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Alfred R. Politzer

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GEORGIA'S CODIFICATION OF DAUBERT: NARROWING THE ADMISSION OF NOVEL SCIENTIFIC EVIDENCE IN GEORGIA?

INTRODUCTION

Trial courts increasingly face the challenge of determining when novel scientific evidence "has passed from the stage of scientific doubt and inquiry" to an admissible "stage of scientific reliability."¹ The federal and Georgia standards of admissibility for novel scientific evidence are similar in that they each require a direct showing, although to a different degree, that the evidence is scientifically reliable.² Federal courts utilize the Daubert standard of relevance and reliability to determine whether novel scientific evidence is admissible.³ Prior to the codification of Daubert in Georgia, Georgia courts used the Harper "verifiable certainty" standard, which assigns a basic gatekeeping role for trial judges to determine whether novel scientific evidence is admissible.⁴ However, Georgia courts generally maintain a liberal standard in admitting expert testimony.⁵ Even Georgia's stricter Harper standard for admitting scientific evidence is more lenient than the federal Daubert standard.⁶ Georgia's legislature addressed this discrepancy in the recently enacted statute governing expert testimony in civil

¹ Paul S. Milich, Georgia Rules of Evidence § 15.9 (2d ed., West Group 2002) [hereinafter Georgia Rules].
⁴ Harper v. State, 292 S.E.2d 389, 395 (Ga. 1982) (requiring a relatively higher level of scrutiny when determining the admissibility of scientific evidence); Georgia Rules, supra note 1, at § 15.9.
⁵ Georgia Rules, supra note 1 at § 15.4; see also Barrow v. State, 221 S.E.2d 416, 419 (Ga. 1975) (providing that the opinions of experts are admissible "on any question of science, skill, trade, or like questions").
⁶ See Mary Donne Peters, The New Rules Regarding Admissibility of Expert Testimony in Georgia, in The New Rules Regarding Admissibility of Expert Testimony in Georgia, Program Materials § 1.3 (Institute of Continuing Legal Education in Georgia, May 6, 2005) (discussing how the verifiable certainty test is more lenient than the Daubert reliability test).
cases, Code section 24-9-67.1, by stating its intent that Georgia civil courts exclude expert evidence inadmissible in other states. The new statute, effective February 16, 2005, codified the Daubert standard in civil cases.

On October 25, 2005, the Georgia Court of Appeals applied the new statute and the Daubert standard for the first time when it held that expert testimony regarding a relatively novel mathematical methodology was properly excluded. The court did not mention Georgia’s 23-year-old Harper standard for scientific evidence—or the state’s very liberal and much older common law general expert testimony standard—even though it had refused to apply the Daubert standard as recently as February 3, 2005. The new statute thus presents a new issue for the Georgia Supreme Court with the potential to significantly impact the standard of admissibility for novel scientific evidence in Georgia.

This Note contends that Georgia’s codification of Daubert narrows the admissibility of novel scientific evidence in Georgia by affirming the higher threshold of admissibility for scientific evidence previously imposed by the state’s courts, adding additional requirements to that standard, and encouraging courts to apply the standard in conformity with the more stringent federal standard. First, the Note argues that Code section 24-9-67.1 reinforces the

8. O.C.G.A. § 24-9-67.1(f) (2005) (“It is the intent of the legislature that, in all civil cases, the courts of the State of Georgia not be viewed as open to expert evidence that would not be admissible in other states.”).
11. See id. at 440-42; Dailey v. State, 610 S.E.2d 126, 129 (Ga. Ct. App. 2005) (refusing a party’s request for the court to apply Daubert, stating, “Indeed, we have been consistent in declining to apply the Daubert standard”).
12. See James W. Standard, Jr., What Every Defense (or Plaintiff’s) Lawyer Needs to Know About Daubert, in The New Rules Regarding Admissibility of Expert Testimony in Georgia, Program Materials § VIII, 22 (Institute of Continuing Legal Education in Georgia, May 6, 2005) (discussing how Georgia’s enactment of O.C.G.A. § 24-9-67.1 is expected to significantly change the way in which state courts view the reliability and admissibility of expert testimony).
13. See infra Part IV.
state’s existing common law standard by making clear the legislature’s intent for a stricter standard of admissibility for scientific evidence.\textsuperscript{14} Second, it suggests that because the common law Harper standard is more liberal than the Daubert standard, any level of application of Daubert by state courts will result in Georgia’s standard of admissibility becoming more stringent.\textsuperscript{15} Third, it predicts that Georgia courts may apply the Daubert standard in a similar fashion to the Eleventh Circuit, which would result in a full application of the stricter Daubert standard, without the current limitations that exist when courts apply the Harper standard.\textsuperscript{16}

