").

254. See *In re Estates of Davenport*, 323 P.2d 611, 612 (Idaho 1958); see also *Moeller v. Volco Builders' Supply, Inc.*, 341 P.2d 447, 449-50 (Idaho 1959). The "medical and surgical" variant of the phrase had appeared in Idaho during the 1940s. See *supra* note 235.

255. See *Goldthwaite v. Sheraton Restaurant*, 145 A.2d 362, 363 (Me. 1958).

256. See *Kratzer v. Moore (In re Estate of Millar)*, 345 P.2d 1033, 1036 (Kan. 1959).

257. See *Brian v. Employers Cas. Co.*, 111 So. 2d 161, 165 (La. Ct. App. 1959).

258. See *Peagler v. Atlantic Coast Line R.R. Co.*, 107 S.E.2d 15, 31 (S.C. 1959).

259. As discussed *supra* notes 231-232, attorneys in any given jurisdiction may have been using the phrase for many years before it appeared in a published opinion. In at least three states, a case containing the "medical and surgical" variant predated the first appearance of the precise phrase "reasonable (degree of) medical certainty." See *infra* notes 377-378 (Delaware); *supra* note 235 (Idaho); *infra* note 368 (Montana).

Evidence that the phrase was being used elsewhere also comes from the appearance in several states of the phrase "medical certainty," without the "reasonable" qualifier. Because the phrase "medical certainty" seems to have entered the legal lexicon in conjunction with "reasonable medical certainty," the appearance of the truncated phrase probably reflects that the complete phrase was also in use.

For example, several years before the phrase "reasonable medical certainty" first appeared in a New Jersey opinion, a series of decisions in workers' compensation cases rejected employer contentions that proof of causation had not been established with sufficient certainty. These courts declared that the applicable test in such cases was "reasonable probability" and not "absolute medical certainty" or "ultimate medical certainty." See *Simpson v. Seaboard Ice Co.*, 30 A.2d 512, 515 (N.J. Ct. C.P. 1943); *Hyer v. Smith*, 27 A.2d 219, 221 (N.J. Ct. C.P. 1942); *Yawdoshak v. Somerville Iron Works*, 28 A.2d 478, 481 (N.J. Dep't of Labor Workmen's Comp. Bureau 1942); *Brown v. Brann & Stuart Co.*, 28 A.2d 420, 423 (N.J. Dep't of Labor Workmen's Comp. Bureau 1942); *Niemi v. Thomas Iron Co.*, 26 A.2d 494, 498 (N.J. Dep't of Labor Workmen's Comp. Bureau 1942); *D'Amico v. Middlesex Dress Corp.*, 26 A.2d 177, 180 (N.J. Dep't of Labor Workmen's Comp. Bureau 1942), *rev'd*, 38 A.2d 857 (N.J. 1944); *Jenkins v. A. Abramson & Son, Inc.*, 23 A.2d 122, 125 (N.J. Dep't of Labor Workmen's Comp. Bureau 1941); *Patterson v. Rynar*, 13 A.2d 295, 298 (N.J. Dep't of Labor Workmen's Comp. Bureau 1940).

The phrase "medical certainty" appeared in a 1944 Nebraska Supreme Court opinion that rejected a jury instruction that would have required proof of a relevant fact in a malpractice action with "medical certainty." See *Douglas v. Johnson (In re Johnson's Estate)*, 16 N.W.2d 504, 514-15 (Neb. 1944). The complete phrase did not appear in a published Nebraska opinion until 1961. See *Riggs v. Gooch Milling & Elevator Co.*, 112 N.W.2d 531, 534 (Neb. 1961).

In Arkansas, the phrase "medical certainty" first appeared in a 1958 opinion, see *Shipp v. Tanner Estate*, 318 S.W.2d 821, 822 (Ark. 1958), which noted that a doctor was asked, "[c]an you say with medical certainty what caused Mr. Shipp's condition?" The complete phrase "reasonable medical certainty" appeared in an Arkansas opinion two years later. See *Wonder State Mfg. Co. v. Howard*, 338 S.W.2d 682, 684 (Ark. 1960).

neys in the jurisdiction were using the phrase.²⁶⁰ Several of these opinions, however, implicitly or explicitly endorsed the use of this phrase, thereby further encouraging its use. Moreover, the endorsement would have carried special weight whenever the phrase found its way into the headnotes and indexes of the West Publishing Company, a phenomenon that sometimes occurred even when the phrase was not crucial to the court's decision.

The first published opinion outside of Illinois that reflected testimony with "reasonable medical certainty" was the 1941 Michigan case of *Cole v. Simpson*.²⁶¹ In this case, the plaintiff's attorney appears to have employed Goldstein's formula:

He [the physician] was asked whether he had any opinion based upon reasonable medical certainty whether or not the findings he "had made could have been caused by a fall or being dragged"; his answer was, "Why it is possible, yes." The court was asked to strike the answer on the ground that it was conjecture, whereupon the court stated: "Depends upon how great the possibility is." Thereupon the doctor stated that it was "very great," "eighty per cent possible."²⁶²

The defendants claimed that the trial court erred "in permitting the doctor to testify as to a possibility and not to what was reasonably probable."²⁶³ In agreeing that "this testimony has very little probative value,"²⁶⁴ the Supreme Court of Michigan gave no indication that the expression of "reasonable medical certainty" helped offset the qualified form of the question and answer. The court found "there was no error in admitting the testimony," however, because "the objection went to the weight of the question rather than to its admissibility."²⁶⁵

Two years later, the phrase appeared in the court's quotation of a hypothetical question and again was not treated as legally significant.²⁶⁶ The phrase next appeared in the court's quotation of a hypothetical question in a 1955 opinion.²⁶⁷ Once again, the phrase itself

260. This was true of all of the pre-1960 opinions from courts in California, Idaho, Indiana, Louisiana, Maine, Oklahoma, New Jersey, Pennsylvania, Rhode Island, South Carolina, and Texas. See *supra* notes 236, 237, 243, 245, 247, 249, 250, 252, 254, 255, 257-259.

261. 1 N.W.2d 2 (Mich. 1941).

262. *Id.* at 4.

263. *Id.*

264. *Id.*

265. *Id.* at 4-5.

266. See *Mapes v. Berkowitz*, 8 N.W.2d 65, 67 (Mich. 1943) (en banc) ("[H]ave you an opinion based on reasonable certainty from a medical point of view, whether or not a treatment might have alleviated the progressive cause of the case?").

267. See *Buehler v. Beadia*, 73 N.W.2d 304, 311 (Mich. 1955) (equally divided court) ("[C]an you say with reasonable medical certainty whether the accident just described was

received no attention from the court. The hypothetical question was significant only insofar as it had elicited a positive opinion about causation, prompting an objection from the defendant based on the ultimate-issue rule.²⁶⁸ Thus, in none of the three pre-1960 Michigan decisions containing the phrase "reasonable medical certainty" did the Michigan court in any way encourage the use of the phrase.

A 1945 decision of the Missouri Supreme Court in *Waterous v. Columbian Nat. Life Ins. Co.*²⁶⁹ represented the first judicial endorsement of testimony with "reasonable medical certainty" in a state other than Illinois. The court in *Waterous* quoted medical testimony that included a hypothetical question employing the phrase,²⁷⁰ and it ruled that testimony given with "reasonable medical certainty" was a positive assertion which constituted "substantial evidence" that the blow caused plaintiff's paralysis.²⁷¹ The phrase "reasonable medical certainty" appeared in two of the headnotes to the opinion, reinforcing the significance of the phrase in establishing a prima facie case.²⁷² The phrase appeared in two more Missouri cases in the late 1940s,²⁷³ and the headnote in one of those cases reflected the court's ruling that opinion testimony expressed with a reasonable degree of medical certainty constituted substantial evidence of permanent injuries, war-

the competent, producing cause of an aggravation of the plaintiff's pre-existing condition?").

268. *See id.* Affirming the judgment for the plaintiff, the court repudiated the ultimate-issue rule insofar as it may have existed in Michigan:

If they choose to believe him, testimony that the accident "could" cause the condition does not help them, and an ultimate conclusion on their part that it "did" is pure speculation. The jury must find that it "did," yet the distinction, if preserved, leaves them without any evidence to that effect. There appears to be no reason to retain and every good reason to abolish the distinction apparently heretofore made in this jurisdiction. Accordingly the admission of the testimony complained of was not error.

Id. at 314.

269. 186 S.W.2d 456 (Mo. 1945).

270. *See id.* at 459.

271. *Id.* The court explained:

We are of the opinion that this is substantial evidence that the insured's condition was caused by the blow on his head. This witness said with reasonable medical certainty that he could say that blow on the head caused the paralysis, and it "is a perfectly natural result following such injury to the brain * * *."

This opinion is a positive assertion as to what caused the paralysis . . .

Id. (star ellipsis in original).

272. *See id.* at 456 headnotes 3, 4.

273. *See Stark v. St. Louis Pub. Serv. Co.*, 211 S.W.2d 500, 502, 504 (Mo. Ct. App. 1948) (per curiam); *Aut v. St. Louis Pub. Serv. Co.*, 194 S.W.2d 753, 756 (Mo. Ct. App. 1946); *cf. Legger v. Great N. Life Ins. Co.*, 216 S.W.2d 106, 108 (Mo. Ct. App. 1948) ("impossible to know, now, with any medical certainty").

ranting submission of this issue to the jury.²⁷⁴ Thereafter, "reasonable medical certainty" seems to have become a regular part of the lexicon of attorneys and physicians practicing in Missouri, for the phrase appeared in seven more cases from the early 1950s,²⁷⁵ twelve cases from the late 1950s,²⁷⁶ and more than 250 opinions after 1960.²⁷⁷

While the phrase "reasonable medical certainty" quickly attained widespread acceptance among the Missouri bench and bar, the usage did not represent a substantial change in any of the state's legal doctrines. As in Illinois, the phrase simply represented an appropriate locution, either for introducing substantial evidence that a plaintiff's injuries were caused by an accident, or for establishing that the injuries were "reasonably certain" under Missouri's existing reasonable-certainty rule respecting future damages.²⁷⁸

In a 1945 decision, the Supreme Court of Minnesota initially rejected "reasonable medical certainty" as a standard for proof of causa-

274. See *Stark*, 211 S.W.2d at 500 headnote 2.

275. *Amos v. Southern Ry. Co.*, 273 S.W.2d 155, 160 (Mo. 1954) (per curiam); *Brown v. Scullin Steel Co.*, 260 S.W.2d 513, 517 (Mo. 1953) (per curiam); *Walker v. St. Louis Pub. Serv. Co.*, 243 S.W.2d 92, 97 (Mo. 1951) (per curiam); *Brown v. Krey Packing Co.*, 271 S.W.2d 234, 236, 237 (Mo. Ct. App. 1954); *Sams v. Hays Adhesive Co.*, 260 S.W.2d 815, 818 (Mo. Ct. App. 1953); *Doelling v. St. Louis Pub. Serv. Co.*, 258 S.W.2d 244, 249 (Mo. Ct. App. 1953); *Kasten v. St. Louis Pub. Serv. Co.*, 231 S.W.2d 252, 254 (Mo. Ct. App. 1950); cf. *Williamson v. St. Louis Pub. Serv. Co.*, 252 S.W.2d 295, 300 (Mo. 1952) ("He was asked whether or not he could state with any degree of medical certainty . . .").

276. *State v. Grapper*, 328 S.W.2d 633, 634 (Mo. 1959); *Brown v. Metropolitan Life Ins. Co.*, 327 S.W.2d 252, 254 (Mo. 1959) (en banc); *Young v. St. Louis Pub. Serv. Co.*, 326 S.W.2d 107, 110 (Mo. 1959); *Bone v. General Motors Corp.*, 322 S.W.2d 916, 919 (Mo. 1959); *Miller v. Multiplex Faucet Co.*, 315 S.W.2d 224, 229 (Mo. 1958) (per curiam); *Kiger v. Terminal R.R. Ass'n*, 311 S.W.2d 5, 14 (Mo. 1958) (per curiam); *Bowyer v. Te-Co., Inc.*, 310 S.W.2d 892, 898 (Mo. 1958); *Roderick v. St. Louis Southwestern Ry. Co.*, 299 S.W.2d 422, 426 (Mo. 1957); *Bedenk v. St. Louis Pub. Serv. Co.*, 285 S.W.2d 609, 617 (Mo. 1955); *Creech v. Riss & Co.*, 285 S.W.2d 554, 560 (Mo. 1955) (per curiam); *Kendall v. Prudential Life Ins. Co. of Am.*, 319 S.W.2d 1, 4 (Mo. Ct. App. 1958) (per curiam), *aff'd*, 327 S.W.2d 174 (Mo. 1959) (en banc); *Karnes v. Ace Cab Co.*, 287 S.W.2d 378, 382 (Mo. Ct. App. 1956) (per curiam); cf. *Breland v. Gulf, Mobile & Ohio R.R. Co.*, 325 S.W.2d 9, 14 (Mo. 1959) (per curiam) ("It could not be said with any degree of medical certainty . . ."); *Beard v. Railway Express Agency, Inc.*, 323 S.W.2d 732, 742 (Mo. 1959) (per curiam) ("[H]e could not state to a medical certainty the severity or intensity of future pain . . ."); *Lynde v. Western & S. Life Ins. Co.*, 293 S.W.2d 147, 149 (Mo. Ct. App. 1956) (per curiam) ("I could not give an opinion based on medical certainty as to cause of death in this instance.").

277. See Appendix B. In terms of frequency of appearance of the phrase, Missouri today ranks fourth with 277 cases, trailing only Illinois (346), Pennsylvania (414), and Ohio (459). Missouri decisions from the 1960s are discussed *infra* notes 427-437.

278. Missouri's leading case on proof of future damages was *Plank v. R.J. Brown Petroleum Co.*, 61 S.W.2d 328 (Mo. 1933). In that case, the Supreme Court of Missouri commented, "the injury must be shown with reasonable certainty and while absolute certainty is not required mere conjecture or likelihood, or even a probability, of such injury will not sustain the allowance of damages therefor." *Id.* at 334.

tion in workers' compensation claims.²⁷⁹ Nevertheless, the phrase appeared in the quotation or paraphrase of medical testimony in two other Minnesota cases from the late 1940s²⁸⁰ and eight cases from the 1950s.²⁸¹ In the 1955 case of *Penteluk v. Stark*,²⁸² the court affirmed an award for permanent injuries, based on physician testimony that had been expressed with "reasonable medical certainty."²⁸³ The court incorporated the phrase in its description of the standard of proof, declaring, "[t]he rule is that for a person to recover for permanent injuries it must appear to a *reasonable medical certainty* that there will be permanent injury."²⁸⁴ In *Derrick v. St. Paul City Ry. Co.*,²⁸⁵ the Minnesota court reaffirmed the rule, stating that it would be satisfied by testimony expressed in terms of probability:

It is true that, to entitle an injured claimant to damages for future disability, *there must be reasonable medical certainty with reference thereto*. The opinion of a medical expert based upon his examination of an injured claimant, as well as upon his knowledge of like injuries generally, to the effect that in all probability there will be a future recurrence of a present disability would seem to meet *the requirement of reasonable certainty*.²⁸⁶

279. See *Burke v. B.F. Nelson Mfg. Co.*, 18 N.W.2d 121, 124 (Minn. 1945). In a challenge to the sufficiency of the evidence, the employer emphasized the testimony of a physician who had opined that death could not be attributed to electrocution with "reasonable medical certainty" in the absence of proof of actual contact with electricity. *Id.* at 123. Other physicians had testified, however, that electrocution was the probable cause of death. *Id.* at 122. In holding that proof of death by accidental electrocution could be established without direct proof of contact with electricity, the court declared, "[i]t is not necessary that the inference of electrocution should meet Dr. McGandy's test of reasonable medical certainty." *Id.* at 124.

280. See *Smith v. Twin City Motor Bus Co.*, 36 N.W.2d 22, 25 (Minn. 1949); *Koop v. Great N. Ry. Co.*, 28 N.W.2d 687, 692 (Minn. 1947).

281. See *Cherry v. Stedman*, 259 F.2d 774, 779 (8th Cir. 1958) (quoting *Penteluk v. Stark*, 69 N.W.2d 899, 901 (Minn. 1955)); *Chicago Great W. Ry. Co. v. Smith*, 228 F.2d 180, 182 (8th Cir. 1955); *Manion v. Tweedy*, 100 N.W.2d 124, 131 (Minn. 1959); *Seydel v. Reuber*, 94 N.W.2d 265, 268 (Minn. 1959); *Dornberg v. St. Paul City Ry. Co.*, 91 N.W.2d 178, 185 (Minn. 1958); *Derrick v. St. Paul City Ry. Co.*, 89 N.W.2d 629, 633 (Minn. 1958); *Norby v. Klukow*, 81 N.W.2d 776, 780 (Minn. 1957); *Penteluk*, 69 N.W.2d at 901.

282. 69 N.W.2d 899 (Minn. 1955).

283. *Id.* at 901.

284. *Id.* (emphasis added). This statement also appeared in the court's syllabus, see *id.* at 900 syllabus, and in headnote 3 under the topic "Damages," *id.* at 899 headnote 3.

285. 89 N.W.2d 629 (Minn. 1958).

286. *Id.* at 633 (citation omitted) (emphasis added). A paraphrase of this quotation, including the phrase "reasonable medical certainty," appeared in headnote 6 under the topics of "Damages" and "Evidence." See *id.* at 630 headnote 6.

In *Dornberg v. St. Paul City Railway Co.*,²⁸⁷ the court reiterated the standard of "reasonable medical certainty" for proof of future disability, but it held that the physician's testimony that surgery "*might*" be necessary was sufficiently definite to meet this standard.²⁸⁸ The fact that the opinion was expressed with "less than an absolute conviction" affected the weight of the opinion, but not its admissibility.²⁸⁹ In all three of these aforementioned opinions, the phrase appeared in the headnotes, further reinforcing the judicial endorsement. Nevertheless, as in Missouri, the inclusion of the phrase "reasonable medical certainty" did not appear to represent any change in the state's standard for proof of future damages.²⁹⁰

In Wisconsin, the phrase first appeared in the 1947 case of *Vogelsburg v. Mason & Hanger Co.*,²⁹¹ in which one of the plaintiff's witnesses had declared during cross-examination, "*I cannot answer these questions to a reasonable medical certainty.*"²⁹² Considering this and other testimony, the court reversed the judgment for the plaintiff and remanded the case for a new trial on damages because the evidence did not "establish to a reasonable certainty" that the accident was the probable cause of a stroke suffered five months later.²⁹³ Both the defendant's objections and the court's conclusion had used the phrase "reasonable certainty,"²⁹⁴ and the court did not attribute any special significance to the phrase "reasonable *medical* certainty." The phrase "reasonable medical certainty" appeared thereafter in numerous Wisconsin opinions, but primarily in summaries or quotations of trial testimony without comment by the court.²⁹⁵ *Kowalke v. Farmers Mutual*

287. 91 N.W.2d 718 (Minn. 1958).

288. *Id.* at 185.

289. *Id.* The court stated further: "To entitle an injured claimant to damages for future disability or surgery, there must be reasonable medical certainty with reference thereto." *Id.* The statement also appeared in headnote 6 under the topic "Damages." See *id.* at 179 headnote 6.

290. In 1960, the Minnesota court repudiated the "reasonable medical certainty" standard for proof of future damages, thereby overruling *Penteluk*, *Derrick*, and *Dornberg*, insofar as these cases supported the use of the phrase. See *Carpenter v. Nelson*, 101 N.W.2d 918, 922-23 & n.9 (Minn. 1960); see also *infra* notes 440-446.

291. 26 N.W.2d 678 (Wis. 1947).

292. *Id.* at 686.

293. *Id.*

294. See *id.* at 681, 683-86.

295. Of the twelve other cases in Wisconsin in which the phrase appeared prior to 1960, ten involved the quotation or paraphrase of trial proceedings. See *Sauer v. United States*, 119 F. Supp. 137, 141 (E.D. Wis. 1954); *Puhl v. Milwaukee Auto. Ins. Co.*, 99 N.W.2d 163, 168 (Wis. 1959), *overruled by* *Stromsted v. St. Michael Hosp. of Franciscan Sisters (In re Estate of Stromsted)*, 299 N.W.2d 226 (Wis. 1980); *Crye v. Mueller*, 96 N.W.2d 520, 528 (Wis. 1959); *Meyer v. Fronimades*, 86 N.W.2d 25, 26 (Wis. 1957); *Molinario v. Industrial Comm'n*, 76 N.W.2d 547, 548 (Wis. 1956); *Rick v. Industrial Comm'n*, 63 N.W.2d 712, 714

*Automobile Ins. Co.*²⁹⁶ was the next case in which the phrase figured prominently in a Wisconsin decision. The court in *Kowalke* quoted a jury instruction that employed the phrase as the standard for recovery of damages for future pain, suffering, and disability,²⁹⁷ thereby implicitly accepting the incorporation of the phrase into the state's rule of "reasonable certainty." The court also used the phrase three times in its quotation or paraphrase of trial testimony,²⁹⁸ further reinforcing the use of the phrase in eliciting opinions about permanent or future injuries.

The related phrase "medical certainty" found its way into Wisconsin's legal jargon in *Diemel v. Weirich*,²⁹⁹ the state's leading case on the sufficiency of proof of permanent injury. In *Diemel*, the Wisconsin Supreme Court declared:

Only a medical expert is qualified to express an opinion to a *medical certainty*, or based on medical probabilities (not mere possibilities), as to whether the pain will continue in the future, and, if so, for how long a period it will so continue.³⁰⁰

This sentence appeared in one of the headnotes in *Diemel*,³⁰¹ as well as in the headnote³⁰² and text³⁰³ of an opinion five years later. The phrase "medical certainty" also had an impact on Wisconsin practice in workers' compensation cases. The dissenting opinion in a 1953 case suggested that impartial physicians performing examinations in workers' compensation proceedings should be informed "that the written report of such examination containing the doctor's conclusions will constitute evidence in the case, and therefore any such conclusions should be stated to be based upon either medical

(Wis. 1954); *Doleys v. Arndt*, 61 N.W.2d 889, 890 (Wis. 1953); *Shewalter v. Shewalter*, 49 N.W.2d 727, 729 (Wis. 1951); *Milwaukee Elec. Ry. & T. Co. v. Industrial Comm'n*, 46 N.W.2d 198, 202 (Wis. 1951); *Sharkey v. Michels*, 36 N.W.2d 690, 693 (Wis. 1949); cf. *Globe Steel Tubes Co. v. Industrial Comm'n*, 29 N.W.2d 510, 511 (Wis. 1947) ("medical certainty"). The phrase has appeared in 196 Wisconsin state court opinions through 1996. See Appendix B.

296. 88 N.W.2d 747 (Wis. 1958).

297. See *id.* at 757 ("If it appears from the evidence to a reasonable medical certainty that [the plaintiff] will continue to suffer pain, suffering and disability, including loss of future earnings, you will . . . award such sum as will fairly and reasonably compensation [sic] her . . .").

298. See *id.* at 756-57.

299. 58 N.W.2d 651, 652 (Wis. 1953).

300. *Id.* at 651-52 (emphasis added).

301. See *id.* at 651 headnote 2.

302. See *Peterson v. Western Cas. & Sur. Co.*, 93 N.W.2d 433, 434 headnote 2 (Wis. 1958).

303. See *id.* at 436.

probabilities or medical certainty."³⁰⁴ This suggestion eventually was adopted by a majority of the court, which, in remanding a later case for further proceedings, declared, "The conclusions of the doctors should be required to a medical certainty or at least to reasonable medical probabilities"³⁰⁵ Thus, as of 1960, the Wisconsin Supreme Court had endorsed the phrases "medical certainty" and "reasonable medical certainty" as the standard of proof and the appropriate locution for physician testimony in workers' compensation cases and about future injuries in personal injury litigation.³⁰⁶

In Ohio, the phrase "reasonable medical certainty" seems to have become an established part of practice without the benefit of judicial encouragement. The phrase first appeared in a 1949 opinion quoting a hypothetical question in a workers' compensation proceeding.³⁰⁷ While the phrase appeared in nine other Ohio opinions during the 1950s,³⁰⁸ in only one did it receive even a mild judicial endorsement.³⁰⁹

304. *Miller Rasmussen Ice & Coal Co. v. Industrial Comm'n*, 57 N.W.2d 736, 744 (Wis. 1953) (Currie, J., dissenting).

305. *Johnson v. Industrial Comm'n*, 93 N.W.2d 439, 445 (Wis. 1958) (citing *Miller*, 57 N.W.2d at 744 (Currie, J., dissenting)). The *Johnson* court also gave favorable consideration to the opinion of a physician that was expressed with "reasonable medical certainty." *See id.* at 441.

306. In 1971, however, the Wisconsin Supreme Court stated that "[t]he term 'medical certainty' is misleading." *Pucci v. Rausch*, 187 N.W.2d 138, 141-42 (Wis. 1971). The court concluded that "[t]he term 'medical probability' more accurately expresses the standard" for admissibility of medical opinions, but that no particular form of words is essential so long as the doctor expresses the opinion with a sufficient "degree of positiveness" or "conviction." *Id.*

307. *See McNees v. Cincinnati St. Ry. Co.*, 89 N.E.2d 138, 144 (Ohio 1949).

308. *Zelenka v. Industrial Comm'n*, 138 N.E.2d 667, 669 (Ohio 1956) (quoting defense counsel at trial); *Ford v. McCue*, 127 N.E.2d 209, 215 (Ohio 1955) (quoting defendant's overruled objection that a doctor did not testify with reasonable medical certainty); *Fox v. Industrial Comm'n*, 125 N.E.2d 1, 8 (Ohio 1955) [*Fox II*] (Taft, J., concurring), *aff'g* 132 N.E.2d 475, 478-79 (Ohio Ct. App. 1953) [*Fox I*] (phrase appears in both opinions); *State ex rel. M. O'Neil Co. v. Industrial Comm'n*, 110 N.E.2d 559, 559 (Ohio 1953) (per curiam) (noting that an employer asked the court to issue a writ of mandamus compelling the Industrial Commission to vacate a decision as it was not based on "reasonable medical certainty"); *Neighbors v. Administrator, Bureau of Workmen's Comp.*, 166 N.E.2d 403, 406 (Ohio Ct. App. 1959) (quoting a hypothetical question posed to a doctor at trial); *Spargur v. Dayton Power & Light Co.*, 163 N.E.2d 786, 795 (Ohio Ct. App. 1959) (quoting a jury charge relating to future expenses for "such services and care as will with reasonable medical certainty be required in the future," and holding that future expenses could be awarded, because a jury could "find, even without professional opinion or a declaration of present intention to submit to further skin surgery, that plaintiff's unfortunate condition would with reasonable medical certainty require further services and care."); *Luchansky v. J.V. Parish, Inc.*, 157 N.E.2d 388, 393 (Ohio Ct. App. 1957) (quoting a hypothetical question posed to a doctor at trial); *Martin v. Sharon Steel Corp.*, 121 N.E.2d 104, 106 (Ohio Ct. App. 1953) (per curiam) (quoting the basis of an objection at trial).

309. *See Fox I*, 132 N.E.2d at 479. The Court of Appeals of Ohio stated:

In New York, the phrase "reasonable medical certainty" entered the lexicon of attorneys with only mild endorsement from the courts. The phrase "reasonable medical certainty" appeared in two insignificant 1944 opinions in the paraphrase of testimony relating to the permanence of personal injuries.³¹⁰ After a six-year hiatus, the phrase appeared in numerous opinions throughout the 1950s.³¹¹ In several cases, testimony expressed with reasonable medical certainty was deemed sufficient to sustain a claim,³¹² and in two of these the phrase

In sustaining such holding of the trial court, we do not mean to hold that, in all cases where medical testimony is based upon hypothetical questions, the original question must include all the elements of a probable proximate causal relationship to a *reasonable medical certainty*. There are and may be cases where certain preliminary questions may be asked as to a causal relationship, followed by other questions which include the *proximate* causal connection.

Id. at 478 (emphasis added). The dispute in that case did not involve the physician's degree of certitude, but rather the fact that the question had asked whether there was "a causal relationship" rather than a "proximate or direct causal relationship." *Id.* at 477. The Ohio Supreme Court upheld the trial and appellate courts because the evidence proffered "was insufficient in itself to prove a *direct or proximate causal relationship*, and, in the absence of other evidence to cure the insufficiency, its exclusion was harmless error." *Fox II*, 125 N.E.2d at 6.

The Ohio Court of Appeals had used the phrase "reasonable medical certainty" a second time in its opinion, again suggesting it was part of the legal standard:

It has been argued to this court in this case that the requirement of incorporating in a question the probable proximate cause to a *reasonable medical certainty* is not proper because it usurps the ultimate question and issue which the jury has to answer. This is true in other cases, but where such questions depend only upon expert medical testimony the only ultimate question for a jury is to choose between the credibility of the various medical witnesses for plaintiff and defendant.

Fox I, 132 N.E.2d at 479 (emphasis added). Because the intermediate court's opinion was affirmed by the Ohio Supreme Court, it would have reinforced the usage, which already appeared to be well established in Ohio.

310. See *Kurtz v. State*, 52 N.Y.S.2d 7, 8 (Ct. Cl. 1944) (testimony confirmed that claimant had a condition which, "with reasonable medical certainty, appear[ed] to be permanent"); *Messinger v. State*, 51 N.Y.S.2d 506, 507-08 (Ct. Cl. 1944) (testimony demonstrated that the claimant had "suffered physical disability which, with reasonable medical certainty, appear[ed] to be permanent").

311. In addition to the 14 decisions of the New York state courts cited *infra* notes 312-316, the phrase appeared in *Newton v. County of Erie*, 180 N.Y.S.2d 163, 166 (App. Div. 1958), and in two federal court opinions—*Jaffe v. United States*, 161 F. Supp. 910, 912 (S.D.N.Y. 1957), *aff'd*, 255 F.2d 272 (2d Cir. 1958), and *United States v. Peelle Co.*, 137 F. Supp. 905, 918 (E.D.N.Y. 1956). The phrase "medical certainty" appeared in four other New York cases from the 1950s. See *Maricle v. Glazier*, 121 N.E.2d 549, 550 (N.Y. 1954); *Yance v. Ormsby*, 176 N.Y.S.2d 713, 715 (App. Div. 1958); *Dubrow v. 40 W. 33rd St. Realty Corp.*, 167 N.Y.S.2d 98, 100 (App. Div. 1957); *Sheldon v. Doughty's Laundry Serv.*, 167 N.Y.S.2d 56, 58 (App. Div. 1957).

312. See *Dunham v. Village of Canisteo*, 104 N.E.2d 872, 876 (N.Y. 1952) (reversing the appellate division and reinstating the judgment for plaintiff); *Carpenter v. Sibley, Lindsay & Curr Co.*, 97 N.E.2d 915, 916 (N.Y. 1951) (reversing the appellate division and reinstating a workers' compensation award); *Moore v. Ford Motor Co.*, 192 N.Y.S.2d 568, 570-71 (App. Div. 1959) (affirming a workers' compensation award); *Reich v. Evans* 180 N.Y.S.2d

appeared in the headnotes.³¹³ In other cases, claimants lost, in part due to the unwillingness of their doctors to offer positive opinions with reasonable medical certainty.³¹⁴ Nevertheless, in one case, the claimant prevailed despite the unwillingness of a physician to testify with reasonable medical certainty,³¹⁵ while in another case, testimony expressed with reasonable medical certainty was deemed improper as invading the province of the jury.³¹⁶ In sum, the New York courts commented favorably on testimony expressed with "reasonable medical certainty" but did not treat the phrase as having any special doctrinal significance.³¹⁷ Given the fact that the New York courts had created the reasonable-certainty rule and had expended substantial judicial energy clarifying its meaning,³¹⁸ it is somewhat surprising that

159, 162 (App. Div. 1958) (reducing a verdict as excessive, but indicating that testimony expressed with "reasonable medical certainty" was not speculative when qualified by such terms as "apparently" and "I think"); *Zaepfel v. E.I. duPont de Nemours & Co.* (*In re Zaepfel*), 134 N.Y.S.2d 377, 379 (App. Div. 1954) (affirming a workers' compensation award), *aff'd*, 132 N.E.2d 327 (N.Y. 1956); *In re Di Bella's Estate*, 100 N.Y.S.2d 763, 766 (Sur. Ct. 1950) (using medical testimony in establishing that a husband predeceased his wife), *aff'd*, 107 N.Y.S.2d 929 (App. Div. 1951).

313. See *Moore*, 192 N.Y.S.2d at 568 headnote 2; *Reich*, 180 N.Y.S.2d at 160 headnote 6.

314. See *Goettel v. United Hosp.*, 158 N.Y.S.2d 50, 51 (App. Div. 1956) (mem.) (reversing a workers' compensation award); *Heinrich v. Village of Hamburg*, 141 N.Y.S.2d 865, 866 (App. Div. 1955) (per curiam) (same); *Bethge v. Buffalo E. Motor Lines*, 118 N.Y.S.2d 567, 568 (App. Div. 1953) (same); *Desmond v. State*, 158 N.Y.S.2d 146, 149-50 (Ct. Cl. 1956) (affirming a denial of recovery for permanent injury to right arm).

315. See *Bellamy v. Carrier Corp.*, 135 N.Y.S.2d 334, 335 (App. Div. 1954) (per curiam) (affirming an award of workers' compensation death benefits based on the testimony of a family physician, even though another doctor "refused to express an opinion with reasonable medical certainty as to the cause of the strangulation"); cf. *Fischetti v. City of New York*, 147 N.Y.S.2d 903, 904 (Sup. Ct. 1955) (rendering judgment for plaintiff despite testimony that "there is no medical certainty as to how plaintiff would have fared without the second accident").

316. See *Aponte v. Garcia*, 109 N.Y.S.2d 761, 767 (App. Div. 1952). The *Aponte* court reversed a workers' compensation award that had been based on a psychiatrist's testimony that, "with a 'reasonable degree of medical certainty,'" linked the decedent's suicide to a workplace accident. *Id.* The court held that the question was improper because it posed an "ultimate fact-finding problem" and was speculative insofar as it was based on assumptions that lacked a solid factual foundation. *Id.* at 767-68. The phrase thus appeared in the text of the opinion and in the paraphrase therefrom in headnote 4, which read in pertinent part as follows: "[Q]uestion to psychiatrist-witness [was] whether he could state with reasonable degree of medical certainty whether accident and circumstances between accident and suicide were competent producing causes of suicide was improper in that it posed an ultimate fact-finding problem not within witness' [sic] legal competence." *Id.* at 762 headnote 4 (emphasis added).

317. In the 1960s, the New York Court of Appeals stated that no particular verbal formula was necessary for admissibility or sufficiency of proof. See *Ernest v. Boggs Lake Estates, Inc.*, 190 N.E.2d 528, 528-29 (N.Y. 1963) (noting that the court "will look for the thought and meaning of . . . medical testimony rather than" reject it if it "fail[s] to use the words preferred by lawyers"); see also *infra* note 419 and accompanying text.

318. See *Martin, supra* note 27, at 786-90.

the phrase "reasonable medical certainty" had so little doctrinal impact in that state.

In Washington, the phrase "reasonable medical certainty" received a strong endorsement from the state's highest court on the occasion of its first appearance in a published opinion, the 1954 case of *Halder v. Department of Labor & Industries*.³¹⁹ In *Halder*, the Supreme Court of Washington reversed a judgment notwithstanding the verdict that had been entered against the claimant, and a hypothetical question that employed the phrase played a crucial role in the court's decision.³²⁰ In addition to paraphrasing a question that asked the physician whether he had an opinion based upon "reasonable medical certainty" as to the connection between a blow received at work and a stroke suffered eight days later,³²¹ the court itself employed the phrase in explaining the significance of this testimony: "His answer to that question was, in effect, that in his opinion, based upon 'reasonable medical certainty,' it was probable that the blow caused the stroke."³²² The court found that this answer "was evidence tending to establish a causal relationship between the head injury and the stroke which attained the degree of substantiality necessary to present a jury question."³²³ Rejecting the defendant's contention that Dr. Collins's testimony was inconsistent and based upon speculation, the court again emphasized the physician's expression of reasonable medical certainty:

Dr. Collins' opinion that a causal relationship existed between the blow on the head and the stroke was certainly not expressed in terms of speculation or surmise. It was his opinion, based upon "reasonable medical certainty," that the blow was the probable cause of the stroke.³²⁴

The *Halder* opinion established "reasonable medical certainty" as a legally significant phrase in Washington, for the court recited it

319. 268 P.2d 1020 (Wash. 1954).

320. *See id.* at 1024-25.

321. *See id.* at 1022. The court elaborated:

[The doctor] was asked specifically whether, assuming those to be the facts, he had an opinion based upon "reasonable medical certainty" as to whether or not there could be any connection between the blow received on May 28 and the stroke suffered on June 5. He was then asked whether it is "probable" that the blow caused the stroke. Again Dr. Collins answered in the affirmative.

Id.

322. *Id.* at 1023.

323. *Id.*

324. *Id.* at 1024.

three times³²⁵ and it appeared in two of the headnotes.³²⁶ In light of the court's strong endorsement of this form of testimony, it is surprising that the phrase "reasonable medical certainty" did not appear again in a reported Washington decision during the 1950s.³²⁷ As was true of the leading cases from Missouri³²⁸ and Minnesota,³²⁹ the Washington court addressed only the *sufficiency* of an opinion expressed with reasonable medical certainty and did not rule on the *necessity* of this expression, either to establish a prima facie case or for purposes of admissibility.³³⁰

The situation in Pennsylvania is quite surprising. Despite a long-established state rule requiring opinions on causation to be expressed with "reasonable certainty" as a precondition for admissibility, the phrase "reasonable medical certainty" is entirely absent from published opinions of the state courts prior to 1968.³³¹ The rule requiring definitive expression of medical opinion originated in a 1921 decision of the Pennsylvania Supreme Court, which held that proof of causation could not be established without medical testimony that an injury "most probably came from the cause alleged."³³² Four years later, the Pennsylvania Supreme Court reiterated this standard and criticized the continued introduction of testimony expressed in the qualified "might or could" form.³³³ The court declared, "in order to avoid further misapprehension, we now announce that hereafter no consideration will be given to expert testimony on this point, unless it is as explicit as we have stated."³³⁴ The following year, in *Vorbhoff v. Mesta Machine Co.*,³³⁵ the court seemed to transform the requirement of definitive testimony from a rule of sufficiency of proof into a rule of admissibility. The court stated:

325. *See id.* at 1022-24.

326. *See id.* at 1020-21 headnotes 3, 9.

327. Search of WESTLAW, Wa-cs Database (Feb. 18, 1998) (da(bef 1960) & "reasonable medical certainty" or "reasonable degree of medical certainty") (retrieving only *Halder*).

328. *See supra* notes 269-278 and accompanying text.

329. *See supra* notes 280-290 and accompanying text.

330. *See Halder*, 268 P.2d at 1024-25. Significantly, many years earlier, the Washington court had rejected the rule of reasonable certainty, holding that medical opinions on future damages were admissible if expressed in terms of "reasonable probability." *See Holt v. School Dist. No. 71*, 173 P. 335, 337-38 (Wash. 1918); *Gallamore v. City of Olympia*, 75 P. 978, 980 (Wash. 1904).

331. *See* Appendix B; *see also supra* note 10.

332. *Fink v. Sheldon Axle & Spring Co.*, 113 A. 666, 667 (Pa. 1921).

333. *See McCrosson v. Philadelphia Rapid Transit Co.*, 129 A. 568, 569 (Pa. 1925).

334. *Id.*

335. 133 A. 256 (Pa. 1926).

[T]he witness would have to testify, not that the condition of claimant might have, or even probably did, come from the accident, but that "in his professional opinion the result in question came from the cause alleged"; for, according to our latest pronouncement on this subject, a less direct expression of opinion would fall below the required standard of proof, and therefore would not constitute legally competent evidence.³³⁶

Subsequent Pennsylvania cases did not consistently treat the requirement of definitive testimony as a rule governing admissibility,³³⁷ however, and even with regard to evidentiary sufficiency, these cases did not require use of any particular form of words.³³⁸ Nevertheless, while the Pennsylvania Supreme Court adhered to the requirement of definitive medical testimony on causation throughout the 1950s,³³⁹ the phrase "reasonable medical certainty" did not appear in a single opinion of the Pennsylvania state courts during that decade.³⁴⁰ While its appearance in a federal court opinion demonstrated that the phrase was being used by Pennsylvania attorneys during the 1950s,³⁴¹ the phrase did not appear in a published state court opinion until 1968.³⁴²

336. *Id.* at 258 (quoting *McCrosson*, 129 A. at 569). As a student commentator pointed out, "[t]his rule was reached without any separate discussion on the question of admissibility as distinguished from sufficiency. Yet the case cited in support dealt only with the question of sufficiency." John Wilson, Note, *Admissibility of Expert Medical Testimony in Pennsylvania: The Semantic Trap*, 31 U. PITT. L. REV. 150, 153 (1969).

337. See Robert M. Bernstein, *How Certain Must the Expert Be?*, 18 PA. B. ASS'N Q. 186, 188 (1947).

338. *Id.*

339. See, e.g., *Menarde v. Philadelphia Transp. Co.*, 103 A.2d 681, 684 (Pa. 1954) (holding that testimony that is not a professional opinion directly linking the result in question to its alleged cause is legally incompetent evidence); *Wargo v. Pittsburgh Rys. Co.*, 101 A.2d 638, 640 (Pa. 1954) (concluding that medical testimony that creates great doubt as to whether the injuries complained of were caused or aggravated by the accident in question was insufficient evidence).

340. See *supra* note 331 and accompanying text. *But cf.* *Pavlik v. Harmar Coal Co.*, 156 A.2d 565, 567 (Pa. Super. Ct. 1959) (using the term "medical certainty").

341. See *Vaccaro v. Marra Bros., Inc.*, 130 F. Supp. 12, 13 (E.D. Pa. 1955).

342. See *DeVirgiliis v. Gordon*, 243 A.2d 459, 460 (Pa. Super. Ct. 1968) (Hannum, J., dissenting) (paraphrasing an attorney's questions during direct examination). The phrase appeared in only one other state court opinion from the 1960s and in only sixteen more cases prior to 1975. See *supra* note 331 for description of WESTLAW search. It did not appear, for example, in *McMahon v. Young*, 276 A.2d 534 (Pa. 1971), the most frequently cited modern Pennsylvania opinion mandating definitive expert testimony on causation. In the mid-1970s, however, the Pennsylvania courts began using the phrase "reasonable medical certainty" in conjunction with the state's requirement of definitive medical opinion testimony. See *Hamil v. Bashline*, 307 A.2d 57, 61 (Pa. Super. Ct. 1973), *appeal after remand*, 364 A.2d 1366, 1368 (Pa. Super. Ct. 1976), *rev'd*, 392 A.2d 1280, 1283-86 (Pa. 1978) (75% chance that the plaintiff would have survived a heart attack with appropriate treat-

To summarize the caselaw from this period, as of 1960, attorneys in at least twenty-two states were using the phrase "reasonable medical certainty." Furthermore, courts in several states treated the phrase as an indicator of the sufficiency of medical opinion testimony relating to causation or future damages. On the other hand, only rarely had the courts expressly attributed any legal significance to the phrase, and no court ever said the phrase was mandatory. In Illinois, Missouri, New York, and Washington, the phrase appeared in favorable comments on the substantiality of evidence of causation, and in Illinois, Minnesota, Missouri, and Wisconsin, the phrase was linked with the rule of "reasonable certainty" respecting future damages. Nevertheless, not a single opinion outside of Illinois held that the phrase was essential to admissibility or sufficiency of proof.

How can we account for the rapid dissemination of the phrase between 1940 and 1960? The only reasonable explanation for the spread of this formulation from Illinois into other jurisdictions is that attorneys were basing their questions on the models provided in Goldstein's texts. Without running afoul of the *post hoc, ergo propter hoc* fallacy, the conclusion follows from application of the factors used to establish causation in toxic tort litigation: (1) exposure; (2) temporal sequence between exposure and effect; (3) existence of a plausible causal mechanism; and (4) absence of plausible alternative explanations.³⁴³

The exposure of the American bar to Goldstein's texts is undeniable. Both works were quite successful. *Trial Technique* was the leading trial manual of its era for both lawyers and law students.³⁴⁴ It

ment was evidence of increased risk but would not suffice "to establish that the injury in question did, with a reasonable degree of medical certainty, stem from the negligent act"). A virtual explosion in usage occurred after 1975, with roughly 50 Pennsylvania cases containing the phrase in the next five years and approximately 100 such cases in each succeeding five-year period. Thus, by the end of 1996, the phrase had appeared in 414 Pennsylvania state court opinions, more than in any other state except Ohio. See Appendix B; see also *supra* note 10.

343. See Alan M. Ducatman, *Toxic Exposures: The Expert Witness in Environmental Toxic Tort Litigation*, in 1 THE PHYSICIAN'S PERSPECTIVE ON MEDICAL LAW 263, 265-66 (Howard H. Kaufman & Jeff L. Lewin eds., 1997).

344. Prior to the National Institute for Trial Advocacy (NITA) revolution of the 1970s, trial advocacy was rarely taught in law schools. "[T]here was no nationally recognized, coherent methodology," and the "teaching . . . was often anecdotal." Thomas F. Geraghty, *Teaching Trial Advocacy in the 90s and Beyond, Foreword to Colloquium, Teaching Trial Advocacy in the 90s and Beyond: A Critical Evaluation of Trial Advocacy Teaching Methodologies and Designs for the Future*, 66 NOTRE DAME L. REV. 687, 687 (1991); accord Steven Lubet, *What We Should Teach (but Don't) When We Teach Trial Advocacy*, 37 J. LEGAL EDUC. 123, 124 (1987) (explaining that "trial advocacy teaching . . . was [o]nce largely the province of part-time instructors who taught using makeshift materials and war stories drawn from their own

remained in print as it sold out multiple printings until publication of the second edition in 1969.³⁴⁵ *Medical Trial Technique* was so well received that its title was incorporated into the periodical, *Medical Trial Technique Quarterly*, which commenced publication in 1954 with Goldstein as co-editor.³⁴⁶ A 1956 article by two Florida attorneys perceptively identified *Medical Trial Technique* as a possible source of the phrase "reasonable medical certainty."³⁴⁷

The temporal sequence is also clear. The phrase "reasonable medical certainty" did not appear in a single opinion outside of Illinois prior to the publication of *Trial Technique* in 1935. Thereafter, however, the phrase appeared almost simultaneously in roughly half of all American jurisdictions during the twenty-year period between 1940 and 1960.

experiences"); James W. McElhaney, *Toward the Effective Teaching of Trial Advocacy*, 29 U. MIAMI L. REV. 198, 198 (1975) (recognizing that "[f]or many years law schools took a rather indifferent view toward training trial lawyers," and "until recently, many schools did not offer trial advocacy courses"); G. Joseph Tauro, *Graduate Law School Training in Trial Advocacy: A New Solution to an Old Problem*, 56 B.U. L. REV. 635, 639-40 (1976) (arguing that the introduction of Langdell's "case method" of teaching in 1870 shifted the focus of legal education from training advocates to "developing legal scholars"). For a brief history of NITA, see Kenneth S. Broun, *Teaching Advocacy the N.I.T.A. Way*, 63 A.B.A. J. 1220, 1220-21 (1977).

Insofar as such courses were taught, Goldstein's manual would have been a readily available text. My colleague Thomas J. Reed reports that Goldstein's manual was the assigned text for his trial methods course at Notre Dame in the 1960s. I am not aware of any comparable works that would have been appropriate for teaching the nuts-and-bolts of trial technique prior to the NITA era and the publication of such works as JAMES W. JEANS, *TRIAL ADVOCACY* (lawyer's ed. & student ed. 1975), THOMAS A. MAUET, *FUNDAMENTALS OF TRIAL TECHNIQUES* (1980), and ALAN E. MORRILL, *TRIAL DIPLOMACY* (1973). Among the available pre-NITA texts, FRANCIS X. BUSCH, *LAW AND TACTICS IN JURY TRIALS* (students' ed. 1950), emphasized law and discussed tactics but provided few models. ROBERT E. KEETON, *TRIAL TACTICS AND METHODS* (1954), discussed preparation and technique but was less comprehensive than Goldstein and provided even fewer examples than Busch.

345. See *supra* notes 213-217 and accompanying text.

346. See *supra* notes 225-227 and accompanying text.

347. See Smith & Tipton, *supra* note 28, at 327. The authors speculated:

The origin in Jurisprudence of the use of the term "reasonable medical certainty," which crops up from time to time in various ways in both negligence trials and workmen's compensation hearings, is somewhat of a mystery. "Words and Phrases" does not even list the term. Perhaps the phrase is borrowed from the sometimes overly cautious medical profession. Perhaps the source is an unannotated text book on suggested trial methods.¹ Then again the phrase may have evolved out of the long standing requirement in negligence cases that *future* damages, as an issue of *ultimate* fact, must be ascertained to a reasonable certainty and that, therefore, the defendant is entitled to have an instruction to the jury to this effect.

1. See, for example, Goldstein and Shabat, "Medical Trial Technique," Callaghan and Company, Chicago, 1942, pp. 16, 18.

With regard to the plausible causal mechanism, both *Trial Technique* and *Medical Trial Technique* were replete with illustrations of hypothetical questions that employed the phrase "reasonable medical certainty," and Goldstein encouraged attorneys to copy the formulas provided in his manual.³⁴⁸ Because Goldstein gave no hint that his formula represented a local usage,³⁴⁹ it is not only plausible but predictable that attorneys throughout the United States would assume that the phrase was essential and would thus incorporate it into their hypothetical questions. It is therefore entirely understandable how the usage could have sprung up simultaneously throughout the United States as attorneys in each jurisdiction, acting independently, accepted Goldstein's invitation to imitate his models.

Finally, no other plausible explanation exists for the rapid diffusion of the phrase beyond the borders of Illinois between 1940 and 1960. The usage certainly was not initiated by physicians, for the phrase had no special meaning within the medical profession.³⁵⁰ Nor is it conceivable that the usage was spread by the judiciary. Not a single opinion outside of Illinois treated the phrase as mandatory, either for purposes of admissibility or evidentiary sufficiency. In only a few states did the courts link the phrase with legal doctrine, and in none did it represent a change in existing standards. In none of these cases did a court cite an opinion from another jurisdiction that encouraged the use of the phrase. Thus, the only way that appellate judges could have learned of the phrase was from reading trial transcripts, and in almost every case that a court commented favorably on the phrase, it had been used by the attorneys at trial.

If the phrase was not disseminated by the medical profession nor imposed by the judiciary, it must have been spread by the independent actions of the practicing bar, and Goldstein's two texts represented the only universally available source of the phrase for lawyers engaged in litigation between 1935 and 1960. In sum, one can conclude with a reasonable degree of certainty that the diffusion of the phrase "reasonable medical certainty" beyond the borders of Illinois reflected the influence of Goldstein's *Trial Technique* and *Medical Trial Technique*.

348. See *supra* notes 187, 206-210 and accompanying text.

349. Indeed, two reviewers faulted Goldstein for treating Illinois legal practice as definitive and for not warning readers of conflicting approaches in other jurisdictions. See *Medina*, *supra* note 213, at 1188 (asserting that readers of Goldstein's book who are "practicing out of the State of Illinois will have to be careful to check up the local practice"); *Morgan*, *supra* note 213, at 1388-89 (warning readers that the rules of law followed by Illinois are not "universally accepted" throughout the country).

350. See *supra* notes 83-92 and accompanying text.

C. *Inclusion of the Phrase in Secondary Literature*

By 1960, the phrase "reasonable medical certainty" had been used by attorneys in at least twenty-two jurisdictions,³⁵¹ and undoubtedly in others as well.³⁵² The use of the phrase was sufficiently widespread that it began to find its way into the secondary legal literature. A 1956 article, entitled *A Quest for "Reasonable Medical Certainty" in Florida*,³⁵³ discussed the occasional appearance of the phrase in Florida courtrooms. Based on an analysis of Florida law, the authors concluded that "reasonable certainty" was not required except with regard to future damages.³⁵⁴ They maintained "that even under this rule reasonable *medical* certainty is not required and, moreover, evidence of it may even be improper."³⁵⁵ A 1957 article on medicolegal causation referred to a "'reasonable medical certainty' rule"³⁵⁶ and concluded with this suggestion: "Be sure to analyze the cases of your own jurisdiction on the 'reasonable certainty rule,' in order to determine whether or not your courts require reasonable medical certainty as to causation."³⁵⁷ The phrase "reasonable medical certainty" also appeared several times in a 1957 article entitled *The Medical Expert Witness—Positive—Negative—Maybe*.³⁵⁸ The article recommended that courts should exclude speculative opinions expressed in terms of "possibility" and should limit admissibility to positive opinions expressed in terms of "probability."³⁵⁹ In this regard, the author treated "reasonable medical certainty" as an expression of probability.³⁶⁰

The *American Jurisprudence Proof of Facts* series, which commenced publication in 1959, both reflected and reinforced the acceptance of the phrase into the legal lexicon. The first volume of the series alone contained eleven articles that used the phrase to illustrate hypotheti-

351. See *supra* notes 231-258 and accompanying text.

352. See *supra* note 259 and accompanying text.

353. Smith & Tipton, *supra* note 28.

354. See *id.* at 330.

355. *Id.*

356. Albert Averbach, *Causation: A Medico-Legal Battlefield*, 6 CLEV.-MARSHALL L. REV. 209, 226 (1957). The phrase "reasonable medical certainty" also appeared three times at page 216.