Part I of this Note summarizes the federal standard of admissibility for expert testimony, concentrating on novel scientific evidence.\textsuperscript{17} Part II analyzes the former standard of admissibility for expert testimony in Georgia, emphasizing novel scientific evidence.\textsuperscript{18} Part III examines the Georgia legislature’s codification of Daubert in Code section 24-9-67.1.\textsuperscript{19} Part IV considers the newly enacted statute’s potential impact on the standard of admissibility for novel scientific evidence in Georgia.\textsuperscript{20} Finally, Part V discusses the potential implications of a narrower standard of admissibility for novel scientific evidence in Georgia.\textsuperscript{21}

I. THE FEDERAL STANDARD OF ADMISSIBILITY FOR EXPERT TESTIMONY GENERALLY

The current federal standard for the admissibility of expert witness testimony is set forth in Federal Rules of Evidence 702 and 703 and a trilogy of Supreme Court decisions: Daubert v. Merrell Dow Pharmaceuticals, Inc., General Electric Co. v. Joiner, and Kumho

\textsuperscript{14} See infra Part IV.A.
\textsuperscript{15} See infra Part IV.B.
\textsuperscript{16} See infra Part IV.C.
\textsuperscript{17} See infra Part I.
\textsuperscript{18} See infra Part II.
\textsuperscript{19} See infra Part III.
\textsuperscript{20} See infra Part IV.
\textsuperscript{21} See infra Part V.
Tire Co. v. Carmichael.\textsuperscript{22} Under federal law, "the admissibility of expert testimony is determined by the trial court," which evaluates whether it is relevant and assists the trier of fact.\textsuperscript{23} Additionally, the expert must be sufficiently qualified to offer the intended testimony and the testimony itself must be "sufficiently reliable."\textsuperscript{24} Federal Rule of Evidence 702's "helpfulness" requirement that expert testimony assist the trier of fact "implicitly contains the proposition that expert testimony which is based on unreliable methodology is unhelpful and therefore excludible."\textsuperscript{25} Even if the expert testimony is admissible, the judge must decide whether "its probative value is substantially outweighed by the danger of unfair prejudice" before allowing it to be presented to the jury, because it ultimately determines the weight and evaluation given to admitted expert testimony.\textsuperscript{26}

\begin{itemize}
\item 22. \textit{Fed. R. Evid.} 702. The full text of Rule 702 is as follows: If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.
\item 23. \textit{Id. Fed. R. Evid.} 703. The full text of Rule 703 is as follows: The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.
\item 25. \textit{See} 31 AM. JUR. 2D Expert and Opinion Evidence § 23 (2005). There is some disagreement among the courts on how to interpret the language in Fed. R. Evid. 702 concerning the word "assist." \textit{See} CHARLES ALAN WRIGHT & VICTOR JAMES GOLD, FEDERAL PRACTICE & PROCEDURE, 29 Fed. Prac. & Proc. Evid. § 6264 (West, 1997) (discussing how some courts hold that expert testimony does not "assist" if the jury can use its common sense to comprehend the evidence at some reasonable level, while other courts hold that even where the jury can understand the evidence at some level, expert testimony satisfies the "assist" requirement if it advances the jury's understanding to any degree).
\end{itemize}
"[A] person qualified by professional, scientific, or technical training, or by practical experience, in regard to a particular subject or field of endeavor, which gives him or her special knowledge not shared by the general public, may testify as an expert on questions coming within the field of that training and experience." However, the expert may not speculate. Further, if the data underlying the testimony is unreliable, the expert will not be permitted to base his opinion on that data, regardless of his qualifications, because "any opinion drawn from that data is likewise unreliable." Thus, the proponent of the expert testimony has the burden of proving by a preponderance of the evidence that the testimony is relevant, that it assists the trier of fact, that the expert testifying is sufficiently qualified, and that the foundational data upon which the expert is relying upon is reliable.