357. *Id.* at 230.

358. Harley J. McNeal, *The Medical Expert Witness—Positive—Negative—Maybe*, 2 J. FORENSIC SCI. 135 (1957).

359. *Id.* at 141, 148.

360. In one instance, McNeal contrasted the phrase with speculation: "[H]e has failed to understand the distinction between 'possible' and 'probable,' 'reasonable medical certainty' and conjecture and speculation." *Id.* at 140. In another instance, he equated the phrase with probability: "The strict limitation of medical testimony to 'probabilities' makes it certain that a jury carefully consider the testimony before reaching the conclusion that a causal relationship has been established with reasonable medical certainty." *Id.* at 141.

cal questions.³⁶¹ In subsequent volumes, the phrase appeared in articles on cancer³⁶² and causation,³⁶³ and an article on hypothetical questions included the phrase "reasonable certainty" in a question about medical malpractice.³⁶⁴ The pervasive use of the phrase throughout the remainder of this series³⁶⁵ established "reasonable medical certainty" as the definitive preface to requests for opinion testimony from physicians.

IV. PROFUSION: 1960-1970

A. *Exponential Growth*

Prior to 1960, the phrase "reasonable medical certainty" had appeared in opinions from only twenty-one states outside of Illinois.³⁶⁶ Within another ten years, however, the phrase had appeared in published opinions from all but two American states,³⁶⁷ with appearances

361. See 1 AM. JUR. PROOF OF FACTS *Abortion and Miscarriage*, 15, 24 (1959); 1 AM. JUR. PROOF OF FACTS *Amnesia*, 507, 516, 520 (1959); 1 AM. JUR. PROOF OF FACTS *Anemia*, 559, 564 (1959); 1 AM. JUR. PROOF OF FACTS *Aneurism*, 569, 575, 579 (1959); 1 AM. JUR. PROOF OF FACTS *Angina Pectoris*, 583, 590 (1959); 1 AM. JUR. PROOF OF FACTS *Ankle Injuries*, 641, 648 (1959); 1 AM. JUR. PROOF OF FACTS *Ankylosis*, 651, 657, 658 (1959); 1 AM. JUR. PROOF OF FACTS *Anosmia*, 711, 716 (1959); 1 AM. JUR. PROOF OF FACTS *Aphasia*, 731, 737, 738 (1959); 1 AM. JUR. PROOF OF FACTS *Apoplexy*, 741, 750, 751 (1959); 1 AM. JUR. PROOF OF FACTS *Appendicitis*, 755, 758 (1959).

362. 3 AM. JUR. PROOF OF FACTS *Cancer*, 127, 140-41, 154 (1959).

363. 3 AM. JUR. PROOF OF FACTS *Causation: Medical Opinion*, 161, 164 (1959).

364. 6 AM. JUR. PROOF OF FACTS *Hypothetical Questions*, 159, 164 (1960).

365. See Hullverson, *supra* note 18, at 586 ("Scarcely a volume of the *American Jurisprudence Proof of Facts* series is published without an illustration of dialogue that incorporates a question of whether the expert has an opinion based upon a reasonable degree of professional certainty.").

366. See *supra* notes 231-259 and accompanying text.

367. See Appendix B; see also *supra* note 10. As of the end of 1969, the phrase had not yet appeared in opinions from Nevada or New Hampshire. The phrase first appeared in a decision from New Hampshire in 1970. See Jackson v. Emile J. Legere, Inc., 265 A.2d 18, 20 (N.H. 1970). Although the phrase "medical certainty" appeared in a 1972 Nevada opinion, see *Azbill v. State*, 495 P.2d 1064, 1070 (Nev. 1972), the complete phrase did not appear in Nevada until 1988, see *Roberts v. United States*, No. 85-1733, 1988 WL 57694, at *1 (9th Cir. 1988) (mem.), *opinion and order published*, 887 F.2d 899, 900 (9th Cir. 1989). The phrase first appeared in a decision from a Nevada state court in 1990. See Vance v. Judas Priest, No. 86-5844, 1990 WL 130920, at *18 (Nev. Dist. Ct. Aug. 24, 1990).

During the 1970s, the phrase also appeared in state or municipal court opinions from three jurisdictions in which it previously had appeared only in federal court opinions. See *Daugaard v. People ex rel. Daugaard*, 488 P.2d 1101, 1103 (Colo. 1971) (initial federal opinion, *Murphy v. Dyer*, 409 F.2d 747, 750 (10th Cir. 1969)); *United States v. Holmes*, 343 A.2d 272, 274 n.4 (D.C. 1975) (initial federal opinion, *Quick v. Thurston*, 290 F.2d 360, 364 (D.C. Cir. 1961)); *Womack v. St. Joseph's Hosp., Inc.*, 205 S.E.2d 72, 74 (Ga. Ct. App. 1974) (initial federal opinion, *Rewis v. United States*, 369 F.2d 595, 598-99 (5th Cir. 1966)).

in sixteen new jurisdictions from 1960 through 1964,³⁶⁸ and eleven from 1965 through 1969.³⁶⁹

As the phrase spread to additional jurisdictions, the frequency of its appearance also increased dramatically. While the phrase appeared in an average of approximately four published cases per year in the late 1940s and six per year in the first half of the 1950s, it appeared in roughly fifteen per year in the second half of the 1950s, thirty-five per year in the first half of the 1960s, and sixty per year in the second half of the 1960s.³⁷⁰ To be sure, the frequency of its appearance reflected the general increase in personal injury litigation during this period, and not simply the prevalence of its usage in such litigation. Nevertheless, the fact remains that the phrase had achieved not just general acceptance, but talismanic significance, as the "magic words"³⁷¹ with which attorneys prefaced requests for expert medical opinions.

368. *Quick*, 290 F.2d at 364 (District of Columbia); *Gillis v. Farmers Union Oil Co.*, 186 F. Supp. 331, 337 (D.N.D. 1960); *Murray v. Industrial Comm'n*, 349 P.2d 627, 633 (Ariz. 1960); *Wonder State Mfg. Co. v. Howard*, 338 S.W.2d 682, 684 (Ark. 1960); *Condron v. Harl*, 374 P.2d 613, 620 (Haw. 1962); *Yeager v. Firestone Tire & Rubber Co.*, 112 N.W.2d 299, 302 (Iowa 1961); *Hazelwood v. Hodge*, 357 S.W.2d 711, 713 (Ky. 1961); *Baltimore County v. State ex rel. Keenan*, 193 A.2d 30, 33 (Md. 1963); *Commonwealth v. Harrison*, 173 N.E.2d 87, 93-94 (Mass. 1961); *Kennedy v. Williams-McWilliams Indus., Inc.*, 156 So. 2d 806, 807 (Miss. 1963); *Newman v. Kamp*, 374 P.2d 100, 103 (Mont. 1962); *Riggs v. Gooch Milling & Elevator Co.*, 112 N.W.2d 531, 534 (Neb. 1961); *Batte v. Stanley's*, 374 P.2d 124, 126 (N.M. 1962); *Vaux v. Hamilton*, 103 N.W.2d 291, 295 (N.D. 1960); *La Barge v. United Ins. Co.*, 349 P.2d 822, 829 (Or. 1960); *Williams v. Daniels*, 344 S.W.2d 555, 558, 560 (Tenn. Ct. App. 1960); *Pygman v. Helton*, 134 S.E.2d 717, 720 (W. Va. 1964). In Montana, a case containing the "medical and surgical" variant of the phrase was published two years prior to the first appearance of the precise phrase "reasonable (degree of) medical certainty" in *Newman*. See *Risken v. Northern Pac. Ry.*, 350 P.2d 831, 837 (Mont. 1960) ("an opinion based upon reasonable certainty and from a medical and surgical point of view").

369. *Murphy*, 409 F.2d at 750 (Colorado); *Rewis*, 369 F.2d at 598-99 (Georgia); *Western Ry. v. Brown*, 196 So. 2d 392, 401 (Ala. 1967); *McCracken v. State*, 431 P.2d 513, 515 (Alaska 1967); *Coffin v. Faggella*, 242 A.2d 792, 794 (Conn. Cir. Ct. 1967); *Air Mod Corp. v. Newton*, 215 A.2d 434, 438 (Del. 1965); *Howe v. Farmers Coop. Creamery*, 132 N.W.2d 844, 846 (S.D. 1965); *State v. Lancaster*, 433 P.2d 312, 314 (Utah 1967); *Valente v. Commercial Ins. Co.*, 236 A.2d 241, 245 (Vt. 1967); *Aetna Cas. & Sur. Co. v. Price*, 146 S.E.2d 220, 229 (Va. 1966); *Lujan v. State*, 423 P.2d 388, 392 (Wyo. 1967). Although the phrase had appeared in opinions from Pennsylvania's federal courts as early as 1955, see *supra* notes 250 and 341, it finally appeared in an opinion from a Pennsylvania state court in 1968, see *DeVirgiliis v. Gordon*, 243 A.2d 459, 460 (Pa. Super. Ct. 1968) (Hannum, J., dissenting).

370. See Appendix A for year-by-year figures for state and federal courts opinions containing the phrase. See also *supra* note 10.

371. See *Thompson v. Underwood*, 407 F.2d 994, 997 (6th Cir. 1969) ("a court should not disregard the substance of a doctor's testimony merely because he fails to use the magic words 'reasonable medical certainty'").

Although the phrase "reasonable medical certainty" appeared in 482 published state and federal opinions between 1960 and the end of 1969,³⁷² in few of these cases did the courts treat the phrase as legally significant. In roughly one-ninth of these cases, the phrase found its way into the headnotes prepared by the West Publishing Company,³⁷³ but the inclusion of the phrase frequently reflected a quotation or paraphrase of pertinent trial testimony in which the court focused on the substance of the expert's opinion, rather than the certitude with which it was expressed. In cases that did not include the words "reasonable medical certainty" in the headnotes, the court was even less likely to have viewed the phrase as important, for a recitation of testimony containing the phrase often occurred in discussions of the factual background that was not directly germane to the legal issues under discussion.

B. *Interpretations of the Phrase Outside of Illinois*

During the 1960s, attorneys throughout the nation were asking physicians to express opinions with "reasonable medical certainty," but judges rarely were called upon to interpret the phrase. In many jurisdictions the courts had not attached any special importance to these words, so they would have had no occasion to define them. But even courts that viewed the phrase as legally significant rarely bothered to say what it meant. Having seen or heard the phrase many times before using it in their opinions, the judges tended to treat the meaning of the phrase as self-evident. Like the boy in the story, "The Emperor's New Clothes,"³⁷⁴ a judge who sensed the universal acceptance of the phrase would have been reluctant to declare that these words were bare, empty, and devoid of meaning.

The diffusion of the phrase had occurred so rapidly and its use was so ubiquitous that lawyers and judges *presumed* the words must be meaningful and legally significant even in the absence of any prior judicial endorsement. In Arizona, for example, the phrase had never

372. See Appendix A; see also *supra* note 10.

373. The phrases "reasonable medical certainty" or "reasonable degree of medical certainty" appeared in the headnotes of 47 state and 6 federal opinions from 1960 through 1969. Of these 53 opinions, 31 were from just 6 states: Missouri (7), Florida (6), Illinois (6), Wisconsin (6), Kansas (3), and Michigan (3). The other 22 opinions came from 18 states, while 27 jurisdictions issued no opinions during the 1960s in which the phrase appeared in the headnotes. Search of WESTLAW, Allcases Database (Jan. 23, 1998) (he("reasonable medical certainty" "reasonable degree of medical certainty") & da(aft 1959 & bef 1970)) (retrieving 53 cases).

374. HANS CHRISTIAN ANDERSEN, *The Emperor's New Clothes*, in ANDERSEN'S FAIRY TALES 263 (E.V. Lucas & H.B. Paull trans., 1945).

previously appeared in a published opinion when the Arizona Supreme Court used it to describe the legal standard for proof of causation.³⁷⁵ Just three years later, the Arizona Supreme Court excused the failure of the claimant's physician to use "the occult words 'reasonable medical certainty'" because "these words are not necessary to the proof of a prima facie case in all circumstances,"³⁷⁶ implying that the phrase would be necessary in *most* circumstances even though no previous opinion had so stated. Similarly, less than two months after the Supreme Court of Delaware first used a variant of the phrase in a quotation from trial testimony,³⁷⁷ it declared, without citation of authority, that "'the reasonable medical certainty' test, . . . is preferable when obtainable."³⁷⁸ As in Arizona, the Delaware court implied it was making an exception to an established legal standard when it excused the absence of the phrase with the comment, "Semantics must give way in the search for a fair and just result."³⁷⁹

In Pennsylvania, a 1963 decision of the United States Court of Appeals for the Third Circuit referred to "the reasonable medical certainty required by the law of Pennsylvania,"³⁸⁰ but it was not until five years later that the phrase made its first appearance in a published opinion of a Pennsylvania appellate court.³⁸¹ The most plausible explanation for this dictum is that the court was so habituated to hearing attorneys use the phrase in complying with Pennsylvania's longstanding evidentiary rule requiring definitive expert opinions on causation, that the court assumed the phrase itself was required by that rule.

Another example of attorneys' and judges' presuming the legal significance of the phrase in the absence of prior authority comes from the New Mexico Supreme Court's quotation of a colloquy at the trial of a workers' compensation claim.³⁸² During the direct examina-

375. The court explained:

The difference in the medical and legal concept of cause results from the obvious differences in the basic problems and exigencies of the two professions in relation to causation. By reason of his training, the doctor is thinking in terms of a single, precise cause for a particular condition. The law, however, endeavors to reach an inference of reasonable medical certainty, from a given event or sequence of events, and recognizes more than one cause for a particular injurious result.

Murray v. Industrial Comm'n, 349 P.2d 627, 633 (Ariz. 1960).

376. Breidler v. Industrial Comm'n, 383 P.2d 177, 179 (Ariz. 1963).

377. See Weiner v. Wisniewski, 213 A.2d 857, 858 (Del. 1965) ("reasonable degree of medical and surgical certainty").

378. Air Mod Corp. v. Newton, 215 A.2d 434, 438 (Del. 1965).

379. *Id.*

380. Sleek v. J.C. Penney Co., 324 F.2d 467, 471 (3d Cir. 1963).

381. See *supra* notes 331-342 and accompanying text.

382. See Lucero v. C.R. Davis Contracting Co., 375 P.2d 327, 330-32 (N.M. 1962).

tion of the claimant's physician, the employer's attorney objected to one question because it was not phrased with "reasonable medical certainty as defined by the Supreme Court."³⁸³ He objected to another question "on the ground that the Supreme Court has stated the word is reasonable medical certainty."³⁸⁴ The trial court sustained these objections and directed counsel to re-phrase the questions.³⁸⁵ At the time of those proceedings, however, the New Mexico Supreme Court had never even *used* the phrase, much less defined or required it!³⁸⁶

Thus, by the mid-1960s, lawyers and judges had become so familiar with the phrase that they presumed it was legally required and had an accepted meaning. The judges heard or read the words, repeated them in their summaries of the trial testimony, and occasionally incorporated them into existing doctrines relating to admissibility or proof; they rarely paused, however, to define the phrase. Accordingly, the definitions that may be found in these cases frequently are implicit rather than explicit.

In jurisdictions other than Illinois, the interpretation of the phrase "reasonable medical certainty" was shaped by its interaction

383. *Id.* at 331.

384. *Id.*

385. *Id.* The record reveals the following:

Q Yes, beyond a—you can't state that by absolute certainty but you have to deal with the history that you have, is that right?

A That is right, I can only state that they—

MR. McATEE: If the Court please, we object on the ground it is reasonable medical certainty as defined by the Supreme Court and not absolute certainty.

THE COURT: That is right.

...

MR. ORTEGA: . . . Let me ask it of you this way: Could it very well have been the triggering factor that aggravated the pre-existent condition, doctor?

MR. McATEE: Just a second, doctor. We object again on the ground that the Supreme Court has stated the word is reasonable medical certainty.

THE COURT: Add the words in there, with reasonable medical certainty.

MR. ORTEGA: With reasonable medical certainty, not absolute but reasonable, in view of the history?

Id. (internal quotation marks omitted).

386. See Appendix B; see also *supra* note 10. The New Mexico Supreme Court first used the phrase in a quotation from the trial court's findings of fact in an opinion issued on August 14, 1962. See *Batte v. Stanley's*, 374 P.2d 124, 126 (N.M. 1962). The opinion in *Lucero* was issued just two months later, on October 16, 1962. Although the date of trial in *Lucero* was not specified, the proceedings related to a workplace accident in 1958, see *Lucero*, 375 P.2d at 328, and the case undoubtedly was already on appeal when the New Mexico Supreme Court first used the phrase in *Batte*.

Moreover, in no opinion did the New Mexico Supreme Court ever define or require the use of "reasonable medical certainty." An intermediate appellate court later ruled that the standard of proof for disability in workers' compensation proceedings was "reasonable medical probability" rather than "reasonable medical certainty." See *Archuleta v. Safeway Stores, Inc.*, 727 P.2d 77, 79 (N.M. Ct. App. 1986).

with idiosyncratic local doctrines relating to admissibility and sufficiency of proof. As a result, the meaning and significance of the phrase depended on the context in which it was employed. An understanding of the role of "reasonable medical certainty" in legal doctrine during the 1960s thus requires separate consideration of the two issues that provided the context for its application and interpretation: admissibility and sufficiency of proof in civil litigation.

1. *"Reasonable Medical Certainty" and Admissibility.*—The rules governing the admissibility of less-than-definitive expert opinions varied considerably among jurisdictions, and even within certain jurisdictions, depending on the subject matter (e.g., workers' compensation versus personal injury, causation of present versus future damages), or sometimes depending upon which of two competing lines of authority the court chose to follow. From the welter of conflicting decisions, three distinct standards of admissibility can be discerned: (1) opinion testimony is admissible without regard to certitude; (2) opinion testimony must be in terms of probability, not possibility; and (3) opinion testimony must be certain or definitive and more than a probability.

As of 1970, a small but growing number of courts did not condition the admissibility of expert opinion evidence on any particular level of certitude. These courts held that any reservations or lack of certainty in the expert's opinion went to the credibility or weight of the opinion, rather than its admissibility.³⁸⁷ In jurisdictions employing this liberal standard of admissibility, expressions of "reasonable medical certainty" were unnecessary.³⁸⁸

387. *E.g.*, *Foremost Dairies, Inc. v. Industrial Accident Comm'n*, 47 Cal. Rptr. 173, 182 (Dist. Ct. App. 1965); *Dzurik v. Tamura*, 359 P.2d 164, 165-66 (Haw. 1960); *Johnson v. Wilson*, 97 So. 2d 674, 682 (La. Ct. App. 1957); *M.K. & O. Airline Transit Co. v. Deckard*, 397 P.2d 883, 885 (Okla. 1964) (construing *Cohenour v. Smart*, 240 P.2d 91 (Okla. 1951) and *Oklahoma Natural Gas Co. v. Kelly*, 153 P.2d 1010 (Okla. 1944)); *Otis Elevator Co. v. Wood*, 436 S.W.2d 324, 330-31 (Tex. 1968).

Several Maryland cases so held. *E.g.*, *Baughman Contracting Co. v. Mellott*, 139 A.2d 852, 854-55 (Md. 1958); *Bethlehem-Sparrows Point Shipyard v. Bishop*, 55 A.2d 507, 511-12 (Md. 1947); *Charlton Bros. Transp. Co. v. Garrettson*, 51 A.2d 642, 646 (Md. 1947); *Bethlehem-Sparrows Point Shipyard v. Scherpenisse*, 50 A.2d 256, 259 (Md. 1946); *Langenfelder v. Thompson*, 20 A.2d 491, 493 (Md. 1941). Without expressly overruling these cases, the Maryland court switched to a rule conditioning admissibility on expressions of "reasonable probability." *E.g.*, *Andrews v. Andrews*, 218 A.2d 194, 200 (Md. 1966); *Kujawa v. Baltimore Transit Co.*, 167 A.2d 96, 99 (Md. 1961); *Coastal Tank Lines v. Canoles*, 113 A.2d 82, 86 (Md. 1955), *overruled in part by Deems v. Western Md. Ry. Co.*, 231 A.2d 514 (Md. 1967).

388. *See, e.g.*, *Nationwide Mut. Ins. Co. v. Griffin*, 222 So. 2d 754, 755-56 (Fla. Dist. Ct. App. 1969) ("The admitted inability of the witness to express the opinion with reasonable certainty did not render his testimony incompetent and require it to be stricken."); *Knoper v. Burton*, 163 N.W.2d 453, 456-57 (Mich. Ct. App. 1968) (per curiam) (holding that the

Most courts still required some level of certitude as a prerequisite to admissibility. The predominant approach, reflecting the views of at least a plurality if not a majority of American jurisdictions, drew the line between the "probable" and the "possible." That is, these courts distinguished valid expressions of opinion that a fact was "more likely than not" or "probably" true from invalid speculation or conjecture based on a mere "possibility" that a fact "might" or "could" be true.³⁸⁹ In jurisdictions requiring expressions of probability, only a few opinions directly addressed the meaning of the phrase "reasonable medical certainty" in relation to the admissibility of expert testimony. Insofar as the courts accepted testimony expressed with "reasonable medical certainty," they had no reason to consider whether the phrase was synonymous with "probability" or represented a more demanding standard. The courts in Alaska,³⁹⁰ Nebraska,³⁹¹ and Washing-

trial court's exclusion of expert testimony on the issue of damages was harmless error because the jury found for the defendant and thus never reached this issue), *rev'd on other grounds*, 173 N.W.2d 202 (Mich. 1970); *accord id.* at 453 headnote 5 ("For testimony of doctor to be admissible he need not testify in terms of reasonable medical certainty."); *cf.* *Dahlbeck v. Industrial Accident Comm'n*, 287 P.2d 353, 357 (Cal. Dist. Ct. App. 1955) ("[W]hile the triers of the facts must confine themselves to awards based upon reasonable certainty, the medical evidence need not reach any such degree of positive assertion.").

389. *E.g.*, *Maddocks v. Bennett*, 456 P.2d 453, 457-58 (Alaska 1969); *Miller v. National Cabinet Co.*, 168 N.E.2d 811, 813-15 (N.Y. 1960); *Vaux v. Hamilton*, 103 N.W.2d 291, 295 (N.D. 1960); *O'Donoghue v. Riggs*, 440 P.2d 823, 829-30 (Wash. 1968); *see also* *McNeal*, *supra* note 358, at 148 (concluding that "a better kind of justice" would be achieved if medical testimony were limited to testimony of a "probably causal relationship" rather than a "possible" one (internal quotation marks omitted)).

A number of courts employed the locution "reasonable medical probability" to express their standard of admissibility. *E.g.*, *Houser v. Eckhardt*, 450 P.2d 664, 668 (Colo. 1969) (en banc); *see also infra* note 393. This phrase first appeared in 1949, and its development lagged behind "reasonable medical certainty," appearing in only a dozen cases prior to 1960, and 177 prior to 1970. Search of WESTLAW, Allcases Database (Oct. 19, 1997) ("reasonable medical probability" "reasonable degree of medical probability" & da(bef 1/1/1970)). The "reasonable medical probability" standard currently governs admissibility of medical testimony in Maryland. *See Myers v. Celotex Corp.*, 594 A.2d 1248, 1255-57 (Md. Ct. Spec. App. 1991); *see also infra* note 467 (discussing *Myers*).

390. In *Maddocks v. Bennett*, 456 P.2d 453, 457-58 (Alaska 1969), the court rejected the appellant's attack on the admissibility and sufficiency of a physician's deposition testimony relating to the issue of causation. The appellant contended that "reasonable medical certainty" was required to establish a causal connection, that this standard was higher than a mere probability, and that the physician's testimony did not meet this standard. *Id.* at 456-57. The court held that the physician's testimony was admissible because the testimony expressed in terms of "reasonable probability" satisfied the required test of certainty for proof of causation. *Id.* at 458. The court treated the applicable evidentiary standard as "reasonable certainty" rather than "reasonable medical certainty," but it gave no indication that the latter phrase would impose a different or more demanding standard than "reasonable probability." *See id.* at 457-58.

391. In *Whittington v. Nebraska Natural Gas Co.*, 128 N.W.2d 795, 808 (Neb. 1964), the Supreme Court of Nebraska held that the trial court should have sustained objections and

ton³⁹² described their standards of admissibility in terms of "reasonable medical certainty," but interpreted the term as meaning "more probable than not." Courts in several jurisdictions referred to their standards as rules of "reasonable medical certainty or probability" without indicating whether the terms were meant to be synonymous or to represent distinct alternative criteria.³⁹³

The Defense Research Institute (DRI) advocated adoption of "reasonable medical certainty" as a standard of admissibility in its 1967 monograph entitled *The Rule of Medical Certainty*.³⁹⁴ The Foreword indicated that the purpose of the monograph was to demonstrate that expert testimony should "be in terms of certainty rather than speculation," and to examine the "philosophical and practical reasons for requiring testimony to a reasonable medical certainty."³⁹⁵ In contrasting "reasonable medical certainty" with "speculation," the Foreword treated the phrase as an expression of "probability" rather than "possibility," and it equated the "duty" of the expert to express opinions in terms of "reasonable medical certainty" with the duty of jurors to base their verdict on the preponderance of the evidence.³⁹⁶ Surprisingly, however, the phrase "reasonable medical certainty"

excluded a physician's testimony based on "possibilities," rather than on "reasonable medical certainty," about the cause of plaintiff's condition. *Accord id.* at 797 headnote 15 ("Where medical expert testified he could not speak with reasonable medical certainty as to cause of plaintiff's dizziness and nausea, objections to his further testimony should have been sustained and answer excluded."). The *Whittington* court did not define "reasonable medical certainty," but in later cases the same court equated "reasonable certainty" with "reasonable probability." See *Welke v. City of Ainsworth*, 138 N.W.2d 808, 812 (Neb. 1965) (noting that a doctor's opinion that a "disability was probably due to a scuffle . . . is as definite as a doctor can be without giving a positive opinion").

392. In *Browning v. Ward*, 422 P.2d 12, 16 (Wash. 1966), the court equated its requirement of "reasonable medical certainty" with the standard enunciated in an earlier case, requiring that "'medical testimony must at least be that the injury 'probably' or 'more likely than not' caused the subsequent condition, rather than that the accident or injury 'might have,' 'could have,' or 'possibly did' cause the subsequent condition'" (quoting *Glazer v. Adams*, 391 P.2d 195, 198 (Wash. 1964)). In *O'Donoghue v. Riggs*, 440 P.2d 823, 828-30 (Wash. 1968), the court held that the physician's testimony should have been stricken because he was unable to express an opinion with "reasonable medical certainty" as to one "probable" cause among three "possible" causes of the plaintiff's condition.

393. See, e.g., *Holecek v. Janke*, 171 N.W.2d 94, 101 (N.D. 1969) (for costs of future surgery to be admissible, plaintiff would first have had "to establish with reasonable medical certainty or probability that future surgery was necessary"); *id.* at 94 headnote 8 (same); *Thornburg v. Perleberg*, 158 N.W.2d 188, 192 (N.D. 1968) ("A medical witness should be permitted to testify only to reasonable medical probabilities or reasonable medical certainties."); *cf.* *State v. Holt*, 246 N.E.2d 365, 365-66 (Ohio 1969) ("the legal requirement of 'reasonable certainty' or 'probability'").

394. *Miller*, *supra* note 123, at 4-7.

395. Colleen A. Roach, *Foreword to THE RULE OF MEDICAL CERTAINTY*, *supra* note 123, at 3.

396. *Id.* The Foreword more fully explained:

never appeared within the monograph's principal article, which focused on the distinction between expressions of "probability" and "possibility,"³⁹⁷ and the phrase appeared only infrequently within the *Digest of Decisions* that made up the bulk of the monograph.³⁹⁸ Thus, in advocating adoption of "reasonable medical certainty" as a standard of admissibility, DRI implicitly treated the phrase as equivalent to an expression of probability and did not suggest any higher threshold.

Only a small number of jurisdictions fell within the third category, which conditioned admissibility of expert testimony on definitive expressions of certitude that would not be satisfied by an opinion that a fact was "more likely than not" or "probably" true. The only two states that clearly fell within this category in the years between 1960 and 1969 were Pennsylvania and South Carolina, but neither of these states expressed the standard of admissibility in terms of "reasonable medical certainty."³⁹⁹

The duty of the expert to express his opinion in terms of reasonable medical certainty parallels the duty of the jurors to base their verdict on the side of the party who has presented the preponderance of reasonable evidence to the degree required by the law of the jurisdiction. . . .

. . . The purpose of this monograph is to demonstrate the result of allowing expert medical testimony of a character which serves to confuse rather than assist the jurors in its declaration of the facts. The requirement that the expert testimony be in terms of certainty rather than speculation is inherent in the basis for the allowance of expert medical opinion evidence in the first instance.

Id.

397. See Miller, *supra* note 123, at 4-7. While the Foreword focused on the admissibility of less-than-certain expert testimony, Miller's principal article failed clearly to distinguish between issues of admissibility and sufficiency of proof. Miller suggested that the rules of evidence should be considered in light of the standard for making out a prima facie case. See *id.* at 4-5. Furthermore, Miller emphasized "[t]he vice involved in submitting a causal relationship question to a jury in the absence of a medical opinion of its probability" which invites the jury to "speculate with the rights of citizens." *Id.* at 6-7.

398. See *Digest to Decisions, in THE RULE OF MEDICAL CERTAINTY, supra* note 123, at 8-81. The phrase appeared in excerpts from opinions at pages 12, 25, 35, 36, 37, 39, 42, 52, 65, and it was inadvertently omitted from a quotation at 11. The authors themselves used the phrase only in describing the rule relating to proof of future damages in Washington. See *id.* at 71.

399. Pennsylvania's stringent standard of admissibility requiring definitive expressions of expert opinions on causation was sometimes referred to as a rule of "reasonable certainty," but as of 1970, the Pennsylvania courts had not described this requirement in terms of "reasonable medical certainty." See *supra* notes 331-342 and accompanying text.

The Supreme Court of South Carolina required that expert opinions as to causation satisfy what it termed the "most probable rule," which required a physician to testify that the plaintiff's injuries "most probably" resulted from the defendant's conduct. See *Cross v. Concrete Materials*, 114 S.E.2d 828, 829, 831 (S.C. 1960). Although the court in one case approved of testimony on causation elicited by a question requesting an opinion with "reasonable medical certainty," the court attached no particular importance to this phrase and instead emphasized the definitiveness of the physician's answer. See *Martin v. Mobley*, 169 S.E.2d 278, 281 (S.C. 1969). The phrases "most probable" and "most probably" dominated

Tennessee may have been a third state in this category. In Tennessee, the phrase "reasonable medical certainty" made its first appearance in *Williams v. Daniels*,⁴⁰⁰ a decision that linked the phrase with the state's "reasonable certainty" standard for future damages and arguably established the phrase as a standard of admissibility. The defendant had assigned as error "that permanent injuries or disability evidence by a physician must be to a reasonable degree of medical certainty, and that 'likelihood, possibility and probability', when shown by the answers to questions under attack, make the question and answer thereto inadmissible."⁴⁰¹ Treating the defendant's contention as entirely consistent with prior authority requiring proof of permanent injuries with "reasonable certainty," the court implicitly agreed with the defendant's assertion that statements of "probability" would be inadmissible under a standard of "reasonable medical certainty." Lending further support to this implication, the court in dictum quoted a statement from an earlier case that "even a probability" would not suffice.⁴⁰² The court nevertheless upheld the verdict, because the physician's testimony, taken as a whole, met the standard of "reasonable medical certainty."⁴⁰³ In emphasizing the objective findings supporting the physician's testimony, the court apparently attached no importance to the fact that the physician's testimony, which

South Carolina opinions addressing admissibility of expert testimony in this era, and the phrase "reasonable medical certainty" appeared only infrequently.

400. 344 S.W.2d 555 (Tenn. Ct. App. 1960); see also Appendix B; *supra* note 10.

401. *Williams*, 344 S.W.2d at 558.

402. See *id.* at 559. The court stated in full, "'But while absolute certainty should not be required, a mere conjecture, or even a probability, does not warrant the giving of damages for future disability which may never exist.'" *Id.* (quoting *Nashville, C. & S. L. Ry. v. Reeves*, 157 S.W.2d 851, 855 (Tenn. Ct. App. 1941) (quoting 15 AM. JUR. *Damages* § 75, at 488 (1938))). The language in *Reeves* requiring more than a "probability" was dictum, however, because the doctor's testimony about future damages in that case did not rise to the level of "probability." Instead, the doctor had testified only that the plaintiff's back condition "may clear up and get over it and may never." *Reeves*, 157 S.W.2d at 855 (internal quotation marks omitted); accord *Williams*, 344 S.W.2d at 559 (quoting *Reeves*, 157 S.W.2d at 855); Ronald Lee Gilman, *Medical Expert Testimony in Tennessee*, 34 TENN. L. REV. 572, 606 (1967) ("[I]n [*Reeves*], where the doctor based his opinion solely upon plaintiff's subjective complaints, . . . the court held that this was not sufficient evidence of permanency.").

403. *Williams*, 344 S.W.2d at 560. The court explained:

We think that the question and answer was proper, and based upon the objective findings set forth above it is clearly shown that his opinion is based upon a reasonable certainty from a medical standpoint. . . .

. . . [H]is testimony taken as a whole can be and is clearly construed as if he had said:

"What I have said heretofore makes my answers to these questions show that I consider the inquiries to be based upon and call for an amount based upon a reasonable medical certainty."

Id. at 560 (emphasis added).

stated that the condition “*could be permanent*,”⁴⁰⁴ did not even rise to the level of probability. Hence, the court’s ruling that this testimony was admissible under a standard of “reasonable medical certainty” seems inconsistent with its dictum treating “reasonable medical certainty” as something more than “probability.”⁴⁰⁵

Subsequent decisions of the Tennessee courts during the 1960s did not seem to require “reasonable medical certainty” as a standard of admissibility, nor did they interpret the phrase as a higher level of certitude than probability. In *Maryland Casualty Co. v. Young*,⁴⁰⁶ the court repeated the dictum that “even a probability” would not suffice;⁴⁰⁷ yet the testimony that the court ruled insufficient and inadmissible—that future problems “very possibly” or “could or might” develop⁴⁰⁸—clearly was conjectural and did not rise to the level of probability. In *Bridges v. Householder*,⁴⁰⁹ the court found sufficient evidence to support an award of damages for permanent disability based on the physician’s testimony that the “plaintiff will likely have some permanent disability” and “*my educated guess, my own opinion is that he will have some mild permanent disability.*”⁴¹⁰ The court noted that the physician later “explained that by using the term ‘educated guess’ he meant an opinion ‘based on a reasonable degree of medical certainty, training, etc.’”⁴¹¹ In addition to accepting the sufficiency of testimony that did not rise above the level of “probability,” the court upheld the trial court’s refusal to incorporate into the jury instructions on future damages the “even a probability” dictum from *Williams and Young*.⁴¹² The court explained that to do so “might well have left the inference in the minds of jurors that the Court thought his testimony was not to be taken as supporting plaintiff’s claim of permanent disability.”⁴¹³ Thus, while the Tennessee courts said that testimony about future damages had to be expressed with “reasonable medical

404. *Id.*

405. See Gilman, *supra* note 402, at 607-08 (commenting that the court in *Williams* had to “stretch quite far” to find that the testimony met the “standard of reasonable certainty”).

406. 362 S.W.2d 241 (Tenn. 1962).

407. *Id.* at 243.

408. *Id.*

409. 385 S.W.2d 314 (Tenn. Ct. App. 1964).

410. *Id.* at 315 (internal quotation marks omitted).

411. *Id.* at 316.

412. See *id.* at 314-15.

413. *Id.* at 315. While the court may be correct that the requested instruction “might well have” had such an impact on the jury, the instruction did not purport to direct a verdict on the issue and seemed to be consistent with the dictum in previous cases. Even though the court failed to consider whether the instruction correctly stated the law of Tennessee, the court’s rejection of the instruction could be read as an implicit repudiation of the dictum requiring more than a “probability.”

certainty" under the rule of "reasonable certainty," and that testimony in terms of "probability" was not sufficient, the courts nevertheless regularly upheld the admissibility and sufficiency of far weaker testimony, and in no case during the 1960s did the Tennessee courts exclude testimony for failing to meet this standard.⁴¹⁴

2. *"Reasonable Medical Certainty" and Sufficiency of Proof.*—While the phrase "reasonable medical certainty" occasionally surfaced in judicial discussions of admissibility, it more frequently appeared in judicial evaluations of the sufficiency of proof in civil litigation.⁴¹⁵ Because the rules governing proof of causation sometimes differed from those governing proof of future damages, these two topics are discussed separately.

a. *Proof of Causation.*—Consistent with the preponderance of the evidence standard, most courts demanded proof of causation in civil litigation in terms of "probability" or "reasonable probability." Courts generally treated opinions expressed with "reasonable medical certainty" as sufficient to satisfy the plaintiff's burden to prove that a fact was "probably" true.⁴¹⁶ Conversely, courts frequently found a

414. In recent years, the Tennessee courts have continued to insist that testimony be expressed with "reasonable medical certainty" and have repeated the "even a probability" dictum. See, e.g., *Primm v. Wickes Lumber Co.*, 845 S.W.2d 768, 771 (Tenn. Ct. App. 1992) (testimony with "reasonable degree of medical certainty" required with respect to causation). Nevertheless, many cases draw the line between impermissible expressions of possibility and valid expressions of probability. See, e.g., *Kilpatrick v. Bryant*, 868 S.W.2d 594, 602 (Tenn. 1993) (plaintiff must show with "a reasonable degree of medical certainty" that injury was probably caused by defendant); *Lindsey v. Miami Dev. Corp.*, 689 S.W.2d 856, 862 (Tenn. 1985) ("Regardless of the term employed," an opinion on causation is admissible if it states the "most likely one among the possible causes," but not if it states that it is "merely possible." (internal quotation marks omitted)); *Youngblood v. Solomon*, No. 03A01-9601-CV-00037, 1996 WL 310015, at *4 (Tenn. Ct. App. June 11, 1996) ("[T]he 'reasonable degree of medical certainty' test may now have given way to the 'more probable than not' test . . ."); *Moore v. Walwyn*, No. 01A01-9507-CV-00295, 1996 WL 17143, at *4 (Tenn. Ct. App. Jan. 19, 1996) (report "failed to establish within a reasonable degree of medical certainty that the failure to use the antibiotics probably caused Mr. Moore's injuries"). The "reasonable medical certainty" standard is frequently at issue in Tennessee. The state ranks fifth after Ohio, Pennsylvania, Illinois, and Missouri in the number of state court opinions containing the phrase. See Appendix B.

415. The phrase also appeared in a number of criminal cases. In Maryland, for example, a court ruled that the defendant was not entitled to a jury instruction with respect to the insanity defense unless a psychiatrist could testify with "reasonable medical certainty" to the existence of a mental disease or defect. See *Greenleaf v. State*, 256 A.2d 552, 553 (Md. Ct. Spec. App. 1969).

416. See, e.g., *Western Ry. v. Brown*, 196 So. 2d 392, 401 (Ala. 1967) (holding that an expert opinion expressed with "reasonable medical certainty" is equal to an expression that "plaintiff's condition was probably caused by her injury").

plaintiff's proof to be deficient if the key witness refused to express an opinion with "reasonable medical certainty."⁴¹⁷

A number of courts purported to require proof of causation with "reasonable medical certainty," equating the phrase with proof of "probabilities" as opposed to "possibilities."⁴¹⁸ Courts frequently used "reasonable medical certainty" interchangeably with "probably," and they often emphasized that the sufficiency of proof should not depend upon subtle semantic distinctions, but should be evaluated with respect to the totality of the testimony.⁴¹⁹

417. See, e.g., *Bilicki v. W.T. Grant Co.*, 157 N.W.2d 300, 300 headnote 4 (Mich. Ct. App. 1968) (stating that the doctor's testimony failed to make a submissible case to a jury where "he could not with reasonable degree of medical certainty form an opinion as to malady suffered by plaintiffs"), *rev'd on other grounds*, 170 N.W.2d 30 (Mich. 1969); *id.* at 301-02 (concluding that testimony not expressed to a "reasonable degree of medical certainty" cannot be considered an "expert medical opinion"); *Bailey v. Kershner*, 444 S.W.2d 10, 10 headnote 7 (Mo. Ct. App. 1969) (noting that testimony by a physician as to his "feeling" about the cause of injury and without "reasonable medical certainty" would not "support finding that injuries caused or contributed to death"); *id.* at 15 ("If . . . plaintiff's only medical expert . . . could not say with reasonable medical certainty that the casualty injuries caused or contributed to cause death, then a jury . . . would not be justified in making such a finding.").

418. See, e.g., *Air Mod Corp. v. Newton*, 215 A.2d 434, 438 (Del. 1965) ("[U]nquestionably, the 'reasonable medical certainty' test, furnishing probability of causation rather than mere possibility, is preferable when obtainable."); *Stordahl v. Rush Implement Co.*, 417 P.2d 95, 99 (Mont. 1966) ("The marked propensity of recent years of resorting to the acceptance in one case of the 'possible' as meaning reasonable medical certainty cannot be countenanced as treating every 'possibility' as adequate to establish the fact sought to be proved."); *Miller v. National Cabinet Co.*, 168 N.E.2d 811, 813-14 (N.Y. 1960) ("The probative force of an opinion is not to be defeated by semantics if it is reasonably apparent that the doctor intends to signify a probability supported by some rational basis," as long as "it can be perceived that they are testifying with some reasonable degree of medical certainty."); *State v. Holt*, 246 N.E.2d 365, 366 (Ohio 1969) ("In workmen's compensation cases, for example, where the testimony of medical doctors is required to establish a direct causal relationship between an injury and ensuing disability, the witness must connect the two with *reasonable medical certainty*. Probability, and not possibility, is required."); *Browning v. Ward*, 422 P.2d 12, 16 (Wash. 1966) ("[M]edical testimony must at least be that the injury 'probably' or 'more likely than not' caused the subsequent condition" and testimony can still satisfy the "requirement of reasonable medical certainty" where "[t]here may be apparent inconsistencies in [the] testimony." (internal quotation marks omitted)). Although less clear than the foregoing, other cases purported to apply a standard of "reasonable medical certainty," but seemed to draw the line between possibility and probability. See, e.g., *Rewis v. United States*, 369 F.2d 595, 598-603 (5th Cir. 1966) (requiring evidence to meet the standard of "reasonable medical probability," and disapproving of testimony that merely discusses what "might" have occurred); *Watson v. United States*, 346 F.2d 52, 53-54 (5th Cir. 1965) (concluding that a physician's expert testimony proved causation with "reasonable degree of medical certainty" and outweighed the testimony of a "vague and unpersuasive" witness); *Breidler v. Industrial Comm'n*, 383 P.2d 177, 179 (Ariz. 1963) (concluding that the testimony was sufficient even though the physician "did not use the occult words 'reasonable medical certainty' nor 'reasonable medical probability' in expressing his opinion on medical causation").

419. One court noted:

The Florida courts applied a standard of "reasonable medical certainty" for proof of causation in workers' compensation cases during the 1960s,⁴²⁰ but it was not entirely clear what the courts meant by the phrase. The courts did not seem to connect the phrase with any quantitative level of certitude, but instead used the phrase as shorthand for opinions based on evidence, as opposed to speculation or conjecture.⁴²¹

We will look for the thought and meaning of his medical testimony rather than penalize the claimant because the doctors did not state their opinions in terms of infallibility or scientifically determined certainty. Our function is not to reject opinion evidence because nonlawyer witnesses fail to use the words preferred by lawyers and Judges but to determine whether the whole records exhibits, as it does here, substantial evidence of aggravation.

Ernest v. Boggs Lake Estates, Inc., 190 N.E.2d 528, 529 (N.Y. 1963); *accord Bredler*, 383 P.2d at 179 ("[A]lthough Doctor Saylor did not use the occult words 'reasonable medical certainty' nor 'reasonable medical probability' in expressing his opinion on medical causation these words are not necessary to the proof of a prima facie case in all circumstances."); *General Motors Corp. v. Freeman*, 164 A.2d 686, 689 (Del. 1960) ("We do not believe that the distinction between the use of the words 'possible' and 'probable', and other words of a similar import, should be followed too closely."); *Coll v. Sherry*, 148 A.2d 481, 486 (N.J. 1959) ("[A]lthough the accepted verbal rituals are widely diversified, we think that 'reasonable probability' or its equivalent is sufficient." (citation omitted)); *National Cabinet Co.*, 168 N.E.2d at 813 ("The probative force of an opinion is not to be defeated by semantics if it is reasonably apparent that the doctor intends to signify a probability supported by some rational basis."); *Parker v. Employers Mut. Liab. Ins. Co.*, 440 S.W.2d 43, 47, 49 (Tex. 1969) ("reasonable medical probability" is the standard for proof of causation, but "particular words from the medical experts are not necessary to create a probability"); *Insurance Co. of N. Am. v. Myers*, 411 S.W.2d 710, 713 (Tex. 1966) ("Causal connection . . . must rest in reasonable probabilities; . . . Reasonable probability, in turn, is determinable by consideration of the substance of the testimony of the expert witness and does not turn on semantics or on the use by the witness of any particular term or phrase.").

420. Between 1960 and 1969, the phrase appeared in 33 Florida opinions, of which 16 involved workers' compensation claims. Search of WESTLAW, Fl-cs Database (Feb. 19, 1998) (da(aft 1959 & bef 1970) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 33 cases); Search of WESTLAW, Fl-cs Database (Feb. 19, 1998) (da(aft 1959 & bef 1970) & "reasonable medical certainty" "reasonable degree of medical certainty" & worker /s compensation) (retrieving 16 cases).

421. In a 1960 case, the Florida Supreme Court upheld the denial of a workers' compensation claim on the grounds that the medical opinion testimony was legally insufficient in the absence of independent evidence of causation. *See Harris v. Josephs of Greater Miami, Inc.*, 122 So. 2d 561, 562 (Fla. 1960). The court said that proof of causation must be established based on "evidence rather than speculation or conjecture," and that "[m]edical opinion should follow this same rule based on reasonable medical certainty." *Id.* This language is ambiguous in that it is not clear whether the court meant to require that medical opinion be based on "reasonable medical certainty" or instead meant only to say that the concept of "reasonable medical certainty" necessarily implied reliance on evidence rather than conjecture.

The correctness of the latter interpretation was suggested by a lengthy concurring opinion the following year, which asserted that the compensation commission had been wrong to impose a test of "reasonable medical certainty" as the standard of proof:

It seems to me that in requiring proof of the logical cause of the injury to be tested by "reasonable medical certainty" the full commission has substituted a different rule of proof from that which this court has determined to be proper in workmen's compensation cases.

... [A standard of] "reasonable medical certainty" . . . would impose an inordinate burden on many claimants in workmen's compensation cases. It would require claimants to pinpoint, with precision or certainty, the course or cause of a serious injury which the law never contemplated. Such a holding would exclude proof by inferences when extracted from proven facts. . . .

Medical or other relevant testimony may be offered in support of any factor in a workmen's compensation case but I do not understand that the "logical cause" or any other factor must be proven by "reasonable medical certainty." . . . [T]he medical profession . . . has progressed so rapidly to new and better methods of treatment, if it knew any such rule as reasonable medical certainty today, it would be discarded for a different one tomorrow, but in any event the ultimate question of whether compensation is due is a judicial, not a medical, one.

Ortkiese v. Clarson & Ewell Eng'g, 126 So. 2d 556, 562-64 (Fla. 1961) (Terrell, J., concurring).

In three cases from 1962, however, the Florida Supreme Court emphatically reaffirmed its commitment to a standard of "reasonable medical certainty" in workers' compensation cases. In one case the court reversed a compensation award because the evidence failed to establish causation with "reasonable medical certainty." See *Montclair Homes, Inc. v. Thompson*, 138 So. 2d 305, 308 (Fla. 1962) (quoting *Harris* and then twice stating that the evidence failed to establish proof of causation with "reasonable medical certainty"). In another, it reversed an award with the comment that the evidence "was speculative and conjectural because it did not deal in that which was within reasonable medical certainty but only in that which was possible or not impossible." *Everhart Masonry, Inc. v. Crowder*, 139 So. 2d 393, 396-97 (Fla. 1962). In the third case, the court reaffirmed the standard of reasonable medical certainty but indicated that this did *not* require proof by a preponderance of the evidence. See *Reed v. Whitmore Elec. Co.*, 141 So. 2d 569, 575 (Fla. 1962). The court declared:

The law does not require a claimant in a workmen's compensation case to prove his claim by a preponderance of the evidence. Insofar as causal relationship between an accident and a subsequent condition is concerned, this Court has long since laid down the rule that the medical evidence should establish such facts with reasonable medical certainty.

Id. (footnote omitted). Although this paragraph is somewhat opaque, the court seemed to be stating that the medical evidence need not establish *causation-in-fact* by a preponderance of the evidence but that there must be some substantial evidence of a *causal connection* resting on "reasonable medical certainty" as opposed to mere speculation and conjecture.

This interpretation, which focuses on the distinction between "causation-in-fact" and "causal connection," rather than on the degree of certitude, is consistent with subsequent cases that mandated awards of proportional benefits based on testimony apportioning the cause of an employee's death between a workplace accident and a preexisting disease with "reasonable medical certainty." See, e.g., *Hampton v. Owens-Illinois Glass Co., Paper Prods. Div.*, 140 So. 2d 868, 870 (Fla. 1962).

Such an interpretation, focusing on the nature of the causal relation rather than the degree of proof, also would avoid inconsistency with the decision of an intermediate appellate court in a personal injury case, which, in distinguishing testimony with "reasonable medical certainty" from testimony that an accident "might have or probably did cause the injury or result," strongly suggested that "reasonable medical certainty" meant something

Among the courts that required proof of causation with "reasonable probability," one court expressly distinguished this standard from that of "reasonable medical certainty." In *Parker v. Employers Mutual Liability Insurance Co.*,⁴²² the Supreme Court of Texas declared that its "reasonable medical probability" standard for proof of causation was less stringent than the "reasonable medical certainty" standard that governed admissibility of opinions contained in hospital records.⁴²³

I was unable to find a single opinion from this era in which a court required proof of causation with "reasonable medical certainty" and treated the phrase as more demanding than a standard of "reasonable medical probability" or "more likely than not." While Pennsylvania courts required definitive testimony that the occurrence "did cause" the plaintiff's injuries,⁴²⁴ and South Carolina courts required testimony that it "most probably" caused the injuries,⁴²⁵ neither required expressions of "reasonable medical certainty."⁴²⁶

The decade's most extreme application of a "reasonable medical certainty" standard for proof of causation can be found in the opinion of the Missouri appellate court in *Bertram v. Wunning (Bertram I)*.⁴²⁷ The *Bertram I* court did not require any particular quantitative level of certitude but instead focused on the expert's reluctance to attach the requisite magic words to his opinion. In *Bertram I*, the court reversed a jury verdict for the plaintiff, because the physician's testimony concerning a 90% chance that plaintiff's hernia resulted from the accident did not constitute sufficient proof of causation in the absence of the crucial phrase.⁴²⁸ Quoting excerpts from the doctor's testimony, which demonstrated his reluctance to equate a 90% likelihood with

more than "probably." See *Nationwide Mut. Ins. Co. v. Griffin*, 222 So. 2d 754, 756 (Fla. Dist. Ct. App. 1969).

422. 440 S.W.2d 43 (Tex. 1969).

423. *Id.* at 47. Texas at that time had a special exception to the hearsay rule allowing the jury to hear opinions contained in hospital records if the opinions rested on "reasonable medical certainty." See *Loper v. Andrews*, 404 S.W.2d 300, 305 (Tex. 1966). In *Parker*, the court said, "This standard, that entries of medical opinions in hospital records must rest in reasonable medical certainty to be admissible, is even more stringent than the reasonable medical probability required to submit a causation issue to the jury." *Parker*, 440 S.W.2d at 47.

424. See *supra* notes 331-342, 399 and accompanying text.

425. See *supra* note 399 and accompanying text.

426. It was not until the mid-1970s that the Pennsylvania courts began using the phrase "reasonable medical certainty" in conjunction with the state's requirement of definitive medical opinion testimony. See *supra* note 342.

427. 385 S.W.2d 803 (Mo. Ct. App. 1965) [*Bertram I*], *after remand*, 417 S.W.2d 120 (Mo. Ct. App. 1967) (per curiam) [*Bertram II*].

428. *Id.* at 807.

"reasonable medical certainty,"⁴²⁹ the court held that this testimony was too speculative to constitute substantial evidence of causation.⁴³⁰ The court remanded the case for a trial on the issue of damages.⁴³¹

At the second trial, the doctor repeated his testimony as to the 90% likelihood of developing a hernia, but he altered his testimony insofar as he expressed his opinion with "reasonable medical cer-

429. *Id.* at 804-05. The following excerpt from the doctor's testimony reflects the confusion engendered by the "reasonable medical certainty" standard:

Q. . . . I will ask you to state, Doctor, if you have an opinion based upon reasonable medical certainty as to whether or not the accident I have described in my previous question, is the competent producing cause of this hernia which you found present in Mrs. Bertram on July the 19th, 1960?