A. An Overview of the Daubert Standard of Admissibility for Expert Testimony

The Supreme Court established the current federal standard for the admission of expert testimony in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* The previous dominant standard was in place for 70 years as a result of the decision in *Frye v. United States.* The *Frye* standard mandated that expert opinion based on a scientific theory or technique was inadmissible unless the theory or technique upon which the expert based his opinion was "generally accepted" as reliable in the relevant scientific community. In *Daubert*, the court held that the *Frye* standard was superseded by the adoption of

28. Id. at § 25.
29. Id.
30. See id. at §§ 23-25.
31. See Daubert, 509 U.S. at 585 (granting certiorari "in light of sharp divisions among the courts regarding the proper standard for the admission of expert testimony").
33. Id. at 47; Daubert, 509 U.S. at 584.
Federal Rule of Evidence 702.\textsuperscript{34} The "Federal Rules of Evidence supplanted \textit{Frye} with a more flexible approach," often referred to as the "scientific reliability test."\textsuperscript{35}

The \textit{Daubert} standard requires the trial court to ensure that scientific testimony admitted is both relevant and reliable.\textsuperscript{36} Thus, the trial judge acts as "gatekeeper," determining whether expert testimony "fits" the facts of the case and is scientifically reliable before it goes to the jury.\textsuperscript{37} The Court elaborated in \textit{Joiner} that appellate courts reviewing a trial court's decision to admit or exclude expert testimony under the \textit{Daubert} guidelines must apply an abuse of discretion standard of review.\textsuperscript{38} Finally, the Court held in \textit{Kumho Tire} that the gatekeeping obligation established by \textit{Daubert} applies not only to scientific testimony, but to all expert testimony.\textsuperscript{39}

In 2000, Congress codified \textit{Daubert} in Federal Rule of Evidence 702 by adding to the rule the requirements of sufficiency of facts and data, reliability of principles and methods, and proper application of principles and methods to the facts of the case.\textsuperscript{40} Additionally, Federal Rule of Evidence 702's relevance requirement that expert testimony "assist the trier of fact to understand the evidence or to determine a fact in issue . . . requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility" and thus expert testimony unrelated to any issue in the case is irrelevant and therefore inadmissible.\textsuperscript{41} Federal Rule of Evidence 702, as amended, is consistent with \textit{Kumho Tire}. It provides that "all types of expert testimony present questions of admissibility for the trial court," and

\begin{itemize}
  \item \textsuperscript{34} \textit{Daubert}, 509 U.S. at 587.
  \item \textsuperscript{35} \textit{Id.} at 588 (reasoning that "the drafting history makes no mention of \textit{Frye}, and a rigid 'general acceptance' requirement would be at odds with the 'liberal thrust' of the Federal Rules and their 'general approach of relaxing the traditional barriers to 'opinion' testimony.'"); \textit{see} Robert E. Shields \& Leslie J. Bryan, \textit{Georgia's New Expert Witness Rule: Daubert \& More}, 11 Ga. B.J. 16, 17 (2005).
  \item \textsuperscript{36} \textit{Daubert}, 509 U.S. at 589.
  \item \textsuperscript{37} Shields \& Bryan, \textit{supra} note 35, at 17.
  \item \textsuperscript{39} \textit{Kumho Tire Co. v. Carmichael}, 526 U.S. 137, 147 (1999).
  \item \textsuperscript{40} Peters, \textit{supra} note 6, at 101; \textit{see also Fed. R. Evid. 702}.
\end{itemize}
that "the proponent has the burden of establishing that the pertinent admissibility requirements are met by a preponderance of the evidence."\textsuperscript{42} Non-scientific expert testimony must be "grounded in an accepted body of learning or experience in the expert's field," well-reasoned, and not speculative.\textsuperscript{43} Thus, "whether the testimony concerns economic principles, accounting standards, property valuation, or other non-scientific subjects, it should be evaluated by reference to the 'knowledge and experience' of that particular field."\textsuperscript{44}

B. The Daubert Standard of Admissibility as Applied to Novel Scientific Evidence

Novel scientific evidence creates a concern for the judge, because jurors may be more willing to "accept expert opinions as the truth solely because of their designation as experts," thus overvaluing such testimony.\textsuperscript{45} The focus in determining reliability is on the methodology used by the expert, rather than the conclusions reached based on that methodology.\textsuperscript{46} Accordingly, the judge cannot scrutinize or base admissibility on the expert's conclusion, no matter

\textsuperscript{42} Landis, supra note 41, at § 1. It should be noted that the proponents do not have to meet the higher threshold of proving that the expert testimony is scientifically correct. See In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 744 (3d Cir. 1994) (discussing how proponents "do not have to demonstrate to the judge by a preponderance of the evidence that the assessments of their experts are correct, they only have to demonstrate by a preponderance of evidence that their opinions are reliable").

\textsuperscript{43} FED. R. EVID. 702 advisory committee's note (2000 Amendment).