A. It could be. I couldn't say.

Q. All right. Thank you, Doctor.

BY MR. ROBERTS: Now, if the Court please, at this time I move that all testimony relative to the hernia be stricken for the reason that he says it could be and does not testify to it as a medical certainty and that was the question that was asked him and I move that all the testimony be stricken.

BY MR. BYRNE: Q. May I ask you, Doctor, was that your opinion when you diagnosed the condition, was that your opinion based upon reasonable medical certainty that the accident caused this hernia?

A. The only way I can answer that is, would be, I don't know if it's acceptable. It would be a percentage.

BY MR. ROBERTS: Well, now, if the Court please, —

A. I would say it would be about a 90 per cent chance that it was caused by that and 10 per cent it wasn't.

BY MR. BYRNE: Q. That's your best opinion based upon reasonable medical certainty, Doctor?

A. That's the only way I could answer such a question. I don't know if that's acceptable.

Id. (internal quotation marks omitted).

430. *Id.* at 807. The Missouri Court of Appeals stated:

[W]hen first asked to express an opinion based upon reasonable medical certainty whether the accident was the competent producing cause of plaintiff's hernia Dr. Niesen answered, "It could be. I couldn't say." Pressed further, all he would say was that, "* * it would be about a 90 per cent chance that it was caused by (the accident) and 10 per cent it wasn't." However favorable such odds might seem in some game of chance, a trial is not such a game, and an award of damages cannot be allowed to rest upon speculation and conjecture of that character. Were we to accept such an answer as constituting substantial evidence of a causal connection between an injury and the accident, then what of the odds of 60 to 40? Or 55 to 45? All that such an answer amounted to, at best, was what the doctor first stated, that "It could be" that the hernia resulted from the accident. But if the doctor who was an expert in the field and who had treated plaintiff would not say with reasonable medical certainty that the hernia resulted from the accident, then certainly a jury composed of laymen would not be justified in making such a finding.

Id. (star ellipsis in original).

431. *Id.* at 808.

tainty."⁴³² On the defendant's appeal from a verdict for the plaintiff at this second trial,⁴³³ the court in *Bertram II* agreed with the plaintiff that this testimony was admissible, because the physician now was willing to testify with "reasonable medical certainty."⁴³⁴ The only difference between the doctor's testimony in the two trials was that in the second trial, he was willing to characterize his opinion in terms of the magic words "reasonable medical certainty," whereas in the first trial he had been unwilling to do so.

These opinions are justly criticized on two counts. First, in *Bertram I*, the court foolishly rejected valid probabilistic evidence because the witness refused to testify in terms of "reasonable medical cer-

432. *Bertram II*, 417 S.W.2d at 124. The court in *Bertram II* quoted portions of the physician's testimony at the second trial:

BY MR. BYRNE: . . . I will ask you to state, Doctor, if you have an opinion, based upon reasonable medical certainty, as to whether or not the accident I have described . . . is a competent producing cause of the femoral hernia which you found present in Mrs. Bertram on July 19th, 1960? A. *Within reasonable medical certainty, yes.* . . . BY MR. ROBERTS: Q. Doctor, did you just testify a few minutes ago before this Court under oath, without the aid of a Jury, that in your opinion that you were basing this on a 90-10 percentage the same as you did in the other trial? A. To me that's reasonable medical certainty. Yes, sir. Q. And you are basing your answer of reasonable medical certainty on a 90-10 percentage? A. No. *My reasonable medical certainty is a 90-10 percentage.* You have it reversed.

Id.

433. The trial judge had sustained the defendant's objection and excluded the foregoing testimony about the hernia. *Id.* at 123. After the jury rendered its verdict, the trial judge granted the defendant's motion for a new trial. *Id.* at 124. The trial judge found that the award was excessive and that the jury had been prejudiced by the doctor's testimony about the hernia prior to defendant's objection as well as by counsel's references to this excluded testimony in closing arguments. *Id.* at 124-25. On appeal, the plaintiff contended that the defendant could not have been prejudiced because the evidence about the hernia had been improperly excluded. *Id.* at 124. The appellate court agreed with the plaintiff that the doctor's testimony in the second trial should have been admitted, but it nevertheless affirmed the award of a new trial on grounds of excessiveness. *Id.* at 125-26.

434. *Id.* at 125. The court explained:

Dr. Niesen's testimony in the instant case materially differs from that he gave at the first trial. In the instant case his reply to the hypothetical question as to causal connection was not couched in terms of "could be" or "I couldn't say" but was a definite affirmance that within "reasonable medical certainty" his opinion was the accident caused the hernia. What the phrase "reasonable medical certainty" meant to Dr. Niesen is a matter going solely to the weight to be given his testimony and not to whether such testimony constitutes sufficient evidence of a causal connection between the hernia and the accident.

Id. The court's elaborate effort to justify the admissibility of this testimony based on the expression of "reasonable medical certainty" is somewhat curious in view of its recognition in *Bertram I* of Missouri's longstanding evidentiary rule allowing the admissibility of testimony expressed in terms of "might," "could," or "possibility." See *Bertram I*, 385 S.W.2d at 806 (citing and discussing the leading case of *Kimmie v. Terminal R.R. Ass'n*, 66 S.W.2d 561 (Mo. 1933) (per curiam) ("An expert's view of possibility or probability is often helpful and proper.")).

tainty." Second, in *Bertram II*, the court elevated form over substance as it attempted to distinguish the earlier decision on the grounds of qualitative differences in the ritualistic incantation of the requisite magic words without regard to the absence of meaningful differences in the substance of the testimony.⁴³⁵ *Bertram I* was not the only case in which the Missouri courts found proof insufficient where the facts strongly supported causation but the physician refused to express an opinion with "reasonable medical certainty."⁴³⁶ Consistent with Missouri's reputation as the "Show Me" state, its judiciary's insistence on proof with "reasonable medical certainty" enabled the state to publish the most opinions containing this phrase of any American jurisdiction during this decade.⁴³⁷

435. Commentators frequently cite *Bertram* as a prime example of blind insistence on verbal formulas and of judicial hostility to statistical evidence. See, e.g., Black, *supra* note 7, at 667-69 ("elevates form over substance"); Martin, *supra* note 27, at 805-06 n.123 (judicial discomfort with statistical evidence); Rappeport, *supra* note 17, at 8 ("court apparently wedded to reasonable medical certainty and not percentages").

436. In *Bailey v. Kershner*, 444 S.W.2d 10 (Mo. Ct. App. 1969), the plaintiff's decedent was thrown from defendant's car, was hospitalized with high blood pressure and bruises and abrasions of the back, hip, and forehead, and died in the hospital eleven days later of a "cerebral vascular accident." *Id.* at 11-13. The treating physician testified that in his opinion the injuries directly contributed to the "cerebral vascular accident" and that he had a "feeling" that the accident was the cause of death, but he was unwilling to express this opinion with "reasonable medical certainty." *Id.* at 14. Although the jury found for the plaintiff, the appellate court reversed because the evidence was not sufficient to support the verdict in the absence of testimony with "reasonable medical certainty." *Id.* at 15-16; see also John S. Sandberg, Note, *Expert Testimony on Causation in a Wrongful Death Case: Should "Reasonable Medical Certainty" Be Necessary to Make a Submissible Case?*, 36 MO. L. REV. 127, 129-30 (1971) (criticizing the decision in *Bailey*).

Also, the Missouri courts did not consistently mandate use of particular verbal formulas. See Sandberg, *supra* (citing Missouri cases that upheld verdicts based on expert testimony that causation was "probable" or even "possible" when corroborated by "other facts" tending to establish causation). In one leading case, the Missouri Supreme Court declared, "Where, as here, it may be determined from the testimony that the doctor was expressing his expert opinion as to the cause of a condition, the form of language used will not deprive the statement of its evidentiary value." *Walker v. St. Louis Pub. Serv. Co.*, 243 S.W.2d 92, 97 (Mo. 1951) (per curiam).

437. From 1960 through 1969, the phrase appeared in 49 Missouri opinions—compared with 39 from Wisconsin and 29 from Illinois—representing more than 11% of the 421 American state court opinions in which the phrase appeared during this decade. Search of WESTLAW, Mo-cs Database (Oct. 20, 1997) (da(aft 1/1/1960 & bef 1/1/1970) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 49 cases); Search of WESTLAW, Wi-cs Database (Oct. 20, 1997) (da(aft 1/1/1960 & bef 1/1/1970) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 39 cases); Search of WESTLAW, Il-cs Database (Oct. 20, 1997) (da(aft 1/1/1960 & bef 1/1/1970) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 29 cases); Search of WESTLAW, Allstates Database (Oct. 20, 1997) (da(aft 1/1/1960 & bef 1/1/1970) & "reasonable medical certainty" "reasonable degree of medical certainty") (retrieving 421 cases).

b. Proof of Future Damages.—The phrase “reasonable medical certainty” appeared quite frequently in testimony concerning damages, especially in states that applied a rule of “reasonable certainty” to proof of future damages. In many cases, the courts held that the “rule of certainty” was satisfied by proof that future injuries were “probable.”⁴³⁸ In a few cases, however, courts applying the “reasonable-certainty” rule respecting future damages required a degree of certitude in excess of the traditional “more likely than not” preponderance of the evidence standard.⁴³⁹

In the frequently cited 1960 decision of *Carpenter v. Nelson*,⁴⁴⁰ the Supreme Court of Minnesota considered the relationship between the preponderance of the evidence standard and the state’s “rule of certainty” respecting future damages. The plaintiff in *Carpenter* challenged the appropriateness of the trial court’s jury instruction that the plaintiff’s claim for current injuries was governed by the requirement of proof by a fair preponderance of the evidence, but that his claim for future damages was governed by “a different standard of evidence,” requiring proof “by a reasonable medical certainty that such future or permanent injuries will be sustained.”⁴⁴¹ The Supreme

438. See Leonard Grumbach, Note, *Awarding Damages for Permanent Injuries: A Proposal to Eliminate the Unreasonableness of “Reasonable Certainty”* in *Jordan v. Bero*, 4 HOFSTRA L. REV. 101, 102 n.7 (1975) (“Some jurisdictions favor ‘reasonably certain,’ while others favor ‘reasonably probable.’ ‘Reasonably certain’ is generally considered the stricter standard, but from many of the cases it appears that the phrases are actually meant to convey the same standard of proof—a preponderance of the evidence rather than a mere likelihood or possibility.”); cf. *Casimere v. Herman*, 137 N.W.2d 73, 77 (Wis. 1965) (holding that “no particular words of art are necessary” to meet the standard of “reasonable degree of medical certainty or probability” respecting future damages, but testimony must “show more than a mere possibility or conjecture”).

439. See Grumbach, *supra* note 438, at 102 n.7 (listing cases in which courts have favored the “reasonably certain” standard over the “reasonably probable” standard when awarding prospective damages). In *Belford v. Humphrey*, 424 S.W.2d 526 (Ark. 1968), the dissent offered the following analysis, indicating that a higher threshold than “probability” is necessary to prove future damages:

Where an injury per se does not show permanency to a reasonable degree of medical certainty, and where there is absent a medical opinion reasonably indicating permanency, the question of permanency should not be submitted to the jury. . . . [T]hat is not to say that the certainty must be absolute, but it must preclude mere conjecture or even probability.

Id. at 529-30 (Brown, J., dissenting).

440. 101 N.W.2d 918 (Minn. 1960).

441. *Id.* at 920-21. The disputed instruction provided:

“If you come to consider the claim of the plaintiff for future or permanent injuries a different standard of evidence is required.

“It is the law that one who asserts a claim for future or permanent injuries must prove by a reasonable medical certainty that such future or permanent injuries will be sustained.”

Id.

Court of Minnesota held that this instruction misstated the law and that the plaintiff had the burden of proving future damages by the usual preponderance of the evidence standard.⁴⁴² The court explained that the rule limiting recovery of future damages to those that are “reasonably certain” precluded the jury from basing an award on damages that were “remote, conjectural, or speculative” but that it did not alter the standard of proof.⁴⁴³ Distinguishing the “degree of proof” from the “fact to be proved,” the court said that the “reasonable certainty” of future damages was the fact to be proved and that the plaintiff must prove this fact by a fair “preponderance of the evidence.”⁴⁴⁴ The court held that in addition to misstating the standard of proof, the disputed instruction incorrectly described the fact to be proved as “reasonable *medical* certainty” instead of “reasonable certainty” of future damages.⁴⁴⁵ The court said that the phrase “reason-

442. The court said:

In the case of future damages—it being impossible to establish absolute certainty—most courts, including this one, have long followed the rule that recovery may be had if they are “reasonably certain” to occur. This rule, however, has nothing to do with the degree of proof in the sense of the required quality or quantum of evidence necessary to establish the fact. It simply means that the ultimate fact which the plaintiff has the burden of proving is future damages reasonably certain to occur as a result of the original injury. It is still sufficient if the existence of this fact is proved by only a fair preponderance of the evidence. Confusion understandably arises because the fact to be proved is, in itself, a matter of probability, although different and of a higher degree than the probability of evidence required to prove the fact.

. . . .
 . . . The distinction is not an illusory one. When the term “reasonable certainty” is used to describe the degree of proof rather than the fact to be proved it places upon the plaintiff a higher degree of proof than is required in the ordinary civil case. Such an imposition is clearly prejudicial.

In the instant case the trial court, in its instructions, not only failed to make the distinction but specifically charged the jury that the plaintiff had a higher degree of proof in so far as future or permanent injuries were concerned.

Id. at 921-22 (footnotes omitted).

443. *Id.* at 921.

444. *Id.*

445. *Id.* at 922-23. The court explained:

Plaintiff also attacks the instruction on the ground that it required the plaintiff to show the occurrence of future damages to a “reasonable medical certainty” rather than to a “reasonable certainty.” While expert medical evidence is often essential, it is well established that the existence of future damages or permanent injuries may sometimes be inferred from other evidence The use of the phrase “reasonable medical certainty” in three recent Minnesota cases was not intended to alter this rule nor preclude the jury from considering evidence other than that of expert medical witnesses. Since the word “medical” is susceptible of being construed as referring only to expert medical testimony, it should be omitted in instructing the jury, and it is withdrawn from the prior decisions in which it was inadvertently used.

able medical certainty" improperly implied that the jury should limit its consideration to medical evidence, whereas non-medical evidence, including the testimony of the plaintiff, is often relevant to prove that an injury is permanent.⁴⁴⁶

The Supreme Court of Hawaii later cited *Carpenter* for the proposition that future damages should be discussed in terms of "reasonable certainty" rather than "reasonable medical certainty."⁴⁴⁷ Similarly, in Michigan, which had a long-established rule requiring proof of future damages with "reasonable certainty," an appellate court nevertheless ruled that the defendant was not entitled to have the jury instructed that permanent injury must be proved with "reasonable medical certainty."⁴⁴⁸

In sum, in the context of the "reasonable certainty" rule with respect to future damages, the courts employed quite divergent interpretations of the phrase "reasonable medical certainty." Some courts equated "reasonable certainty" with "reasonable medical certainty," while others viewed the phrases as distinct. Some courts held that the standard was satisfied by testimony about probable future consequences, while others interpreted the "rule of certainty" as requiring more than a probability of future injury. Some courts approved of jury instructions employing the phrase "reasonable medical certainty," while others did not.

3. *Summary of Interpretations Outside of Illinois.*—Because the phrase had no fixed meaning and could not be defined with respect to a singular body of common law precedent, its meaning necessarily was influenced by the context in which it was employed, including

Id. (footnote omitted). In the omitted footnote, the court cited three of its own decisions and one from the federal courts: *Dornberg v. St. Paul City Railway Co.*, 91 N.W.2d 178, 185 (Minn. 1958), *Derrick v. St. Paul City Railway Co.*, 89 N.W.2d 629, 633 (Minn. 1958), *Penteluk v. Stark*, 69 N.W.2d 899, 901 (Minn. 1955), and *Cherry v. Stedman*, 259 F.2d 774, 779 (8th Cir. 1958). *Carpenter*, 101 N.W.2d at 922 n.9. These cases are discussed *supra* notes 279-290 and accompanying text.

446. *Carpenter*, 101 N.W.2d at 922-23.

447. See *Kometani v. Heath*, 431 P.2d 931, 936 n.1 (Haw. 1967) ("Defendant [in addressing future damages] unfortunately uses the term 'reasonable medical certainty' rather than 'reasonable certainty.'" (citing *Carpenter*)).

448. See *Agee v. Williams*, 169 N.W.2d 676, 680-81 (Mich. Ct. App. 1969). The court noted, "An examination of the cases cited by defendant reveals that the rule does not require a reasonable medical certainty either as to the causal relationship between the accident and the injuries or on the question as to whether or not the injuries will exist on a permanent basis." *Id.* at 680. It is unclear, however, whether the court was holding that such an instruction would have been incorrect, or only that the actual instruction on future damages was sufficient and was consistent with the state's rule requiring proof of future damages with "reasonable certainty." See *id.* at 680-81.

each jurisdiction's existing rules concerning admissibility of evidence and sufficiency of proof. Lacking any intrinsic meaning or identity, like Woody Allen's Zelig,⁴⁴⁹ the phrase adapted to and mirrored its environment.

C. Transformation in Illinois

Illinois attorneys created the phrase "reasonable medical certainty" in response to the ultimate-issue rule, and the phrase was spread throughout the nation by Goldstein's manuals in conjunction with the "might or could" form of hypothetical question mandated by that rule. By a curious coincidence, however, just as the phrase "reasonable medical certainty" was achieving universal acceptance in other jurisdictions, the Illinois Supreme Court repudiated the ultimate-issue rule that had been crucial to the genesis and dissemination of the phrase.

In response to intense criticism from Dean Wigmore and others, American courts gradually abandoned the ultimate-issue rule insofar as it precluded expert witnesses from expressing definitive opinions on such crucial factual issues as the causal relationship between an accident and the plaintiff's injuries.⁴⁵⁰ Illinois was among the last states to reject the ultimate-issue rule in the 1960 case of *Clifford-Jacobs Forging Co. v. Industrial Commission*.⁴⁵¹

Clifford-Jacobs arose on an appeal from a workers' compensation award after the employer objected unsuccessfully to questions concerning causation that apparently were asked in the "might or could" form.⁴⁵² The employer asserted error in that "certain of the hypothetical questions failed to call for a positive answer" from the claimant's medical witness.⁴⁵³ In rejecting this contention, the court held that the "might or could" form of question was proper, but it also repudiated the ultimate-issue rule, declaring that "[t]he form of the question, or the form of the answer, when in terms of 'what did' or 'what

449. ZELIG (Orion Pictures Co. & Warner Brothers, Inc. 1983).

450. Leading cases that cited and followed Wigmore include *Grismore v. Consolidated Products Co.*, 5 N.W.2d 646, 656 (Iowa 1942), *Buehler v. Beadla*, 73 N.W.2d 304, 313 (Mich. 1955) (equally divided court), which cited "Widmore [sic]," *O'Leary v. Scullin Steel Co.*, 260 S.W. 55, 59 (Mo. 1924) (en banc), and *Goldfoot v. Lofgren*, 296 P. 843, 847 (Or. 1931). The demise of the rule is discussed in William B. Stoebuck, *Opinions on Ultimate Facts: Status, Trends, and a Note of Caution*, 41 DENV. L. CENTER J. 226, 236 (1964).

451. 166 N.E.2d 582 (Ill. 1960); see also *supra* note 146.

452. See *Clifford-Jacobs*, 166 N.E.2d at 585.

453. *Id.*

might' have caused the injury and death, is immaterial."⁴⁵⁴ Moreover, the court expressly overruled *Fellows-Kimbrough* and several other cases that had established or reaffirmed the ultimate-issue rule.⁴⁵⁵ Thereafter, Illinois attorneys had the option of asking medical experts for either definitive or qualified opinions.

Because the phrase "reasonable medical certainty" initially was employed to counteract the speculative quality of the "might or could" form of question, the phrase arguably was superfluous whenever a physician was able to express a definitive conclusion. Nevertheless, subsequent to the decision in *Clifford-Jacobs*, attorneys used the phrase both in conjunction with qualified "might or could" questions⁴⁵⁶ and when asking physicians to give positive and unequivocal opinions.⁴⁵⁷ The phrase had become so firmly entrenched in the practices of the Illinois bar that no one seemed to question the need for an expression of "reasonable medical certainty" in the context of unequivocal medical testimony.

In the second edition of *Trial Technique*, published in 1969, the authors noted that *Clifford-Jacobs* permitted definitive expressions of opinion "on a direct 'was or is' basis as well as on 'might or could' basis."⁴⁵⁸ Nevertheless, the authors retained all of the hypothetical questions from the first edition that used variants of "reasonable medical certainty" in conjunction with the "might or could" form of question.⁴⁵⁹ In a new chapter, entitled "The Medical Witness," the authors

454. *Id.* at 587. The court also quoted with approval the passage to the same effect from *Chicago Union Traction Co. v. Roberts*, 82 N.E. 401, 402 (Ill. 1907). See *Clifford-Jacobs*, 166 N.E.2d at 586; see also *supra* note 133.

455. *Clifford-Jacobs*, 166 N.W.2d at 585-87, *overruling* *People v. Rongetti*, 170 N.E. 14 (Ill. 1929), *Fellows-Kimbrough v. Chicago City Ry. Co.*, 111 N.E. 499 (Ill. 1916), *City of Chicago v. Didier*, 81 N.E. 698 (Ill. 1907), and *Illinois Cent. R. Co. v. Smith*, 70 N.E. 628 (Ill. 1904).

456. Of the 32 Illinois cases from the 1960s in which the phrase or a variant appeared, see *infra* note 468, about half used the phrase in conjunction with a qualified expression of opinion, including nine that involved some version of a "might or could" form of question. See, e.g., *Boose v. Digate*, 246 N.E.2d 50, 51 (Ill. App. Ct. 1969) ("medical and surgical" variant); *Piacentini v. Bonnefil*, 217 N.E.2d 507, 512 (Ill. App. Ct. 1966) ("medical and surgical" variant); *Pertolanitz v. Chicago Transit Auth.*, 194 N.E.2d 501, 503 (Ill. App. Ct. 1963); *Healy v. Nordhous*, 188 N.E.2d 227, 229 (Ill. App. Ct. 1963); *Rysdon v. Wice*, 180 N.E.2d 754, 758 (Ill. App. Ct. 1962).

457. About a dozen Illinois cases from the 1960s used the phrase in conjunction with a definitive expression of opinion. E.g., *Siete v. Industrial Comm'n*, 181 N.E.2d 156, 159 (Ill. 1962); *Neubauer v. Coca Cola Bottling Co.*, 238 N.E.2d 437, 441 (Ill. App. Ct. 1968); *Mansion v. Brant Oil Co.*, 229 N.E.2d 171, 178 (Ill. App. Ct. 1967) (Craven, P.J., dissenting); *O'Keefe v. Lithocolour Press, Inc.*, 199 N.E.2d 60, 64 (Ill. App. Ct. 1964); *Pertolanitz*, 194 N.E.2d at 503; *McNealy v. Illinois Cent. R.R. Co.*, 193 N.E.2d 879, 888 (Ill. App. Ct. 1963).

458. 3 GOLDSTEIN & LANE, *supra* note 34, § 18.17, at 7.

459. See *id.* § 18.18, at 7-9. The second edition included one new hypothetical question in the same form: "(1) Doctor, have you an opinion, based upon reasonable medical cer-

provided six examples of questions seeking definitive opinions on causation, all prefaced with variants of "reasonable medical certainty."⁴⁶⁰ Thus, consistent with the practice of the Illinois bar, the second edition of *Trial Technique* used the phrase "reasonable medical certainty" in conjunction with both qualified and definitive opinions on causation.

It was not until 1969 that an Illinois court actually defined the phrase "reasonable medical certainty." In *Boose v. Digate*,⁴⁶¹ the defendant objected to testimony by an ophthalmologist named Dr. Ey⁴⁶² about the likelihood of future medical complications.⁴⁶³ The court quoted at length from the direct examination by plaintiff's counsel in which Dr. Ey, who did not understand the term "reasonable medical certainty," opined that the injured eye had "a 50 percent chance of being removed in the next ten years."⁴⁶⁴ On cross-examination, Dr.

tainty as to whether or not there might or could be, a causal connection or relation between the fall described and the condition of ill-being found as set forth in this question?" *Id.* § 18.18, at 7. The remaining ten questions, set forth *supra* note 127, were renumbered as (2) through (11), with only minor editorial changes. *See id.* § 18.18, at 7-9.

460. *See 2 id.* § 15.25, at 26, 28, 29; *id.* § 15.32, at 91, 92; *id.* § 15.36, at 126. This chapter included numerous examples of questions on other topics prefaced with expressions of "reasonable medical certainty." *See id.* § 15.25, at 30; *id.* § 15.26, at 34; *id.* § 15.29, at 54-55, 57, 59-60; *id.* § 15.31, at 85; *id.* § 15.32, at 94; *id.* § 15.36, at 126-27.

461. 246 N.E.2d 50 (Ill. App. Ct. 1969).

462. I'm not making this up!

463. *Boose*, 246 N.E.2d at 51.

464. *Id.* at 51-52. The appellate court provided a synopsis of the direct examination (I'm not making this up either!):

Dr. Ey, an ophthalmologist, treated plaintiff on and after the date of the injury and testified in plaintiff's behalf. During his direct testimony concerning the nature of the injury, the following ensued. "Q. Doctor, I will ask you if you have an opinion, based upon a reasonable degree of medical and surgical certainty, as to whether there might or could be any further complications with respect to either eye, by reason of the injury which you have described herein in the plaintiff, Mr. Boose? A. Yes. Q. And would you give us your answer? A. This particular eye has been severely damaged in the back. There is a possibility that * * * Whereupon the counsel for the defendant, Digate, made the following objection: "Your Honor, I object to the word 'possibility'. This is entirely speculative and conjectural. We are talking about what this is, a reasonable degree." Whereupon the Court sustained the objection. Plaintiff's counsel then argued that the question was based on a reasonable degree of medical and scientific and surgical certainty, and that the witness was honest enough to follow the instructions of the Court. Whereupon the Court stated: "I have heard the word 'possibility', and I am not satisfied in my mind that a mere possibility is a medical or scientific certainty." The Court then addressed the witness as follows: "Don't you understand the question?" Whereupon the witness answered: "I don't understand the question. I don't understand what reasonable degree, what reasonable certainty, exactly, means. 50 percent, 25 percent, 75 percent, or what is reasonable." The Court then responded as follows: "We can't improve the question any more than we have. If you are unable to understand the question, you may say so.