\textsuperscript{46} Daubert, 509 U.S. at 595; see Michael H. Gottesman, Admissibility of Expert Testimony After Daubert: The "Prestige" Factor, 43 EMORY L.J. 867, 870 (1994). It is noteworthy that Professor Gottesman argued the Daubert case in the Supreme Court on behalf of the plaintiffs-petitioners, and again in the Ninth Circuit following the Supreme Court's remand. See id. at 884.
how persuasive or non-persuasive it may be. Additionally, every single step in the expert's methodology may be scrutinized. Thus, a methodology that has one unreliable step in an otherwise entirely reliable methodology is nonetheless an unreliable methodology.

When expert testimony is based on well established scientific principles, courts generally conclude that reliability issues go to weight, rather than admissibility, provided that the expert properly applied those scientific principles. Additionally, in summary judgment proceedings, the methodology-focused approach has a "streamlining" advantage: if opposing parties are using the same methodology, any disputes over reliability "drop out." However, when the expert testimony includes novel scientific evidence, courts are much more concerned with reliability, because it is difficult for a jury to assign the proper weight to testimony beyond its

47. Kenneth J. Chesebro, Taking Daubert's "Focus" Seriously: The Methodology/Conclusion Distinction, 15 CARDozo L. REV. 1745, 1748-49 (1994) (noting that an expert's conclusion, though persuasive, does not mean that a valid methodology was used to reach that conclusion; conversely, an unpersuasive conclusion does not mean that an invalid methodology has been used). A court may, however, properly draw inferences about a methodology from an expert's conclusion. McClain v. Metabolife Int'l, Inc., 401 F.3d 1233, 1243 n.8 (11th Cir. 2005) (observing that since conclusions and methodologies are not entirely distinct from one another, when the opinion clearly demonstrates something about the expert's methodology, the court can draw inferences about the methodology from the opinion); see also Shields & Bryan, supra note 35, at 18 (noting that upon review of the many federal decisions applying Daubert, it is apparent that federal trial judges have not limited their evaluation to methodology).

48. See In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 745 (3d Cir. 1994) (discussing how any step that renders a methodology unreliable under Daubert renders that expert's testimony inadmissible, regardless of whether that step completely changed a reliable methodology or merely misapplied that methodology).

49. See Daubert, 509 U.S. at 596 (stating that "vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence"); Allison v. McManus Med. Corp., 184 F.3d 1300, 1311-12 (11th Cir. 1999) (commenting that "[t]he judge's role is not intended to supplant the adversary system or the role of the jury . . . . [i]t is to keep unreliable and irrelevant information from the jury because of its inability to assist in factual determinations, its potential to create confusion, and its lack of probative value."); WRIGHT & GOLD, supra note 23, § 6266.

50. Chesebro, supra note 47, at 1752-53 (explaining that since experts must explain and validate their methodologies at the outset, the judge may avoid conducting the "laborious" reliability analysis if opposing experts employ the same methodology); see also McClain, 401 F.3d at 1239 (discussing how the court need not undertake an extensive Daubert analysis on a generally recognized methodology, whereas the Daubert analysis is applicable for a non-recognized methodology; emphasizing that it was not resurrecting the Frye "general acceptance" test, rather it was keeping in mind "judicial economy").
comprehension. Complex evidence may have a misleading “aura of infallibility.” Thus, judges must consider two potential problems: the admission of unreliable scientific testimony, which may be highly persuasive, and the exclusion of highly probative and helpful scientific testimony from the jury, merely because it is novel or controversial.

The Daubert Court provided trial courts with a list of general evaluations for making their determinations: (1) has or can the evidence be tested by scientific methodology; (2) has the underlying theory or technique been subjected to peer review and been published in the professional literature; (3) how reliable are the results in terms of potential error rate; (4) the existence of standards and controls; and (5) is the evidence generally accepted. However, the Court warned that these factors were not an all-inclusive mandatory reference. Therefore, “[n]o attempt has been made to ‘codify’ these specific factors,” and each of the given factors does not necessarily have to be applied in determining reliability. The trial court may choose to exempt factors which may be inapplicable to the particular expert testimony presented.