Ey conceded that he was "guessing to some extent" and that there was "an element of speculation and conjecture" to his opinion about the possible removal of the eye, but the trial court allowed the testimony to stand.⁴⁶⁵ In holding that the trial court properly admitted this testimony, the appellate court declared that an expression of "reasonable medical certainty" does not relate to substantive certainty about the likelihood of the future condition, but rather to "the general consensus of recognized medical thought and opinion concerning the probabilities" in question:

In the instant case it appears that the Doctor was unfamiliar with the legal phraseology which gives a medical opinion its legal perspective. The testimony objected to relates to the nature and extent of plaintiff's injury and in particular to future conditions. What such future conditions will be or will not be is a matter of foresight and necessarily a somewhat cloudy vision of the future. *When a Doctor is asked to base his opinion on a reasonable degree of medical certainty the certainty referred to is not that some condition in the future is certain to exist or not to exist. Rather the reasonable certainty refers to the general consensus of recognized medical thought and opinion concerning the*

You must base your answer upon reasonable, what is a reasonable degree of certainty in your field. I might say to you, Doctor, if you understand this, not one chance in a thousand, not one chance in a thousand of speculation or guess or conjecture or some hope or guess, but what in the field, what you understand would be a reasonable degree of assurance. Now, I can't improve any more on that. If you can answer the question, please do so. If you can't answer the question, say so." Whereupon the Doctor answered the question as follows: "A. This particular eye, the right one that was injured, has a 50 percent chance of being removed in the next ten years." Upon being asked the reason for his opinion the Doctor explained that a secondary glaucoma (pressure in the eyeball) could result, requiring removal of the eye.

Id. (star ellipses in original).

465. *Id.* at 52. The appellate court summarized the cross-examination:

On cross examination Dr. Ey was questioned by counsel for the defendant as follows: "Q. Doctor, Mr. Ferracuti asked you on direct examination about the matter, the future problems of the eye, and you made an answer to that question. You understand what the word 'speculation' means? A. Yes. Q. Is there an element of speculation in your answer which you gave here? Is there an element of speculation, Doctor? A. Yes, there is an element. Q. Doctor, you are guessing to some extent with respect to Mr. Boose's case, is that correct? A. With respect to Mr. Boose's case, yes. Q. So that there is an element of speculation and conjecture with respect to Mr. Boose? A. Yes." Counsel for defendant, Digate, moved to strike Dr. Ey's answer concerning the possible eventual removal of the eye, for the reason the answer contained an element of speculation and that the witness was guessing with respect to the plaintiff's case, and that therefore the Doctor's answer did not conform to the requirements of the law. The Court denied the motion and allowed the testimony to stand.

Id.

*probabilities of conditions in the future based on present conditions.*⁴⁶⁶

Boose was the first opinion in any jurisdiction to articulate the distinction between the *substance* of the expert's opinion about the probabilities at issue and the *foundation* for the opinion in light of existing medical knowledge.⁴⁶⁷

466. *Id.* at 53 (emphasis added). The court continued:

In this context we do not believe the cross examination of the Doctor reveals that in a legal sense the Doctor's opinion was based on guess or surmise. The speculation referred to by the Doctor was, we believe, a recognition that there was nothing in the plaintiff's present existing physical condition from which it could be concluded that plaintiff would or would not be one of those patients requiring eye removal at some time in the future. In his direct testimony the Doctor described the medical basis, i.e. development of a secondary glaucoma, which might affect plaintiff's condition in the future. Therefore his conclusions concerning future probabilities were not based on guess or surmise and in our opinion his testimony was admissible and properly considered by the jury.

Id.

467. In recent years, courts in Indiana and New Jersey have adopted this interpretation of the phrase. See *supra* note 61. Professor Michael Graham has cited *Boose* as the definitive interpretation of the phrase without acknowledging that it represents a distinct minority viewpoint. See *supra* note 100; *infra* note 497.

In Maryland, a trial judge recently expressed a similar understanding of the phrase, but the appellate court rejected this interpretation as a standard of admissibility in *Myers v. Celotex Corp.*, 594 A.2d 1248 (Md. Ct. Spec. App. 1991):

Appellants contend that the court erred in striking out certain opinion testimony of their medical expert on the ground that it was not shown to be accepted by the medical community. . . .

....

. . . Appellants asserted that the appropriate standard for the admissibility of the doctor's opinions was "reasonable medical probability" regardless of whether the opinions were generally accepted by the medical community. The court, however, accepted defense counsel's argument, as is apparent from the following discussion between the court and counsel:

THE COURT: Mr. Lilly [Counsel for appellants], how can [Dr. Schepers] testify with reasonable medical certainty as to A, B, C, or D, unless he knows what is generally accepted within the medical community?

....

THE COURT: Mr. Lilly, he has to be able to say within a reasonable medical certainty. That's the definition of reasonable medical certainty. It's what is accepted within the medical community. He didn't just read. Otherwise, you would never have to qualify his opinions with that phrase. . . .

....

The standard for the admissibility of medical expert opinion testimony is reasonable medical probability. *Andrews v. Andrews*, 242 Md. 143, 152, 218 A.2d 194 (1966). The "generally accepted in the medical community" standard that was erroneously employed by the court in the case *sub judice* was adopted in Maryland in *Reed v. State*, 283 Md. 374, 391 A.2d 364 (1978), and generally applies to the admissibility of evidence based upon novel scientific techniques or methodologies. . . .

Although lawyers, doctors, and judges in Illinois repeated the words "reasonable medical certainty" as a ritual incantation, the phrase seemed to have very little impact on the outcome of litigation. The phrase "reasonable medical certainty," or a close relative, appeared in thirty-two Illinois state court opinions during the 1960s, and in seven of these it appeared in the headnotes.⁴⁶⁸ Nevertheless, not a single appellate case during this period ruled medical opinion testimony inadmissible for failure to use these magic words. In one case, the appellate court held that an objection to a hypothetical question that failed to include this phrase had been waived because it was not made at trial.⁴⁶⁹ In another case, testimony was stricken *despite* the attorney's use of the phrase in eliciting an opinion, because the substance of the testimony included equivocations that rendered the opinion unduly speculative.⁴⁷⁰ Likewise, in evaluating the sufficiency of proof, courts noted the presence or absence of opinions expressed with "reasonable medical certainty,"⁴⁷¹ but in no case was the proof deemed insufficient because of the absence of these magic words. Thus, not a single Illinois opinion during this era unequivocally held that the admissibility or sufficiency of evidence depended on expressions of "reasonable medical certainty."

During this ten-year period, it appears that Illinois attorneys and physicians had become so habituated to use of the phrase that it had receded into the background of general legal jargon and was no

That exposure to asbestos may cause cancer, however, is not a novel or controversial assertion, nor is it a conclusion personal to Dr. Schepers. The testimony that appellants sought to introduce . . . was based upon Dr. Schepers's personal observations and professional experience, and thus required only a reasonable degree of medical probability. . . .

. . . .

. . . We hold, therefore, that the trial court erred in striking out the doctor's testimony as to how asbestos directly causes cancer and that appellants were thereby prejudiced.

Id. at 1255-57 (selected citations omitted).

468. Search of WESTLAW, Il-cs Database (Oct. 11, 1997) (reasonable /s medical /s certainty & da(aft 1959 & bef 1970)) (retrieving 32 cases); Search of WESTLAW, Il-cs Database (Oct. 11, 1997) (he(reasonable /s medical /s certainty) & da(aft 1959 & bef 1970)) (retrieving 7 cases).

469. See *O'Keefe v. Lithocolor Press, Inc.*, 199 N.E.2d 60, 66 (Ill. App. Ct. 1964).

470. See *Lange v. Coca-Cola Bottling Co.*, 245 N.E.2d 35, 38-39 (Ill. App. Ct.) (reversing a damage award because testimony, even though properly stricken at trial, was unduly prejudicial), *rev'd on other grounds*, 254 N.E.2d 467 (Ill. 1969).

471. Cases in which the headnotes comment favorably on the existence of testimony with "reasonable medical certainty" include *Field Enterprises v. Industrial Commission*, 226 N.E.2d 867, 867 headnote 1 (Ill. 1967), *Oak Park Trust & Savings Bank v. Fisher*, 225 N.E.2d 377, 377 headnote 4 (Ill. App. Ct. 1967), and *Rysdon v. Wice*, 180 N.E.2d 754, 755 headnote 6 (Ill. App. Ct. 1962).

longer a source of contention. Only in *Boose* did the phrase figure prominently in the court's discussion, and in no case did the outcome hinge on its presence or absence.⁴⁷²

V. 1970 TO DATE: DENOUEMENT OR PROLOGUE?

This Article's historical analysis of the genesis and dissemination of the phrase terminates at the end of 1969. Four factors justify the selection of this termination date.

First, the date marks a logical termination point for the historical analysis insofar as courts in all but two American jurisdictions had used the phrase by the end of 1969.⁴⁷³ Moreover, the proliferation of the phrase subsequent to 1970 precludes systematic review of cases in which the term appears. Whereas the phrase appeared in only 146 cases prior to 1960 and in 482 cases during the 1960s, it appeared in 729 cases during the 1970s and in a total of 4281 cases from 1970 to the end of 1996, with the number increasing by more than 275 cases per year in the 1990s.⁴⁷⁴

Second, the enactment of the Federal Rules of Evidence in 1975 profoundly changed the judiciary's approach to expert testimony in the federal courts⁴⁷⁵ and eventually in the courts of those states that adopted new evidence codes based on the Federal Rules.⁴⁷⁶ With regard to expert witnesses, Rules 701 through 706 of the Federal Rules of Evidence adopted a "liberal" approach to many of the most controversial common law doctrines restricting expert testimony,⁴⁷⁷ but

472. See *supra* notes 461-467 and accompanying text.

473. See *supra* notes 367-369.

474. See Appendix A. A search, conducted late in the final editing process for opinions from 1997, found over 300 cases containing the phrase. Searches of WESTLAW, Allcases, Allstates, and Allfeds Databases (Feb. 20, 1998) ("reasonable medical certainty" "reasonable degree of medical certainty" & da(1997)) (retrieving 307, 243, and 64 cases, respectively). In addition, a growing number of cases employ such variants as reasonable "professional," "scientific," or "psychological" certainty.

475. Graham, *supra* note 100, at 43.

476. With the recent adoption of evidence codes in Indiana, Maryland, and New Jersey, at least 38 states now have evidence codes patterned after the Federal Rules. Edward J. Imwinkelried, *The Next Step After Daubert: Developing a Similarly Epistemological Approach to Ensuring the Reliability of Nonscientific Expert Testimony*, 15 CARDOZO L. REV. 2271, 2273 n.17 (1994).

477. FED. R. EVID. 701-706. Rule 702 defined an expert broadly, as anyone possessed of "scientific, technical, or other specialized knowledge." The rule eliminated rules in many states that restricted expert testimony to subjects not within ordinary lay comprehension, allowing experts to testify whenever their testimony would "assist the trier of fact." It also eliminated the requirement of using hypothetical questions to elicit expert opinions, indicating that an expert may testify "in the form of an opinion or otherwise." Rule 703 departed from the common law in permitting experts to base their opinions on inadmissible facts and data "[i]f of a type reasonably relied upon by experts in the particular field in

neither the text of the Rules nor the comments thereto discussed their relationship to rules that conditioned admissibility of opinion testimony on the expert's level of certitude.⁴⁷⁸ More than twenty years after the Rules' enactment, the role of the phrase "reasonable medical certainty" in the federal courts remains unsettled.⁴⁷⁹

Third, the rules of tort law have undergone important transformations since 1970. These transformations have been associated with the shift from a mechanistic to a probabilistic conception of causation,⁴⁸⁰ a shift that significantly affected the interpretation and significance of the phrase "reasonable medical certainty." In toxic tort litigation, as the prevailing paradigm shifted to a probabilistic view of causation, trial courts became more skeptical of conclusory opinion testimony from treating physicians and began to demand statistically

forming opinions." Rule 704 put the final nail in the coffin of the ultimate-issue rule, declaring that expert testimony "otherwise admissible is not objectionable because it embraces an ultimate issue to be decided by the trier of fact."

478. Sensing that the Federal Rules of Evidence would not eliminate questions about the degree of certitude necessary for an opinion to be admissible, on the eve of the Rules' adoption, Professor Michael Martin advocated abolition of the "rule of certainty" as a barrier to admissibility. See Martin, *supra* note 27, at 797-808. Martin's recommendation had no discernible impact, however, on the text of the Rules or the comments thereto.

479. See *Schulz v. Celotex Corp.*, 942 F.2d 204, 208 (3d Cir. 1991) ("Whether such language is required under the federal rules is not clear."). A number of federal courts have held that the Federal Rules of Evidence do not require particular expressions of certitude as a condition for admissibility. See, e.g., *Holbrook v. Lykes Bros. S.S. Co.*, 80 F.3d 777, 785 (3d Cir. 1996) ("The Federal Rules of Evidence, however, do not require a particular phrase regarding the degree of certainty with which experts must form their opinions . . ."); *United States v. Cyphers*, 553 F.2d 1064, 1072-73 (7th Cir. 1977) (stating that "an expert's lack of absolute certainty goes to the weight of his testimony, not to its admissibility"); *Bean v. United States (In re Swine Flu Immunization Prods. Liab. Litig.)*, 533 F. Supp. 567, 578-79 (D. Colo. 1980) (mem.) ("The fact that Dr. Lewis could not state to a reasonable degree of medical certainty that the swine flu vaccine caused Mrs. Bean's illness goes to the weight we give his testimony, not to its admissibility."). On the other hand, one federal court described the standard for admissibility as testimony reflecting "a conclusion based on a reasonable degree of medical certainty. . . express[ed] . . . in terms of reasonable probabilities . . ." *DaSilva v. American Brands, Inc.*, 845 F.2d 356, 361 (1st Cir. 1988). And when experts conceded they could not express an opinion with a "reasonable degree of medical certainty," federal courts have excluded their testimony on the grounds that it would "confuse or mislead" the jury. *Pinkham v. Burgess*, 933 F.2d 1066, 1071 (1st Cir. 1991); accord *Porter v. Whitehall Lab., Inc.*, 9 F.3d 607, 614 (7th Cir. 1993) (noting that the trial court properly excluded testimony not stated with "a reasonable degree of scientific certainty, . . . because it was not well-grounded in the scientific method"); *Grant v. Farnsworth*, 869 F.2d 1149, 1152 (8th Cir. 1989) (affirming the trial court's decision to exclude a chiropractor's testimony not stated "with a reasonable degree of certainty" as it "would not have assisted the jury").

480. Brennan, *supra* note 89, at 493; Jean Macchiaroli Eggen, *Toxic Torts, Causation, and Scientific Evidence After Daubert*, 55 U. PITT. L. REV. 889, 895-909 (1994).

based testimony from epidemiologists and other scientific experts.⁴⁸¹ The focus on probabilistic evidence also fostered the development of new causes of action in toxic tort and medical-malpractice litigation that provided complete or partial compensation to plaintiffs who would not have prevailed under traditional tort principles.⁴⁸² In toxic tort litigation, most jurisdictions continued to demand proof that toxic exposures were the proximate cause of plaintiffs' existing injuries⁴⁸³ or were reasonably certain to result in future problems.⁴⁸⁴ Some courts, however, recognized the right of plaintiffs to recover for increased susceptibility or risk of disease,⁴⁸⁵ emotional distress associated with the fear of future disease,⁴⁸⁶ and costs of medical monitor-

481. See Black, *supra* note 7, at 674-77 (applauding judges for rejecting conclusory testimony that purported to link illness to toxic exposure without adequate scientific basis); Green, *supra* note 89, at 671-74 (concluding that courts in Agent Orange and Bendectin litigation had adopted an epidemiological threshold for plaintiffs in toxic tort litigation); cf. Bert Black & David E. Lilienfeld, *Epidemiologic Proof in Toxic Tort Litigation*, 52 FORDHAM L. REV. 732, 736 (1984) (arguing for the use of an epidemiologic standard to evaluate "evidence of a causal relationship between exposure to a particular factor and the incidence of a disease").

482. See Levit, *supra* note 16, at 154-58 (discussing "probabilistic injuries").

483. *E.g.*, Brown v. Southeastern Pa. Trans. Auth. (*In re* Paoli R.R. Yard PCB Litig.), 35 F.3d 717, 750-52 (3d Cir. 1994) (applying Pennsylvania law); Sterling v. Velsicol Chem. Corp., 855 F.2d 1188, 1203 (6th Cir. 1988) (applying Tennessee law).

484. *E.g.*, Sterling, 855 F.2d at 1204-07 (applying Tennessee law); Potter v. Firestone Tire & Rubber Co., 863 P.2d 795, 810-11 (Cal. 1993) (in bank); see also Minneman, *supra* note 72, § 43, at 102-08 (listing state court cases that require future consequences of exposure to be reasonably certain to result before allowing recovery of damages).

485. See, *e.g.*, Brafford v. Susquehanna Corp., 586 F. Supp. 14, 17-18 (D. Colo. 1984) (mem.) (under Colorado law, recognizing a cause of action for increased risk of cancer associated with actual damage to cellular and subcellular structures caused by exposure to radiation); Davis v. Graviss, 672 S.W.2d 928, 932 (Ky. 1984) (allowing recovery for risk of complications associated with a skull fracture); Dunshee v. Douglas, 255 N.W.2d 42, 47 (Minn. 1977) (en banc) (stating that testimony about the risk of a stroke was admissible with respect to damages for scar formation in an artery); Feist v. Sears Roebuck & Co., 517 P.2d 675, 679-80 (Or. 1973) (ruling that the trial court did not err in instructing the jury that it could consider increased susceptibility to meningitis in awarding damages for a skull fracture); Schwegel v. Goldberg, 228 A.2d 405, 408-09 (Pa. Super. Ct. 1967) (finding no error in the admission of a physician's testimony that the plaintiff had a 1-in-20 chance of seizures as a result of a traumatic injury to the brain); see also Eggen, *supra* note 480, at 905-09 ("Courts are beginning to see cases based solely upon claims for increased or enhanced future risk of disease."); Minneman, *supra* note 72, § 49, at 124-27 (discussing cases allowing recovery for increased risk of susceptibility to future disease).

486. See, *e.g.*, Trapp v. 4-10 Inv. Corp., 424 F.2d 1261, 1267-68 (8th Cir. 1970) (under North Dakota law, stating that testimony regarding the future risk of injury or surgery based upon a present injury may be relevant to establish a basis for compensable anxiety); Mauro v. Raymark Indus., 561 A.2d 257, 263 (N.J. 1989) (allowing recovery for emotional distress based on a reasonable fear of future disease where plaintiff's exposure to asbestos resulted in physical injury); Gerardi v. Nuclear Util. Servs., Inc., 566 N.Y.S.2d 1002, 1004-05 (Sup. Ct. 1991) (recognizing a cause of action for mental anguish for breaching duty to avoid and warn of asbestos dangers); see also Minneman, *supra* note 72, § 3, at 49-52 (listing

ing to diagnose future disease.⁴⁸⁷ In medical-malpractice litigation, the fact that plaintiffs often have a less than fifty-percent chance of recovery, even in the absence of malpractice, has precluded experts from testifying that it was more probable than not that the defendants' negligence was the cause of death or serious injury. In such cases, courts in a substantial number of jurisdictions adopted the "increased risk"⁴⁸⁸ or "lost chance"⁴⁸⁹ theories, or hybrids thereof,⁴⁹⁰ to

and discussing cases that allow recovery for anxiety concerning future diseases or conditions).

487. See, e.g., *Ball v. Joy Techs.*, 958 F.2d 36, 39 (4th Cir. 1991) (applying Virginia and West Virginia law); *Brown v. Monsanto Co. (In re Paoli R.R. Yard PCB Litig.)*, 916 F.2d 829, 849-52 (3d Cir. 1990) (applying Pennsylvania law); *Potter*, 863 P.2d at 824-25; *Ayers v. Township of Jackson*, 525 A.2d 287, 312-13 (N.J. 1987); *Askey v. Occidental Chem. Corp.*, 477 N.Y.S.2d 242, 247 (App. Div. 1984). See generally *Schwartz*, *supra* note 73 (defining medical monitoring claims and requirements and discussing cases that allow or deny recovery for medical monitoring costs).

488. Whether based on section 323 of the RESTATEMENT (SECOND) OF TORTS (1965) or on the leading case of *Hicks v. United States*, 368 F.2d 626, 632-33 (4th Cir. 1966), the increased risk theory relaxes the standard for proof of causation insofar as the jury is not required to find that the injury would not have occurred "but for" the defendant's misconduct. Under the increased risk theory, the jury is instructed that it can find proximate causation based on testimony that the misconduct substantially increased the likelihood of injury or reduced the likelihood of recovery and that the increased risk was a substantial factor in bringing about the loss. E.g., *Roberson v. Counselman*, 686 P.2d 149, 159 (Kan. 1984); *Hamil v. Bashline*, 392 A.2d 1280, 1286 (Pa. 1978); *Herskovits v. Group Health Coop.*, 664 P.2d 474, 476-77 (Wash. 1983) (en banc); *Thornton v. CAMC*, 305 S.E.2d 316, 324-25 (W. Va. 1983); see also Robert S. Bruer, Note, *Loss of a Chance as a Cause of Action in Medical Malpractice Cases*, 59 MO. L. REV. 969, 975-79 (1994) (reviewing cases adopting the "increased risk" theory); *Hodson*, *supra* note 76, § 5, at 34-41 (listing cases that "support the view that a finding of proximate causation in a medical malpractice case can be supported by testimony that the alleged malpractice increased the risk for, or diminished the opportunities of the patient").

489. The "lost chance" theory draws upon Joseph H. King, Jr., *Causation, Valuation, and Chance in Personal Injury Torts Involving Preexisting Conditions and Future Consequences*, 90 YALE L.J. 1353 (1981). In contrast to the "increased risk" theory, which relaxes the standard of proof, the "lost chance" theory reconceptualizes the plaintiff's damages and allows proportional recovery for the deprivation of whatever chance the plaintiff otherwise would have had to escape injury or death. Thus, a defendant who deprived the plaintiff of a 30% chance of recovering from an injury or disease could be held liable for 30% of the value of the plaintiff's damages. E.g., *Falcon v. Memorial Hosp.*, 462 N.W.2d 44, 56-57 (Mich. 1990) (plurality opinion), *rev'd in part*, 467 N.W.2d 25 (Mich. 1991); *Wollen v. DePaul Health Ctr.*, 828 S.W.2d 681, 684 (Mo. 1992) (en banc); *Perez v. Las Vegas Med. Ctr.*, 805 P.2d 589, 592 (Nev. 1991); *accord* *Jordan v. Bero*, 210 S.E.2d 618, 640-41 (W. Va. 1974) (Neely, J., concurring); *Bruer*, *supra* note 488, at 980. See generally *Hodson*, *supra* note 76 (collecting and analyzing cases applying the "loss of chance" theory).

490. Under the "hybrid" theory, courts allow plaintiffs to establish causation under the "increased risk" theory but then limit plaintiffs to proportional recovery as under the "lost chance" theory. E.g., *Scafidi v. Seiler*, 574 A.2d 398, 408 (N.J. 1990); *Roberts v. Ohio Permanente Med. Group, Inc.*, 668 N.E.2d 480, 484-85 (Ohio 1996); *McKellips v. St. Francis Hosp., Inc.*, 741 P.2d 467, 476-77 (Okla. 1987); *accord* *Bruer*, *supra* note 488, at 982-84.

permit plaintiffs to receive compensation for all or a portion of their damages.

The modern rules of tort law and evidence intersected in the controversy about “junk science,”⁴⁹¹ culminating in the Supreme Court’s decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*⁴⁹² *Daubert* held that the Federal Rules of Evidence superseded the “general acceptance” test of *Frye v. United States*,⁴⁹³ leaving federal courts with the task of determining the admissibility of scientific evidence based on an evaluation of its reliability and relevance.⁴⁹⁴ While some authorities have interpreted *Daubert* as applying only to novel scientific evidence,⁴⁹⁵ others have suggested it applies more broadly.⁴⁹⁶ Even if the holding is read narrowly, however, the Court’s dictum can be expected to influence judicial evaluation of traditional medical testi-

491. Compare PETER W. HUBER, GALILEO’S REVENGE: JUNK SCIENCE IN THE COURTROOM 3 (1991) (decrying the problem of junk science) with Kenneth J. Chesebro, *Galileo’s Retort: Peter Huber’s Junk Scholarship*, 42 AM. U. L. REV. 1637, 1643 (1993) (criticizing Huber’s reliance on anecdotal information, inflated rhetoric, and lack of empirical foundation, and explaining the work’s prominence as “largely the product of an expensive, sustained, and well-coordinated public relations effort by the Manhattan Institute for Policy Research”) and Jeff L. Lewin, *Calabresi’s Revenge? Junk Science in the Work of Peter Huber*, 21 HOFSTRA L. REV. 183, 186-87 (1992) (reviewing HUBER, *supra*) (concluding that Huber’s blend of anecdotal evidence and flawed logic constituted “junk litigation science” employed to stir up fear of the tort system).

492. 509 U.S. 579 (1993).

493. 293 F. 1013 (D.C. Cir. 1923).

494. *Daubert*, 509 U.S. at 597. “[U]nder the Rules the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” *Id.* at 589. Justice Blackmun’s majority opinion indicated that determinations of relevance and reliability involved a flexible inquiry into scientific validity, identifying four important factors: “whether it can be (and has been) tested”; “whether the theory or technique has been subjected to peer review and publication”; “the known or potential rate of error”; and “explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance within that community.” *Daubert*, 509 U.S. at 592-95 (quoting *United States v. Downing*, 753 F.2d 1224, 1238 (3d Cir. 1985)).

495. See, e.g., *Lappe v. American Honda Motor Co.*, 857 F. Supp. 222, 228 (N.D.N.Y. 1994) (mem.) (“*Daubert*’s narrow focus is on the admissibility of ‘novel scientific evidence’”), *aff’d*, 101 F.3d 682 (2d Cir. 1996).