51. See In re Paoli, 35 F.3d at 743 (“[N]ovel scientific evidence carries with it concerns over trustworthiness and reliability akin to those raised by offers of hearsay evidence.”); WRIGHT & GOLD, supra note 23, § 6264.
52. WRIGHT & GOLD, supra note 23, § 6264; see In re Paoli, 35 F.3d at 743.
53. See Katharyne C. Johnson, Exiting the Twilight Zone: Changes in the Standard for the Admissibility of Scientific Evidence in Georgia, 10 GA. ST. U. L. REV. 401, 402-03 (1994) (“Courts have long searched for a workable means by which to balance the probative value of scientific evidence against the possibility that such evidence may be unreliable or invalid, or may be given undue weight by a scientifically unsophisticated jury.”).
54. Daubert, 509 U.S. at 593-94.
55. Id. at 593.
56. Id.
57. FED. R. EVID. 702, 28 U.S.C.A. (2000) Advisory Comm. Note 2000 Amendment; see also Kumho Tire Co. v. Carmichael, 526 U.S. 137, 150 (1999) (stating that all of the factors listed in Daubert may not be applicable in all cases); Kannankeril v. Terminix Int’l, Inc., 128 F.3d 802, 809 (3d Cir. 1997) (finding that the factors of peer review and publication were not “necessary conditions of reliability” when the theory utilized by the expert is “widely accepted scientific knowledge”); Gottesman, supra note 46, at 873-79 (discussing the infeasibility of applying the testability and error rate factors to psychiatric and psychological testimony as an example of when courts may not utilize all of the reliability factors).
This non-exhaustive list of factors in some cases increases the admissibility of novel scientific evidence. Under the previous Frye general acceptance test, novel but otherwise reliable science was nevertheless inadmissible by definition. However, under the multifactor Daubert approach, “novel science that is reliable but has not yet gained general acceptance may be admitted into evidence.”

General acceptance remains a factor in determining reliability, but is no longer a prerequisite. Courts have since added other factors, such as (a) whether the “testimony is based on research the expert has conducted independent of the litigation;” (b) “whether the expert has adequately accounted for obvious alternative explanations;” (c) “whether the expert has employed the same care in reaching the litigation related opinions as the expert employs in performing his or her regular professional work;” (d) “whether there is ‘too great an analytical gap’ between the data and the opinion;” (e) whether the expert’s claimed field of expertise has the reputation of being able to reach reliable results for the type of opinion the expert would give; and (f) the “experience of the expert.” However, while a trial court may consider several varying factors in determining reliability, “no

58. Peters, supra note 6, at 36; see also Johnson, supra note 53, at 406-07 (discussing how the court’s focus has shifted from gauging “general acceptance” to analyzing whether the evidence was derived from “sound scientific procedure,” and if so, the resulting conclusions are admitted without regard for novelty or controversy).

59. See Daubert, 509 U.S. at 597.

60. STEVEN GOODE & OLIN GUY WELLBORN III, COURTROOM EVIDENCE HANDBOOK § 2, 208 (2005-2006 Ed.) (relying on Gen. Elec. Co. v. Joiner, 522 U.S. 136, 144 (1997)); Kumho, 526 U.S. at 150-51 (discussing how expert testimony may be unreliable when “the discipline itself lacks reliability, as, for example, do theories grounded in any so-called generally accepted principles of astrology or necromancy”); Pipitone v. Biomax, Inc., 288 F.3d 239, 247 (5th Cir. 2002); Michaels v. Avitech, Inc., 202 F.3d 746, 753 (5th Cir. 2000); Sheehan v. Daily Racing Form, Inc., 104 F.3d 940, 942 (7th Cir. 1997) (noting that in litigation an expert “may have a financial incentive to consider[] looser standards to apply”); Daubert v. Merrell Dow Pharm., Inc., 43 F.3d 1311, 1317 (9th Cir. 1995); Claar v. Burlington N. R.R., 29 F.3d 499, 502-03 (9th Cir. 1994) (noting that the experts did not make “any effort to rule out other possible causes for the injuries plaintiffs complain[ed] of, even though they admitted that this step would be standard procedure before arriving at a diagnosis”); Sterling v. Velsicol Chem. Corp., 855 F.2d 1188, 1208 (6th Cir. 1988) (finding expert testimony which relied on “clinical ecology” inadmissible because a majority of professional organizations and societies did not endorse either the “scientific methodology or the results of any experiments conducted” under that theory); see also FED. R. EVID. 702 advisory committee’s note (2000 Amendment).
single factor is necessarily dispositive of the reliability of a particular expert’s testimony.”

II. THE GEORGIA STANDARD OF ADMISSIBILITY FOR EXPERT TESTIMONY GENERALLY

Georgia’s former statute provided that all expert testimony was admissible. The jury ultimately decided whether it would accept or reject expert testimony after it considered the expert’s qualifications, cross-examination, and rebuttal evidence through the testimony of opposing experts. Georgia courts generally hold that expert testimony on questions of science, skill, trade, or the like is always admissible. The trial judge has discretion to determine whether a witness has sufficient learning and experience in a particular art, science, or profession to be deemed an expert. Before admitting expert testimony, “trial courts determine whether the testimony is needed to assist the jury and whether the witness is qualified as an expert in the relevant field or discipline.” The requirements for qualification of an expert witness, except as set forth in professional negligence cases, require only that the “witness has more knowledge than the average citizen.” Thus, an expert does not need to be “formally educated, or be licensed in a particular trade.”

61. FED. R. EVID. 702 advisory committee’s note; see also Heller v. Shaw Indus., Inc., 167 F.3d 146, 155 (3d Cir. 1999) (noting that when the trial court is examining the stages of expert testimony for reliability, “each stage must be evaluated practically and flexibly without bright-line exclusionary (or inclusionary) [sic] rules”).
62. O.C.G.A. § 24-9-67 (2005) (“[T]he opinions of experts on any question of science, skill, trade, or like questions shall always be admissible; and such opinions may be given on the facts as proved by other witnesses.”).
63. See GEORGIA RULES, supra note 1, § 15.3.
66. Peters, supra note 6, at 18-19 (adding that for professional negligence cases an expert of conduct in professional malpractice actions “must have been licensed to practice in his profession at the time the alleged breach of standard of care occurred”).
67. Id.
A. An Overview of the Harper Standard of Admissibility for Expert Testimony

In Harper v. State, the Georgia Supreme Court held that an additional threshold determination exists where proposed expert opinion testimony includes discussion of a scientific procedure or technique.68 Under the Harper standard, the trial judge decides whether the “procedure or technique in question has reached a scientific stage of verifiable certainty,” or whether the procedure “rests upon the laws of nature.”69 “The trial court may make this determination from evidence presented at trial by the parties, . . . exhibits, treatises, or the rationale of cases in other jurisdictions.”70 The determination is made by considering the evidence available to the trial court rather than by calculating the consensus in the scientific community.71

“Once a procedure has been recognized in a substantial number of courts, the trial judge may take judicial notice, without receiving evidence that the procedure has been established with verifiable certainty or that it rests upon the laws of nature.”72 The trial court has discretion to determine whether the requisite standard of verifiable certainty and scientific reliability is met.73 As long as the expert witness is “properly qualified in the field in which he offers testimony, and the facts relied upon are within the bounds of the evidence,” issues such as sufficiency of knowledge and hearsay go to the “weight and credibility of the testimony, not its admissibility.”74

69. Id.
70. Id; see also Lattarulo v. State, 401 S.E.2d 516, 519 (Ga. 1991) (holding that because the scientific procedure at issue had been widely accepted in other jurisdictions, it was proper for the trial court to admit the results “into evidence without expert testimony regarding the scientific theory behind the operation of the test”).
71. Harper, 292 S.E.2d at 396.
72. See Al-Amin v. State, 597 S.E.2d 332, 344 (Ga. 2004) (holding that it was proper for the trial court to judicially notice a scientific procedure and thus admit it without a Harper hearing because the evidence had “been widely accepted in Georgia courts”); Dailey, 610 S.E.2d 126, 129 (Ga. Ct. App. 2004); GEORGIA RULES, supra note 1, § 15.9.
73. Dailey, 610 S.E.2d at 129; see Harper, 292 S.E.2d at 395
However, a party must object “to specific theories, techniques, or principles upon which the expert relies to reach his conclusions” before the scientific evidence is offered; otherwise the party waives a Harper challenge.\textsuperscript{75} Finally, if the expert testimony does not involve scientific principles or techniques, it is not subject to a Harper challenge.\textsuperscript{76}

\textit{B. The Harper Standard of Admissibility as Applied to Novel Scientific Evidence}

As shown above, the trial court “plays a screening role in determining whether a scientific method produces reliable conclusions with sufficient certainty, and in controlling the testimony of the witnesses who present and explain the conclusions produced by scientific or technical knowledge.”\textsuperscript{77} The trial court decides whether a novel scientific procedure or technique has “reached the scientific stage of verifiable certainty.”\textsuperscript{78} The test of verifiable certainty generally applies to any tests “where the conclusions drawn from the test are ones that jurors would not ordinarily be able to draw for themselves.”\textsuperscript{79}

\textsuperscript{75} \textit{GEORGIA RULES}, \textit{supra} note 1, § 15.9; see also Whatley \textit{v. State}, 509 S.E.2d 45 (Ga. 1998) (holding that since there was no objection that any of the scientific evidence was unreliable or that any testing procedure was improper, such issues were therefore waived on appeal); Allison \textit{v. State}, 353 S.E.2d 805, 807 (Ga. 1987) (holding that “any deficiency that might be urged under the principles enunciated in Harper \textit{v. State} must be raised at trial, otherwise it is waived).