496. See, e.g., David L. Faigman et al., *Check Your Crystal Ball at the Courthouse Door, Please: Exploring the Past, Understanding the Present, and Worrying About the Future of Scientific Evidence*, 15 CARDOZO L. REV. 1799, 1832 (1994) (arguing that although applicable to all scientific evidence, *Daubert* may not apply to clinical judgment, which is not strictly scientific); G. Michael Fenner, *The Daubert Handbook: The Case, Its Essential Dilemma, and Its Progeny*, 29 CREIGHTON L. REV. 939, 972 (1996) (“*Daubert* does apply to non-novel scientific evidence and, in fact, to all expert evidence.”); Imwinkelried, *supra* note 476, at 2289-94 (advocating an extension of *Daubert*’s principles to nonscientific testimony).

mony.⁴⁹⁷ Also, it is not yet clear to what extent the state courts will follow *Daubert* in abandoning *Frye*.⁴⁹⁸

In sum, since 1970, the phrase "reasonable medical certainty" has been subsumed within epochal transformations in evidence and tort law, rendering it impossible to understand the meaning or legal significance of the phrase without undertaking an extensive analysis of these developments.⁴⁹⁹ Prior to 1970, by contrast, the genesis and dissemination of the phrase occurred in a more stable period of evidence and tort law.⁵⁰⁰

Finally, any analysis of the legal significance of the phrase "reasonable medical certainty" subsequent to 1970 would have to take into

497. In particular, if one accepts the foundational interpretation of the phrase as a statement about the "general consensus of recognized medical thought," then the relationship of "reasonable medical certainty" to *traditional medical evidence* would exactly parallel the relationship of *Frye's* "general acceptance" test to *novel scientific evidence*. See MICHAEL H. GRAHAM, FEDERAL PRACTICE AND PROCEDURE, FEDERAL RULES OF EVIDENCE RULES 608-1103, at 249-50 n.16 (interim ed. 1992) ("[R]easonable degree' imposing a consensus requirement before an expert may give an explanative opinion is roughly similar to the *Frye* test of general acceptance with respect to the results of scientific tests."). Accordingly, Graham predicts, "With the demise of *Frye*, it is highly unlikely that courts will employ the concept of 'reasonable degree of * * * certainty' to assure reliability." *Id.* at 19 (Supp. 1996) (star ellipsis in original).

Graham may be underestimating, however, the extent of inertial attachment to the phrase among the bench and bar as an indicia of reliability. Also, the parallel between novel scientific evidence and traditional medical evidence suggests a continuing role for "reasonable medical certainty" under *Daubert*. Just as *Frye's* "general acceptance" test has become one of several factors for evaluating the reliability of *novel scientific evidence*, so too the "reasonable medical certainty" or "consensus-of-recognized-medical-thought" test could become one of several factors for evaluating the reliability of *traditional medical evidence*. The author of this Article plans to explore this topic further in a sequel work. See *supra* note 22.

498. See Imwinkelried, *supra* note 476, at 2273 n.17 ("It remains to be seen how many of these states will follow the lead of the *Daubert* Court."); see also Taylor v. State, 889 P.2d 319, 328 (Okla. Crim. App. 1995) (abandoning *Frye* in light of *Daubert*, but reviewing decisions elsewhere taking various positions). Recent cases adhering to *Frye* include *People v. Dalcollo*, 669 N.E.2d 378, 382 (Ill. App. Ct. 1996), *Lasky v. Union Electric Co.*, No. 68102, 1996 WL 330879, at *6-7 (Mo. Ct. App. June 18, 1996), *adopted as modified on transfer* to 936 S.W.2d 797 (Mo. 1997) (en banc) (per curiam), *Sheridan v. Catering Management, Inc.*, 558 N.W.2d 319, 326 (Neb. Ct. App.), *aff'd*, 566 N.W.2d 110 (Neb. 1997), *State v. Marcus*, 683 A.2d 221, 224 (N.J. Super. Ct. App. Div. 1996). See also 1 PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, SCIENTIFIC EVIDENCE § 1-5(F), at 5-6 (2d ed. Supp. 1996) (reviewing *Daubert's* effect on state courts); Thomas Lyons, *Frye, Daubert and Where Do We Go from Here?*, R.I. B.J., Jan. 1997, at 27 (same).

499. The author of this Article plans to address these issues in a sequel work. See *supra* note 23.

500. The foregoing post-1970 changes in evidence and tort law occurred within the context of the so-called "litigation explosion" of the 1970s. Although the seeds of all these changes had been sown and had begun to germinate prior to 1970, the major transformations generally are associated with the 1970s. See *supra* notes 475-499 and accompanying text.

account its new prominence in federal and, especially, state legislation. The phrase has become so firmly entrenched in the legal lexicon that the legislatures in thirty-eight states and the District of Columbia, as well as the United States Federal Court of Claims, have established it as a standard for decisionmaking within dozens of statutes on a wide variety of subjects.⁵⁰¹ Only a small number of these statutes relate to actions for personal injury⁵⁰² or claims for worker compensation,⁵⁰³ the contexts in which the phrase originated. A ma-

501. My research assistant Melanie Susan Williams-Lewonski searched WESTLAW's USC database and the 51 state statutory databases (xx-ST) during the Fall of 1996 and again on September 9, 1997 for the terms "reasonable /s medical /s certainty." After eliminating documents that did not use these words in the sense of "reasonable medical certainty," the author's 1997 search found 102 relevant documents, discussed *infra* notes 502-517. In comparison with the author's 1996 search, this search found several new statutes, but it also disclosed the omission of two statutes that had been found in the 1996 search. See *infra* notes 503 and 508. The *Maryland Law Review* staff conducted the most recent search on October 18, 1997. Search of WESTLAW, State Statutory and USC Databases (Oct. 18, 1997) (reasonable /s medical /s certainty) (retrieving 104 documents, including 2 that did not use these words in the sense of "reasonable medical certainty"). The most recent search found 102 relevant documents, one from the Rules of the United States Court of Claims, see *infra* note 502, and the other 101 from 69 statutes in 37 states and the District of Columbia. In comparison with the author's search in September 1997, the 102 relevant documents found by the *Maryland Law Review* staff in October 1997 included a new statute from Oklahoma but omitted one of the statutes found by the author. The 8 states with four or more documents accounted for 54 of the 102 relevant documents: Delaware (5 documents, 4 statutes), Florida (9 documents, 8 statutes), Illinois (4 documents, 3 statutes), Maryland (5 documents, 3 statutes), Montana (6 documents, 3 statutes), New York (7 documents, 2 statutes), Ohio (14 documents, 2 statutes), and Wisconsin (4 documents, 3 statutes). Thirteen states had no relevant statutes incorporating the phrase: Alabama, Alaska, Arizona, California, Kansas, Louisiana, Michigan, Mississippi, Oregon, South Carolina, Texas, Vermont, and Washington.

502. In medical-malpractice litigation, Idaho requires that expert opinions on a defendant's failure to meet the applicable standard of practice "be testified to with reasonable medical certainty." IDAHO CODE § 6-1013 (1990). In proceedings for compensation under the federal Vaccine Act, the Vaccine Rules of the Office of Special Masters of the United States Court of Federal Claims requires that certain petitions include an affidavit "attesting, to a reasonable degree of medical certainty, that a specific Table injury occurred within the time frames of the Table or that the vaccine in-fact caused the injury alleged." CT. FED. CL. R. App. J. 2.

503. Workers' compensation legislation in six states requires proof with a "reasonable degree of medical certainty" of injuries, their occupational origin, or their extent and permanence. ARK. CODE ANN. § 11-9-102(16) (Michie 1996); FLA. STAT. ANN. § 440.09(1) (West Supp. 1997); MASS. GEN. LAWS ANN. ch. 152, § 11A (West Supp. 1997); MONT. CODE ANN. § 39-71-119(5)(b) (1995); N.D. CENT. CODE § 65-01-02(11) (Supp. 1997); WYO. STAT. ANN. § 27-14-605(c)(ii) (Michie 1997).

The Arkansas statute requiring opinions in workers' compensation proceedings with "reasonable medical certainty" was enacted in 1993, presumably at the behest of employers who had failed in their repeated attempts to persuade the state judiciary to adopt such a standard. Compare *Pittman v. Wygal Trucking Plant*, 700 S.W.2d 59, 61 (Ark. Ct. App. 1985) ("Our decisions simply have not required physicians to express opinions in terms of either a 'most likely possibility' or 'a reasonable degree of medical certainty.'") and *Hope*

jority of these statutes establish standards for decisionmaking by health care professionals in their institutional settings. The phrase appears most often in legislation involving decisions at the end of life, including advance medical directives and termination of life support.⁵⁰⁴ Other statutes establish standards for patients in special circumstances, including treatment of minors,⁵⁰⁵ emergency treatment

Brick Works v. Welch, 802 S.W.2d 476, 478 (Ark. Ct. App. 1991) (en banc) ("[I]n workers' compensation cases medical opinions need not be expressed in terms of reasonable medical certainty . . .") with Hubley v. Best Western-Governor's Inn, 916 S.W.2d 143, 146 n.1 (Ark. Ct. App. 1996) ("This proposition was legislatively changed for all injuries that occur after July 1, 1993, by virtue of Act 796 of 1993, Section 2 . . .").

In Virginia, by contrast, a 1997 amendment eliminated the phrase from the workers' compensation law, changing the standard of proof with respect to "[o]rdinary disease of life" coverage" from "clear and convincing evidence, to a reasonable medical certainty" to "clear and convincing evidence, (not a mere probability)." VA. CODE ANN. § 65.2-401 (Michie Supp. 1997).

504. The phrase appears in 44 documents within 24 statutes from 19 states: COLO. REV. STAT. ANN. § 15-18-104 (West 1997); DEL. CODE ANN. tit. 16, §§ 2501, 2505 (Supp. 1996); GA. CODE ANN. § 31-39-2 (1996); Mental Health Treatment Preference Declaration Act, 755 ILL. COMP. STAT. ANN. 43/55 (West Supp. 1997); Health Care Surrogate Act, 755 ILL. COMP. STAT. ANN. 40/20 (West 1992); IND. CODE ANN. § 16-36-4-5 (Michie 1993); IOWA CODE ANN. §§ 144A.2, 144A.3 (West Supp. 1997); KY. REV. STAT. ANN. § 311.629 (Banks-Baldwin 1994); ME. REV. STAT. ANN. tit. 18-A, § 5-804 (West Supp. 1996); Health Care Decision Act, MD. CODE ANN., HEALTH-GEN. I §§ 5-601, 5-603 (1994 & Supp. 1996); Rights of the Terminally Ill Act, NEB. REV. STAT. § 20-403 (Supp. 1996); NEB. REV. STAT. § 30-3402 (1995); N.H. REV. STAT. ANN. § 137-J:2 (1996); N.J. STAT. ANN. § 26:2H-55 (West 1996); Uniform Health-Care Decisions Act, N.M. STAT. ANN. 24-7A-4 (Michie 1978); N.Y. PUB. HEALTH LAW §§ 2963-2967, 2983 (McKinney 1993 & Supp. 1997); Uniform Rights of Terminally Ill Act, N.D. CENT. CODE § 23-06.4-07 (Supp. 1997); Durable Power of Attorney for Health Care Act, OHIO REV. CODE ANN. §§ 1337.11, .13, .15, .16, .17 (Anderson 1993 & Supp. 1996); Modified Uniform Rights of the Terminally Ill Act, OHIO REV. CODE ANN. §§ 2133.01, .02, .03, .05, .06, .08, .09, .11, .15 (Anderson 1994 & Supp. 1996); OKLA. STAT. ANN. tit. 85, § 17 (West Supp. 1997); Advance Directive for Health Care Act, 20 PA. CONS. STAT. ANN. §§ 5403, 5414 (West 1975 & Supp. 1997); S.D. CODIFIED LAWS § 34-12D-10 (Michie 1994); S.D. CODIFIED LAWS § 59-7-2.8 (Michie 1993); WYO. STAT. ANN. § 35-22-101 (Michie 1997).

505. See FLA. STAT. ANN. § 39.01 (Supp. 1997) (definition of "[n]ecessary medical treatment" to prevent the deterioration of child's condition or to alleviate immediate pain); MD. CODE ANN., EST. & TRUSTS § 13-906 (Supp. 1996) (determination of lack of capacity of infant's parent, for purpose of empowering standby guardian); N.J. STAT. ANN. § 3B:12-69 (West Supp. 1997) (same); N.Y. SURR. CT. PROC. ACT LAW § 1726 (McKinney 1996) (same); N.C. GEN. STAT. §§ 35-A1370, 1375, 1376 (1995) (same); WIS. STAT. ANN. § 146.34 (West 1989) (that risks to donor or recipient of bone marrow outweigh benefits); WIS. STAT. ANN. § 253.12 (West Supp. 1996) (that infant or child has condition resulting from adverse neonatal outcome, birth defect, or other developmental disability regarding possible monitoring).

without consent,⁵⁰⁶ mental illness,⁵⁰⁷ and abortion.⁵⁰⁸ In ten jurisdictions, medical examiners are required to determine the cause of death with "reasonable medical certainty" under particular circumstances.⁵⁰⁹ The phrase is used in criminal proceedings to describe the status of victims,⁵¹⁰ the capacity of defendants to assist in their own defense,⁵¹¹ and the eligibility of inmates for release.⁵¹² The phrase also appears in statutes governing such diverse topics as unprofessional medical conduct,⁵¹³ gestational surrogacy contracts,⁵¹⁴ disability

506. See FLA. STAT. ANN. § 393.13 (West 1993 & Supp. 1997) (developmentally disabled); FLA. STAT. ANN. § 743.064 (West 1997) (minors); MD. CODE ANN., HEALTH-GEN. I § 5-607 (1994) (general rule); NEV. REV. STAT. ANN. § 433.484 (Michie 1996) (facilities providing care for mental health, mental retardation); R.I. GEN. LAWS § 40.1-26-3 (Supp. 1996) (developmentally disabled); TENN. CODE ANN. § 63-6-222 (1990) (minors).

507. See MONT. CODE ANN. § 53-21-102 (1995) (definition); *id.* § 53-21-126 (effective July 1, 1997) (standard of proof as to mental disorders); WIS. STAT. ANN. § 51.20 (West 1987) (persons who are mentally ill and who are dangers to themselves and others); WIS. STAT. ANN. § 51.45 (West 1987 & Supp. 1996) (relationship between alcoholism and dangerous conduct).

508. See FLA. STAT. ANN. § 390.001 (West 1993 & Supp. 1997) (continuation of pregnancy would threaten life of pregnant woman); 720 ILL. COMP. STAT. ANN. 510/6 (West 1993) (that method of abortion will cause organic pain to the fetus and that anesthetic or analgesic would abolish or alleviate this pain). The historical and statutory notes to 720 ILL. COMP. STAT. ANN. 510/5 (West 1993) refer to a repealed statute that required a physician performing an abortion to certify with reasonable medical certainty that the fetus was not viable. A Missouri statute pertaining to abortion that had been repealed in 1979 was found in the 1996 search but not in the 1997 search. See MO. ANN. STAT. § 188.030 (West 1983) (that fetus is not viable).

509. See CONN. GEN. STAT. ANN. § 19a-406 (West 1986); DEL. CODE ANN. tit. 29, § 4707 (1991); D.C. CODE ANN. § 11-2306 (1995); FLA. STAT. ANN. § 406.13 (West 1993); GA. CODE ANN. § 45-16-27.1 (1990); MD. CODE ANN., HEALTH-GEN. I § 5-310 (1994); MONT. CODE ANN. § 44-3-213 (1995); NEB. REV. STAT. § 23-1822 (1991); UTAH CODE ANN. § 26-4-14 (1995); VA. CODE ANN. § 32.1-283.1 (Michie Supp. 1996).

510. See MO. ANN. STAT. § 556.061 (Supp. 1997) (determination of "serious emotional injury"); R.I. GEN. LAWS § 11-9-1.2 (1994) (determination that person depicted in film or photo is a minor).

511. See MO. ANN. STAT. § 552.020 (Supp. 1997) (lack of capacity to understand proceedings or assist in defense).

512. See FLA. STAT. ANN. § 947.149 (West 1996) (inmate terminally ill or incapacitated); KY. REV. STAT. ANN. § 532.200 (Banks-Baldwin 1994) (inmate terminally ill); TENN. CODE ANN. §§ 40-28-116, 40-35-503 (Supp. 1996) (sex offender not likely to commit sexual assaults upon release); W. VA. CODE § 27-6A-4 (Supp. 1997) (mentally ill or addicted defendant not a threat to others even if therapy discontinued).

513. See DEL. CODE ANN. tit. 24, § 1731 (1987) ("Solicitation or acceptance of a fee from a patient or other person by fraudulent representation that a manifestly incurable condition, as determined with reasonable medical certainty, can be permanently cured.").

514. See FLA. STAT. ANN. § 742.15 (West 1997) (commissioning couple is eligible to enter into enforceable contract for gestational surrogacy only if physician determines with reasonable medical certainty that the woman cannot physically gestate a pregnancy to term).

insurance,⁵¹⁵ and "supplemental needs trust" provisions linked to public assistance eligibility.⁵¹⁶

The legislators who enacted these statutes, or at least the persons who drafted them, must have assumed that the phrase "reasonable medical certainty" had some ascertainable meaning, either within the field of medicine or as a matter of law, for they made no effort to define the term within the statutes. Although dozens of statutes now include the phrase "reasonable medical certainty," only one purports to define the term, and that definition is not especially helpful.⁵¹⁷ Regardless of whether the drafters understood the phrase, however, its inclusion in these statutes will force physicians, attorneys, and judges to interpret the words "reasonable medical certainty" in various contexts well into the twenty-first century.

CONCLUSION

The phrase "reasonable medical certainty" evolved in the Chicago courtrooms through the cross-pollination of two unwholesome weeds,⁵¹⁸ the reasonable-certainty rule and the ultimate-issue rule. Goldstein's *Trial Technique* then provided the vector that enabled the phrase to escape its midwestern origins and disseminate throughout the United States. Once it had taken root in the *American Jurisprudence Proof of Facts* series, the phrase soon spread into the courtrooms of every American jurisdiction. The phrase had no intrinsic limitations and readily adapted to a variety of legal environments. Through symbiosis with indigenous legal doctrines respecting admissibility and proof, the phrase found one or more niches in every American jurisdiction and attained dominance in the legal lexicon of several

515. See HAW. REV. STAT. ANN. § 431.10-211.5 (Michie 1994) (certificate from physician attesting to insured's condition).

516. See MINN. STAT. ANN. § 501B.89 (West Supp. 1997).

517. See MONT. CODE ANN. § 53-21-102(12) (1995). When used as the standard of proof for mental disorders under § 53-21-126 of the Montana Code, § 53-21-102(12) provides that "reasonable medical certainty" means reasonable certainty as judged by the standards of a professional person."

518. The "weed" metaphor is consistent with the following comment by Stephen Jay Gould: "If we want a biological metaphor for cultural change, we should probably invoke infection rather than evolution." Gould, *supra* note 26, at 52. Although viral infection might have been an especially appropriate (or ironic) metaphor for describing the spread of "reasonable medical certainty," it seemed an unduly morbid and overly dramatic response to the "threat" posed by this phrase in comparison with the truly tragic impact of AIDS. The weed metaphor better captures the role of this phrase in the legal ecosystem.

I thank my father-in-law, historian of science L. Pearce Williams, for his nomination of kudzu as the archetype of an opportunistic weed that proliferated after being intentionally introduced into areas outside its native habitat. Informal Conversation with L. Pearce Williams, in Ithaca, N.Y. (July 1997).

states.⁵¹⁹ When the demise of the ultimate-issue rule eliminated its role in the legal ecology of Illinois, the phrase obtained a new meaning to assure its continued presence in that state. The phrase even propagated beyond the domain of the common law into the realm of statutes.

The curious history of the genesis and dissemination of “reasonable medical certainty” cannot by itself give rise to a comprehensive theory of legal evolution.⁵²⁰ This example suggests, however, that any theory of legal evolution should move beyond the view of “law” as a unitary entity interacting with society and should consider the legal system itself as a nonlinear dynamical system that evolves through the complex interplay of its components.⁵²¹

This Article’s search for the origins of “reasonable medical certainty” focused primarily on the legal context in which the phrase was employed, i.e., expert witness examination. Within this context, the inquiry demonstrated the dynamic interaction of legal practice and legal doctrine. The usage arose in Illinois from practitioners’ efforts to comply with two arbitrary local rules. It then spread throughout the United States as a result of practitioners’ decisions to use a phrase that bore the imprimatur of legal approval by copying the models provided in Goldstein’s manual. Finally, judges incorporated the phrase into legal doctrine by employing this familiar usage to describe existing rules relating to admissibility and proof.

In addition to demonstrating the dynamic interaction of legal practice and legal doctrine, this study illustrates the influence of practical as opposed to scholarly legal publications. When not writing solely for other academics,⁵²² legal scholars often seek to shape the

519. The phrase thus exhibited what evolutionary biologists refer to as “adaptive radiation,” the differentiation of a species to fill multiple niches in an ecosystem. See Ruhl, *supra* note 37, at 1435.

520. It took Charles Darwin five years of empirical study plus additional years of thought to generate his theory of natural selection through differential survival, which constitutes the first leg of biological evolutionary theory. To paraphrase Lloyd Bentsen, “I’m no Charles Darwin,” so I’ll leave the task of formulating a general theory of legal evolution to others more capable than myself.

521. The components of the legal system may be characterized according to various schemas, depending on the topic under study. The components that influence the evolution of common law doctrine may not be relevant to the evolution of constitutional or statutory rules.

522. One strand of criticism leveled against American legal scholarship has complained that too many law review articles are written for an academic audience and ignore issues of interest to the profession. See Harry T. Edwards, *The Growing Disjunction Between Legal Education and the Legal Profession*, 91 MICH. L. REV. 34, 42 (1992) (“The growing disjunction between legal education and legal practice is most salient with respect to scholarship. There has been a clear decline in the volume of ‘practical’ scholarship published by law

law by influencing decisions of courts, legislatures, and administrative agencies.⁵²³ In the academy, doctrinal articles are supposed to be prescriptive.⁵²⁴ Academics denigrate descriptive doctrinal works that are

professors."); Judith S. Kaye, *One Judge's View of Academic Law Review Writing*, 39 J. LEGAL EDUC. 313, 320 (1989) ("[A]cademic writing is now distinctly directed toward the theoretician/scholar and not the problem-solver/practitioner and judge. The concern that academics are writing for each other is indeed well founded." (footnote omitted)). For responses to Judge Edwards's polemic, see Symposium, *Legal Education*, 91 MICH. L. REV. 1921, 1921-2219 (1993). For another perspective, see Meir Dan-Cohen, *Listeners and Eavesdroppers: Substantive Legal Theory and Its Audience*, 63 U. COLO. L. REV. 569, 589-91 (1992), which analogizes scholarly discourse to dialogue in a play and asserts that although the discourse ultimately is directed to an audience of practitioners and judges, the scholarly mission is best served when academics ignore the audience and concentrate on the integrity of the dialogue with other academics.

523. See Justice Dennis Archer, *The Importance of Law Reviews to the Judiciary and the Bar*, 1991 DET. C.L. REV. 229, 229 (focusing on the use of academic writing by appellate courts as an influence in deciding cases where traditional legal authority fails); Edwards, *supra* note 522, at 42-43 (pointing out the decline in "practical" scholarship published by law professors); Robert W. Gordon, *Lawyers, Scholars, and the "Middle Ground"*, 91 MICH. L. REV. 2075, 2102-03, 2111-12 (1993) ("Most scholars continue to assume that the managers of the legal system want the system to work justly and efficiently and to serve its best purposes; and that when deficiencies are pointed out, and rational arguments made for amendment, concerned lawyers will respond with dialogue and collaborate in the reform effort . . ."); Bernard S. Meyer, *Is There Cause for Jubilee?*, 50 MD. L. REV. 227, 229-30 (1991) (advocating for law review articles that discuss "what the law is and what it should be"); Roger C. Park, *Evidence Scholarship, Old and New*, 75 MINN. L. REV. 849, 866-67 (1991) ("Doctrinal scholars write for an intended audience of lawmakers, not primarily for other scholars."); William L. Reynolds, *A Half Century of the Maryland Law Review*, 50 MD. L. REV. 239, 250-52 (1991) (discussing the local influence of law review survey issues on state law); Edward L. Rubin, *What Does Prescriptive Legal Scholarship Say and Who Is Listening to It: A Response to Professor Dan-Cohen*, 63 U. COLO. L. REV. 731, 732-36 (1992) [hereinafter Rubin, *Prescriptive Legal Scholarship*] ("Standard legal scholarship defines its approach as a set of prescriptions addressed to public decisionmakers."); Edward L. Rubin, *The Practice and Discourse of Legal Scholarship*, 86 MICH. L. REV. 1835, 1850-51, 1900-05 (1988) [hereinafter Rubin, *Practice and Discourse*] ("Standard legal scholarship is typically directed toward a judge, and occasionally to a legislator, administrator, or equivalent public decision-maker."); *A Symposium on Law Reviews in a Neighboring Journal*, 1 MD. L. REV. 59, 61-62 (1936) (reviewing a law review article on law reviews).

524. See Archer, *supra* note 523, at 236 ("After all, what is the sense of spending hundreds of hours, and an equal number of footnotes for authority, preparing an article for publication if there is not at least some degree of hope that it will have an impact on the development of the law."); Edwards, *supra* note 522, at 42-43 (emphasizing the prescriptive feature of practical legal scholarship); Gordon, *supra* note 523, at 2102-03, 2111-12 ("It makes no sense to write prescriptively unless one has some audience of practical actors in mind."); Park, *supra* note 523, at 865-66 ("Doctrinal scholarship is usually prescriptive, that is, doctrinal scholarship advocates law reform."); Rubin, *Prescriptive Legal Scholarship*, *supra* note 523, at 732-36 (advocating for continuing the prescriptive nature of legal scholarship); Rubin, *Practice and Discourse*, *supra* note 523, at 1850-53, 1879-81, 1900-05 (discussing the prescriptive nature of legal scholarship). Other scholars critique normative legal scholarship. See Pierre Schlag, *Clerks in the Maze*, 91 MICH. L. REV. 2053, 2073 (1993) ("[D]eficits in ontological condition will prompt epistemological and normative endeavors as compensation for those ontological deficits, and simultaneously render these normative and epistemological endeavors entirely ineffectual in correcting those ontological deficits.")

directed toward practitioners,⁵²⁵ while practice manuals do not even qualify as legal scholarship.⁵²⁶ The instant study, by contrast, provides an example of a practitioner-oriented manual that had a significant impact on American legal doctrine.

Dean John Henry Wigmore was among America's most influential academic legal scholars. He stood head and shoulders above the other luminaries whose efforts to modernize American evidence law bore fruit in the Federal Rules of Evidence.⁵²⁷ In the shorter run of his own lifetime, however, Wigmore could not convince the Illinois courts to abandon their incoherent adherence to the reasonable-certainty and ultimate-issue rules.

(emphasis omitted)); Pierre Schlag, *Normative and Nowhere to Go*, 43 STAN. L. REV. 167, 187 (1990) ("[N]ormative legal thought" reflects "metaphysical confusion" insofar as "[i]t keeps thinking that it is addressing some morally competent, well-intentioned individual who has his hands on the levers of power."); Pierre Schlag, *Normativity and the Politics of Form*, 139 U. PA. L. REV. 801, 931 (1991) ("Normative legal thought is that inseparable aspect of bureaucratic practice that persists in mistakenly thinking that it is separate and distinct and then compounds this error by thinking that it rules over bureaucratic practice."); Mark V. Tushnet, *Legal Scholarship: Its Causes and Cure*, 90 YALE L.J. 1205, 1216 (1981) ("[T]he marginality of contemporary legal scholarship results from the combined pressures of professionalism, the desire to support the rule of law, and the attempt to escape the implications of Realism"). *But see* Frank I. Michelman, *Politics as Medicine: On Misdiagnosing Legal Scholarship*, 90 YALE L.J. 1224, 1228 (1981) ("[I]ntellectual cowardice—including not least the refusal to face honestly the problem of subjectivity in law—is a vice; but the name of the vice is 'cowardice,' not 'liberalism.'"); Margaret Jane Radin & Frank Michelman, *Pragmatist and Poststructuralist Critical Legal Practice*, 139 U. PA. L. REV. 1019, 1057 (1991) ("[T]he conceptual truth that each and every normative project is liable to deconstruction no longer works as a foundational objection against engagement in such projects; it becomes just one more problem to be understood and negotiated.").