\textsuperscript{76} Cromartie \textit{v. State}, 514 S.E.2d 205, 213 (Ga. 1999) (stating that the Harper standard of admissibility is not applicable to expert testimony which is not a matter of scientific principle or technique); Belton \textit{v. State}, 512 S.E.2d 614, 617 (Ga. 1999) (holding that since “the comparison of shoe prints to the external physical characteristics of particular shoes is not a matter of scientific principle or technique,” the Harper standard was inapplicable to such testimony); \textit{GEORGIA RULES, supra} note 1, § 15.9.


\textsuperscript{78} See Michael E. McLaughlin, \textit{Admissibility of Evidence in Civil Cases} § Scientific Tests (4th ed., 1999).

The first requirement imposed by the *Harper* standard is that "the
evidence offered must hail from a discipline that accepts the
skepticism and rigorous testing indicative of a science." 80

The second requirement of the *Harper* standard is that "novel and
controversial theories and techniques often arise within well-
established scientific disciplines and thus the question is whether the
new theory or technique has successfully passed through the
necessary stages of inquiry, testing, and critical review" and is
therefore reliable. 81 A novel scientific theory or technique satisfies
the reliability requirement of the *Harper* standard in two ways. 82
First, the opinions of respected experts "in the relevant scientific
discipline that the new theory or technique has been tested and
verified" are probative. 83 Second, the trial judge will "review the
scientific record, with the assistance of expert testimony, treatises,
and any other information supplied by the parties, and ultimately
decide whether there still exists significant doubt, due to insufficient
testing or debatable test results, that the theory or technique is ready
for the courtroom." 84

After the trial court determines whether the general scientific
principles and techniques involved are "valid and capable of
producing reliable results," it must also determine whether the expert
"substantially performed the scientific procedures in an acceptable
manner." 85 Thus, if the expert substantially departed from the
principles and procedures that were the bases for the evidence's initial

80. GEORGIA RULES, supra note 1, § 15.9 ("Georgia courts would no doubt reject the expert
testimony of an astrologer on event causation, despite the fact that many people believe in astrology.").
81. Id.
82. Id.
83. Id. (noting that "[w]hile the view of the scientific community is not dispositive under *Harper*, it
is still relevant").
84. GEORGIA RULES, supra note 1, § 15.9; see also Jones v. State, 586 S.E.2d 224, 226 (Ga. 2003)
(finding that the trial court had properly admitted a scientific methodology, because it made its
determination after consulting case law from other jurisdictions and holding a hearing at which the
experts testified); Caldwell v. State, 393 S.E.2d 436, 441 (Ga. 1990) (holding that since the evidence in
the record clearly demonstrated that the techniques used in the case were based on sound scientific
theory, such procedures, if properly followed, would produce reliable results); Harper v. State, 292
S.E.2d 389, 395 (Ga. 1982) (stating that experts in a field can assist the judge in determining if a
principle has gained acceptance in the field).
85. SCHERR, supra note 77, § 77.
reliability and subsequent admissibility, the evidence will be
deprecated. The trial court does not need to determine the reliability of
the expert’s conclusion, however, because that determination is for
the jury.

III. GEORGIA’S CODIFICATION OF DAUBERT IN CODE SECTION 24-9-
67.1

Georgia’s legislature codified Daubert in Code section 24-9-67.1,
which was effective on February 16, 2005 and applied to all pending
civil cases. The statute was enacted as part of the Tort Reform Act,
which amended Titles 9, 24, 33, 43, and 51 of the Georgia Code. However, the admission of testimony in criminal cases “will continue
to be governed by the older, more simple and more liberal rule” set

In codifying Daubert, the statute uses language “based on, but not
identical to Federal Rule of Evidence 702,” and it is accompanied by
a stated legislative intent that Georgia courts may draw from the
Daubert line of cases. The statute also adopted a similar but not