525. *See* Park, *supra* note 523, at 865-66 ("[T]o be recognized as a creative doctrinal scholar and to avoid being stigmatized as a mere drudge, one must not only describe the law, but offer an affirmative thesis, an idea for reform or reconceptualization."); Frederick Schauer, *Judicial Self-Understanding and the Internalization of Constitutional Rules*, 61 U. COLO. L. REV. 749, 753 (1990) ("[T]he term 'descriptive' has taken on such a pejorative connotation for anyone who has ever attended a law school faculty meeting in which faculty appointments were the issue."). Another commentator notes:

[P]ure description rarely counts as an academic contribution these days, because scholars do not believe that they are describing a process that runs parallel to scholarly analysis. As a result, essentially descriptive treatises are no longer regarded as leading academic contributions, and they are certainly not regarded as the apogee of scholarly achievement.

Rubin, *Practice and Discourse*, *supra* note 523, at 1864.

526. *See* Kenneth Lasson, Commentary, *Scholarship Amok: Excesses in the Pursuit of Truth and Tenure*, 103 HARV. L. REV. 926, 936, 941-42 (1990) ("Often neither briefs nor practice manuals—no matter how learned or useful—are considered 'scholarship.'").

527. *See* Peter Tillers, *Intellectual History, Probability, and the Law of Evidence*, 91 MICH. L. REV. 1465, 1490 (1993) ("If any evidence scholar from the past still influences evidence scholarship and the law of evidence today, it is Wigmore.").

Laboring in the shadow of Dean Wigmore, Irving Goldstein held more modest ambitions. Having learned the incantation that would propitiate the savage gods of the Illinois judiciary, Goldstein sought to share this practical skill with his colleagues in the bar. Where the Dean had failed, the adjunct instructor in trial advocacy triumphed. Goldstein had not sought to influence legal doctrine, yet his manual had the unintended consequence of adding a new phrase to the American legal lexicon, one that acquired doctrinal significance in a number of jurisdictions.⁵²⁸

To be sure, Goldstein's impact on this small corner of the law cannot compare with Wigmore's profound influence on both the theoretical structure and the particular doctrinal forms of modern evidence law. Nevertheless, the ubiquity of the phrase "reasonable medical certainty" constitutes concrete evidence of Goldstein's pervasive influence on American trial practice. Goldstein's influence cannot be evaluated in terms of the number of citations to his work in legal periodicals or judicial opinions, a commonly employed measure of scholarly impact,⁵²⁹ because he wrote his manual for litigators, not professors or judges. Goldstein's influence was complex and indirect, operating on litigators' cognitive background as well as their concrete practices.⁵³⁰ In the absence of more direct indicators, the phrase "reasonable medical certainty" functions like a radioactive isotope, enabling us to trace the influence of Goldstein's manual on the conduct of trials and on the teaching of trial technique.

528. This singular example of a practitioner-oriented work affecting both legal practice and legal doctrine suggests a potentially fruitful line of research for legal historians. A study assessing the influence of practitioner-oriented legal materials might determine whether this example provides a meaningful insight into the impact of such works or instead represents an isolated occurrence.

529. *E.g.*, William M. Landes & Richard A. Posner, *The Influence of Economics on Law: A Quantitative Study*, 36 J.L. & ECON. 385, 389 (1993); John Henry Merryman, *Toward a Theory of Citations: An Empirical Study of the Citation Practice of the California Supreme Court in 1950, 1960, and 1970*, 50 S. CAL. L. REV. 381, 382 (1977); John Scurlock, *Scholarship and the Courts*, 32 UMKC L. REV. 228, 228-29 (1964); Fred R. Shapiro, *The Most-Cited Law Review Articles*, 73 CAL. L. REV. 1540, 1549-54 (1985); Fred R. Shapiro, *The Most-Cited Law Review Articles Revisited*, 71 CHI.-KENT L. REV. 751, 751 (1996); Louis J. Sirico, Jr. & Beth A. Drew, *The Citing of Law Reviews by the United States Courts of Appeals: An Empirical Analysis*, 45 U. MIAMI L. REV. 1051, 1051 (1991); Louis J. Sirico, Jr. & Jeffrey B. Margulies, *The Citing of Law Reviews by the Supreme Court: An Empirical Study*, 34 UCLA L. REV. 131, 131-32 (1986). Even as a measure of the direct impact of legal scholarship, the reliability of citation counting remains controversial. *See generally* Arthur Austin, *The Reliability of Citation Counts in Judgments on Promotion, Tenure, and Status*, 35 ARIZ. L. REV. 829 (1993).

530. *Cf.* Rubin, *Prescriptive Legal Scholarship*, *supra* note 523, at 750 ("Because influence is complex and indirect, and operates upon the decisionmaker's cognitive background, it is rarely acknowledged by direct citation.").

The fact that attorneys throughout the United States were slavishly imitating Goldstein's examples of hypothetical questions demonstrates that his book was not languishing unread on their shelves. It further suggests that attorneys accepted his premise that trial technique was a practical skill that could be developed through study and preparation,⁵³¹ in contrast to the prevailing view of trial advocacy as an innate aptitude or an arcane art that could be acquired only through experience.⁵³² Coupled with his "learning-by-doing" seminars,⁵³³ Goldstein's *Trial Technique* had a substantial impact on litigation practice in the middle years of the twentieth century and established the foundation for the NITA revolution of the 1970s.⁵³⁴ A token of Goldstein's legacy, the phrase "reasonable medical certainty" continues to influence the outcome of litigation, and its incorporation into dozens of statutes will assure its importance to American law into the next century.

The foregoing account explains the creation and dissemination of the phrase as the result of a sequence of historical accidents involving the interplay of legal practice, legal doctrine, and practical legal publications, in which the actual language of the phrase played only a secondary role. Indeed, the history suggests that the principal significance of the particular verbal formula was its adaptability insofar as the phrase "reasonable medical certainty" lacked any definitive intrinsic meaning.

This doctrinal history may be enriched, however, by a semantic analysis of the phrase with respect to contemporaneous jurispruden-

531. In Goldstein's words, "[w]ith every phase of proof illustrated, it will be found that trial practice has almost been reduced to a formula, and that most of the formulas are contained herein." GOLDSTEIN, *supra* note 34, at vii.

532. See, e.g., McElhaney, *supra* note 344, at 198 ("The popular concept is that trial advocacy is an art form, not thoroughly founded in learning or reason, in which the gift of persuasion is of paramount importance . . ."). According to a 1950 article in *Collier's Magazine*, Goldstein himself confronted this attitude prior to the creation of his Lawyers' Post-Graduate Clinics:

In need of employment [following a prolonged illness, during which TRIAL TECHNIQUE was written and published], and with a family to support, he approached the dean of [a law school] . . . and asked for a job as an instructor.

"What do you want to teach?" the dean asked.

"I have a new angle on how to teach trial technique."

"Nonsense," said the dean. "No one can teach that . . . it has to be learned!"

Komaiko, *supra* note 216, at 35.

533. See *supra* note 230.

534. See *supra* note 344. Thomas Mauet attended one of the seminars conducted by Goldstein's protégé, Fred Lane, and Mauet acknowledged Lane's influence in the preface to his first edition of *Fundamentals of Trial Technique*. MAUET, *supra* note 344, at xii. Without in any way disparaging the originality of Mauet's contribution, the organization and style of his book, as well as its title, bear witness to the influence of Goldstein's manual.

tial issues,⁵³⁵ especially the critique offered by Legal Realism.⁵³⁶ Consideration of the phrase "reasonable medical certainty" in light of the Realist challenge to legal orthodoxy suggests that the rhetorical effect of this particular verbal formulation probably contributed to the rapidity of its acceptance by the bar and by the judiciary.

The Realists challenged the "basic myth" of legal certainty, the popular perception that law consists of rules that could, if properly understood, be applied with certainty and predictability.⁵³⁷ Any phrase containing the word "certainty" would have been congenial to attorneys and judges who accepted the myth of legal certainty,⁵³⁸ especially those who were discomfited by the Realist challenge. In addition, the reference to "medical certainty" implicitly embraced the prevailing view of medical science as an exogenous source of objective and fixed truths in a rapidly modernizing and increasingly uncertain world.⁵³⁹ Finally, the qualifier "reasonable" featured prominently in American legal language of the era and would have been acceptable

535. From a broader perspective, legal doctrine and legal practice interact not only with each other and with jurisprudential theory, but also with the rest of society. Law is not an autonomous institution but rather remains enmeshed in the web of human institutions—social, cultural, political, and economic—from which it emerges. A comprehensive intellectual history of the period is beyond the scope of this Article, which focuses on the interaction among components of the legal system. (It would also exceed the scope of this author's competence. My wife is the intellectual and political historian in the family. See generally Alison Williams Lewin, *The Great Triangle: Florence, Naples, and the Roman Papacy in the Late Fourteenth Century*, 77 NUOVA RIVISTA STORICA 257 (1993) (obligatory reference for padding of spousal citation count); Alison Williams Lewin, "Cum Status Ecclesie Noster Sit": Florence and the Council of Pisa (1409), 62 CHURCH HIST. 178 (1993) (same); cf. Austin, *supra* note 529, at 831-33 (questioning the validity of citation counting).)

536. See NEIL DUXBURY, PATTERNS OF AMERICAN JURISPRUDENCE 65-159 (1995) (assessing the evolution and paradoxical impact of legal realism in the twentieth century). For examples of Legal Realism, see JEROME FRANK, LAW AND THE MODERN MIND (3d prtg. 1935), and K.N. LLEWELLYN, THE BRAMBLE BUSH: ON OUR LAW AND ITS STUDY (3d prtg. 1965).

537. According to Frank, the "basic myth" underlying popular mistrust of lawyers is the "belief that the lawyers complicate the law, and complicate it wantonly and unnecessarily, that, if the legal profession did not interpose its craftiness and guile, the law could be clear, exact and certain." FRANK, *supra* note 536, at 5. The index to *Law and the Modern Mind* lists 35 entries for "certainty" and another 19 for "uncertainty." *Id.* at 363, 368. Duxbury explains:

The realist reaction against legal formalism was not straightforwardly a reaction against the idea of legal certainty, but rather a reaction against the particular certainties which formalism promoted. Legal realism sought a qualitatively different type of certainty—certainty, that is, in the form of a purported juridical authenticity; and this it did by looking to the social sciences.

DUXBURY, *supra* note 536, at 96-97.

538. "Lawyers do not merely sustain the vulgar notion that law is capable of being made entirely stable and unvarying; they seem bent on creating the impression that, on the whole, it is already established and certain." FRANK, *supra* note 536, at 7.

539. In Appendix III, "Science and Certainty: An Unscientific Conception of Science, of Law and the Modern Mind," Frank noted:

to both Traditionalists and Realists. While Traditionalists embraced the “reasonable man” of contracts and torts as an objective standard, Realists welcomed the flexibility afforded by vague and fact-dependent standards of “reasonableness.”⁵⁴⁰ Not surprisingly, the word “reasonable” and the related terms “unreasonable,” “(un)reasonably,” and “(un)reasonableness” featured prominently in both the *Restatements of the Law* and the *Uniform Commercial Code*. In sum, the phrase “reasonable medical certainty” resonated harmoniously with contemporaneous jurisprudential themes, thereby facilitating its adoption as a formula for witness interrogation and as a legal standard of admissibility and proof.

The history of the genesis and dissemination of the phrase “reasonable medical certainty” validates the conception of law as a complex adaptive system. The phrase evolved through the dynamical interaction of legal doctrines, legal practices, legal publications, and legal theories. Viewed through the lens of Complexity Theory, the evolution of the phrase exemplifies three key features of a complex adaptive system: chaos, path dependence, and the stability of suboptimal local equilibria.

The history of the genesis and dissemination of the phrase “reasonable medical certainty” illustrates the role of contingency in the evolution of legal practice and legal doctrine. The phrase arose in response to pressures generated by efforts of Illinois attorneys to accommodate the conflicting demands of two arbitrary and inconsistent

[U]nfortunately, to many persons, science is a charter of certainty, a technique which ere long will give man complete control and sovereignty over nature. Science seems to hold out an expectation that ultimately man will gain total relief from uncertainty and procure elimination of chance.

Id. at 285 app. III. This dualist view of objective science in opposition to the subjectivity of other social institutions withstood the Realist critique, and it persists today despite the growing recognition that science is a socially constructed institution. See JASANOFF, *supra* note 82, at xiii-xiv (“The institutional setting of the law shapes the representation of legally relevant scientific claims at many points, beginning with the articulation of standards for what counts as valid science within the legal process.”). Witness the controversy generated by physicist Alan Sokal’s publication of a parody of postmodern criticism in the journal *Social Text*. See Alan D. Sokal, *Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity*, SOC. TEXT, Spring-Summer 1996, at 217 (sketching the outlines of the theory of quantum gravity and its cultural and political implications); accord Alan D. Sokal, *A Physicist Experiments with Cultural Studies*, LINGUA FRANCA, May-June 1996, at 62 (explaining his experiment to publish an article of nonsense); Steven Weinberg, *Sokal’s Hoax*, N.Y. REV. BOOKS, Aug. 8, 1996, at 11 (discussing the meaning behind the hoax); *Sokal’s Hoax: An Exchange*, N.Y. REV. BOOKS, Oct. 3, 1996, at 54, 54-56 (publishing letters in response to Weinberg’s article).

540. See, e.g., Imad D. Abyad, Note, *Commercial Reasonableness in Karl Llewellyn’s Uniform Commercial Code Jurisprudence*, 83 VA. L. REV. 429, 441-42 (1997) (noting that terms such as “reasonableness” in the U.C.C. allow for a “vagueness in the law [that] can be useful”).

rules that were promulgated almost simultaneously by the Illinois Supreme Court. The phrase seems to have emerged by chance when an attorney misused the terminology of the reasonable-certainty rule pertaining to future damages in the course of interrogating a witness with respect to causation, and the Illinois Supreme Court then implicitly endorsed this usage in the course of explaining why the question violated the ultimate-issue rule.⁵⁴¹ The phrase then spread throughout the nation as a consequence of its fortuitous incorporation in a best-selling manual on trial technique. Once attorneys and judges became habituated to the phrase, it gradually insinuated itself into existing doctrines respecting admissibility and proof, more by chance than by deliberate judicial choice.

This history also illustrates the stability of local equilibria and the path dependence of legal evolution. Even after the Illinois courts abolished the ultimate-issue rule that gave rise to the phrase, local attorneys continued to employ the phrase in the interrogation of physicians,⁵⁴² and the Illinois courts eventually discovered a new role for the phrase as an indicator of the reliability of expert opinions.⁵⁴³ In other jurisdictions, attorneys persisted in using the phrase even after their highest courts held that it was unnecessary.⁵⁴⁴ The combination of its widespread usage, its continual republication in the *Proof of Facts* series, and its regular inclusion in judicial opinions have irreversibly

541. See *Fellows-Kimbrough v. Chicago City Ry. Co.*, 111 N.E. 499, 502 (Ill. 1916); see also *supra* notes 105-138, 152-160 and accompanying text.

542. See *supra* notes 451-460 and accompanying text.

543. See *supra* notes 461-467 and accompanying text. Although these transformations occurred over the course of decades rather than centuries, this aspect of the history bears out Holmes' oft-quoted observation:

The customs, beliefs, or needs of a primitive time establish a rule or a formula. In the course of centuries the custom, belief, or necessity disappears, but the rule remains. The reason which gave rise to the rule has been forgotten, and ingenious minds set themselves to inquire how it is to be accounted for. Some ground of policy is thought of, which seems to explain it and to reconcile it with the present state of things; and then the rule adapts itself to the new reasons which have been found for it, and enters on a new career. The old form receives a new content

HOLMES, *supra* note 25, at 5; accord *supra* note 25.

544. For example, in *Matott v. Ward*, 399 N.E.2d 532, 534-36 (N.Y. 1979), the court refused to confine witnesses to a "single verbal straightjacket" and held that the physician's opinion, "though not solicited or expressed in terms of the particular combination of magical words represented by the phrase 'reasonable degree of medical certainty', conveyed equivalent assurance that it was not based on either supposition or speculation." Despite the court's permission to forego use of the phrase, attorneys have continued to employ it. The phrase has appeared in over 100 subsequent opinions from the New York courts. Search of WESTLAW, Ny-cs Database (Feb. 19, 1998) ("reasonable medical certainty" "reasonable degree of medical certainty" & da(aft 1979 & bef 1997)) (retrieving 115 cases).

altered the legal landscape, preserving the stability of the phrase in practice and in doctrine.⁵⁴⁵ Attorneys habituated to the phrase in practice are unlikely to question its appropriateness once they reach the bench. Moreover, even if judges throughout the nation were to forbid attorneys from using the phrase in their courtrooms, the phrase would survive by virtue of its incorporation in dozens of statutes.⁵⁴⁶

Finally, this history tends to refute the functionalist or adaptationist notion that appropriate (or efficient) legal rules inevitably evolve as the legal system progressively adapts to changing social needs.⁵⁴⁷ The phrase "reasonable medical certainty" was not a logical or natural solution to the dilemma posed by the inconsistency between the reasonable-certainty and ultimate-issue rules. Rather, the phrase emerged through incremental adaptation of existing forms. Similarly, the phrase was incorporated into legal doctrine not because it best served certain instrumental purposes, but by virtue of the judiciary's uncritical acceptance of a prevailing usage. Having no intrinsic meaning, the phrase was not especially well-suited to its eventual dual roles as a standard of admissibility and a standard of proof.⁵⁴⁸ Both as a mode of interrogation and as a standard of admissibility or proof, the phrase "reasonable medical certainty" was "jury-rigged from a limited set of available components,"⁵⁴⁹ and thus represents a "Panda's Thumb" of legal evolution, "a contraption, not a lovely contrivance."⁵⁵⁰ While each step along the path involved conscious decisions by attorneys, authors, and judges, it would be far more accurate to describe the current usages and doctrines that embody the phrase as artifacts of evolution than as products of intentional design. Thus did the weed of "reasonable medical certainty" take root in the American soil.

545. Insofar as the very pervasiveness of the phrase encourages unquestioning acceptance of the usage and the associated doctrines, the history of the phrase may exemplify Roe's "strong form" of path dependence. *See supra* note 57.

546. *See supra* notes 501-517 and accompanying text.

547. *See supra* note 26.

548. The author will elaborate on this point in the sequel to this Article. *See supra* note 22.

549. GOULD, *supra* note 26, at 20.

550. *Id.* at 24.

APPENDIX A
 NUMBER OF OPINIONS CONTAINING THE PHRASE
 "REASONABLE (DEGREE OF) MEDICAL CERTAINTY"
 (not including variants)

NUMBER OF OPINIONS				NUMBER OF OPINIONS			
Year	State	Federal	Total	Year	State	Federal	Total
1930	0	0	0	1964	35	1	36
1931	1	0	1	1965	40	5	45
1932	0	0	0	1966	46	7	53
1933	1	1	2	1967	52	9	61
1934	3	0	3	1968	57	9	66
1935	0	0	0	1969	68	12	80
1936	0	0	0	1970	54	8	62
1937	3	0	3	1971	62	7	69
1938	1	0	1	1972	70	8	78
1939	1	1	2	1973	61	4	65
1940	0	1	1	1974	72	7	79
1941	4	0	4	1975	68	2	70
1942	1	0	1	1976	61	7	68
1943	1	0	1	1977	61	9	70
1944	6	0	6	1978	72	4	76
1945	2	0	2	1979	83	9	92
1946	3	0	3	1980	87	16	103
1947	5	0	5	1981	124	18	142
1948	4	0	4	1982	117	20	137
1949	4	0	4	1983	122	23	145
1950	4	0	4	1984	122	18	140
1951	4	0	4	1985	132	22	154
1952	3	0	3	1986	140	23	163
1953	11	0	11	1987	157	23	180
1954	6	1	7	1988	142	33	175
1955	10	2	12	1989	165	61	226
1956	13	2	15	1990	169	80	249
1957	6	1	7	1991	198	90	288
1958	18	2	20	1992	185	93	278
1959	19	1	20	1993	239	62	301
1960	29	4	33	1994	219	60	279
1961	30	3	33	1995	255	52	307
1962	28	8	36	1996	217	67	284
1963	36	3	39				

Based on opinions available in WESTLAW's Allstates, Allstates-old, Allfeds, and Allfeds-old Databases (search terms = "reasonable medical certainty" or "reasonable degree of medical certainty").

APPENDIX B

NUMBER OF OPINIONS (state courts only)
CONTAINING THE PHRASE
"REASONABLE (DEGREE OF) MEDICAL CERTAINTY"
AND DATE OF FIRST OPINION DOCUMENTING ITS USE
(state or federal court)

<u>Jurisdiction</u>	<u>Opinions</u>	<u>First Use</u>	<u>Jurisdiction</u>	<u>Opinions</u>	<u>First Use</u>
Alabama	40	1967	Montana	55	1962
Alaska	19	1967	Nebraska	176	1961
Arizona	63	1960	Nevada	4	1988*
Arkansas	58	1960	New Hampshire	5	1970
California	65	1955	New Jersey	50	1946
Colorado	29	1969*	New Mexico	12	1962
Connecticut	30	1962*	New York	197	1944
Delaware	29	1965	North Carolina	58	1956
District of Columbia	49	1961*	North Dakota	53	1960
Florida	116	1958	Ohio	459	1949
Georgia	38	1965*	Oklahoma	13	1957
Hawaii	16	1962	Oregon	13	1990
Idaho	40	1958	Pennsylvania	414	1955*
Illinois	346	1931	Rhode Island	40	1953
Indiana	62	1948	South Carolina	21	1959
Iowa	36	1961	South Dakota	26	1965
Kansas	41	1959	Tennessee	217	1965
Kentucky	21	1962	Texas	75	1944
Louisiana	77	1959	Utah	9	1967
Maine	13	1958	Vermont	7	1967
Maryland	81	1963	Virginia	86	1966
Massachusetts	50	1961	Washington	46	1954
Michigan	32	1941	West Virginia	35	1961*
Minnesota	74	1945	Wisconsin	196	1947
Mississippi	29	1963	Wyoming	19	1967
Missouri	277	1945			

*indicates first use in a federal court opinion

ERRATA

Please substitute the following for footnote 523 and the portion of footnote 524 appearing on page 495 of Volume 57, Number 2.

523. See Justice Dennis Archer, *The Importance of Law Reviews to the Judiciary and the Bar*, 1991 DET. C.L. REV. 229, 229 (exploring “the use of academic writing by appellate courts as a tool for deciding cases”); Robert W. Gordon, *Lawyers, Scholars, and the “Middle Ground,”* 91 MICH. L. REV. 2075, 2102-03, 2111-12 (1993) (“Yet clearly the most important of those constituencies remain the managers of the legal system—judges, lawyers, legislators, administrators, policy and advocacy groups, social movements, and so forth. To this day the overwhelming bulk of what appears in the law reviews is . . . ‘prescriptive’ scholarship, scholarship that makes a normative argument to some set of hypothesized legal decisionmakers to analyze and address some legal problem in the recommended way.”); Bernard S. Meyer, *Is There Cause for Jubilee?*, 50 MD. L. REV. 227, 229-30 (1991) (advocating for law review articles that discuss “what the law is and what it should be”); Roger C. Park, *Evidence Scholarship, Old and New*, 75 MINN. L. REV. 849, 866-67 (1991) (“Doctrinal scholars write for an intended audience of lawmakers, not primarily for other scholars.”); William L. Reynolds, *A Half Century of the Maryland Law Review*, 50 MD. L. REV. 239, 250-52 (1991) (endorsing legal scholarship that addresses the legal aspects of national and local social problems); Edward L. Rubin, *What Does Prescriptive Legal Scholarship Say and Who Is Listening to It: A Response to Professor Dan-Cohen*, 63 U. COLO. L. REV. 731, 732-36 (1992) [hereinafter Rubin, *Prescriptive Legal Scholarship*] (“Standard legal scholarship defines its approach as a set of prescriptions addressed to public decisionmakers.”); Edward L. Rubin, *The Practice and Discourse of Legal Scholarship*, 86 MICH. L. REV. 1835, 1847-53 (1988) [hereinafter Rubin, *Practice and Discourse*] (“[T]he most distinctive feature of standard legal scholarship is its prescriptive voice, its consciously declared desire to improve the performance of legal decision-makers. . . . Standard legal scholarship is typically directed toward a judge, and occasionally to a legislator, administrator, or equivalent public decision-maker.”); *A Symposium on Law Reviews in a Neighboring Journal*, 1 MD. L. REV. 59, 61-62 (1936) (“providing lawyers with better briefs than they have time to work up themselves may result in better legal rules”). *But see* Edwards, *supra* note 522, at 42-43 (lamenting the decline in the volume of “practical” legal scholarship that is both doctrinal and prescriptive).

524. See Archer, *supra* note 523, at 236 (“After all, what is the sense of spending hundreds of hours, and an equal number of footnotes for authority, preparing an article for publication if there is not at least some degree of hope that it will have an impact on the development of the law.”); Gordon, *supra* note 523, at 2102-03 (“Law review articles are, basically, briefs.”); Park, *supra* note 523, at 865-66 (“Doctrinal scholarship is usually *prescriptive*, that is, doctrinal scholarship advocates law reform.”); Rubin, *Prescriptive Legal Scholarship*, *supra* note 523, at 732-36 (asserting that academics continue to play a unique role in the production of normative legal scholarship); Rubin, *Practice and Discourse*, *supra* note 523, at 1891-95, 1900-05 (“The most promising discourse for standard legal scholarship, therefore, is . . . prescriptive arguments based on consciously acknowledged normative positions.”). *But see* Edwards, *supra* note 522, at 46-57 (lamenting the decline of practical legal scholarship). Some critical legal scholars view normative legal scholarship as theoretically incoherent rationalizations for the status quo. See Pierre Schlag, *Clerks in the Maze*, 91 MICH. L. REV. 2053, 2073 (1993) (“[D]eficits in ontological condition will prompt epistemological and normative endeavors as compensation for those ontological deficits, and simultaneously render these normative and epistemological endeavors entirely ineffectual in correcting those ontological deficits.”)