86. See Johnson v. State, 448 S.E.2d 177, 179 (Ga. 1994) (finding error when the trial court admitted
scientific evidence solely because other courts had found the general scientific principles and techniques
involved as valid and capable of producing reliable results, because the trial court should have
additionally determined whether the expert “substantially performed the scientific procedures in an
acceptable manner”); GEORGIA RULES, supra note 1, § 15.9.
87. See Monroe v. State, 528 S.E.2d 504, 507 (Ga. 2000) (“Admissibility of DNA evidence is not
dependent upon the trial court finding that the testing produced sufficiently reliable results, only that the
scientific principle and techniques are valid and capable of producing reliable results and that the DNA
tester performed the procedures in an acceptable manner.”); J.B. Hunt Transp., Inc. v. Brown, 512
S.E.2d 34 (Ga. Ct. App. 1999); Cawthon v. State, 510 S.E.2d 586 (Ga. Ct. App. 1998); GEORGIA RULES,
supra note 1, § 15.9.
App. 2005).
address civil practice, evidence, insurance, professions and businesses, and torts, respectively. Id.
90. JACK GOGER, DANIEL’S GEORGIA HANDBOOK ON CRIMINAL EVIDENCE § 7-9 (2005
ed.).
91. GEORGIA RULES, supra note 1, § 15.3; see also O.C.G.A. § 24-9-67.1 (2005). The applicable text
regarding the codification of Daubert is as follows:
   (b) If scientific, technical or other specialized knowledge will assist the trier of fact in any
cause of action to understand the evidence or to determine a fact in issue, a witness
identical version of Federal Rule of Evidence 703. Specifically, the new statute is different from Federal Rule of Evidence 702 in that the “legislature appears to require that the expert rely in substantial measure upon admissible evidence in arriving at the expert’s opinion.” This creates an ambiguity because the language appears to contradict other language in the statute, which allows the expert to rely on inadmissible evidence.

qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise, if:

(1) The testimony is based upon sufficient facts or data which are or will be admitted into evidence at the hearing or trial;

(2) The testimony is the product of reliable principles and methods; and

(3) The witness has applied the principles and methods reliably to the facts of the case.

(f) It is the intent of the legislature that, in all civil cases, the courts of the State of Georgia not be viewed as open to expert evidence that would not be admissible in other states. Therefore, in interpreting and applying this Code section, the courts of this state may draw from the opinions of the United States Supreme Court in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993); General Electric Co. v. Joiner, 522 U.S. 136 (1997); Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999); and other cases in federal courts applying the standards announced by the United States Supreme Court in these cases.


92. GEORGIA RULES, supra note 1, § 15.3; see also O.C.G.A. § 24-9-67.1 (2005). The applicable text regarding Fed. R. Evid. 703 reads as follows:

(a) The provisions of this Code section shall apply in all civil actions. The opinion of a witness qualified as an expert under this Code section may be given on the facts as proved by other witnesses. The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing or trial. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.


93. Peters, supra note 6, at 13; see GEORGIA RULES, supra note 1, § 15.3. Compare O.C.G.A. § 24-9-67.1(b)(1) (including the additional phrase “which are or will be admitted into evidence at the hearing or trial” with regard to the facts and data upon which the expert’s testimony is based), with Fed. R. Evid. 702 (lacking any such qualifier).

94. See Peters, supra note 6, at 13; GEORGIA RULES, supra note 1, § 15.3. Compare O.C.G.A. § 24-9-67.1(a) (stating that “the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted), with O.C.G.A. § 24-9-67.1(b)(1) (referring to facts and data “which are or will be admitted”). Professor Milich theorizes that “[o]ne way around this apparent inconsistency is to ask the trial court to use its discretion under O.C.G.A. § 24-9-67.1(a) to admit otherwise inadmissible supporting facts and data when necessary to satisfy the ‘sufficient facts and data which are or will be
IV. IMPACT OF CODE SECTION 24-9-67.1 ON GEORGIA’S STANDARD OF ADMISSIBILITY FOR NOVEL SCIENTIFIC EVIDENCE

Prior to the passage of Code section 24-9-67.1, Georgia courts expressly refused to apply either the Frye standard or the Daubert standard.\textsuperscript{95} Georgia courts were not bound by Daubert, which involved application of a federal evidentiary rule that had not been adopted in Georgia.\textsuperscript{96} Following the Georgia legislature’s codification of the Daubert standard, the Georgia Court of Appeals addressed the issue of applying Daubert.\textsuperscript{97} Georgia’s codification of Daubert may narrow the admissibility of novel scientific evidence in Georgia by affirming the higher threshold of admissibility for scientific evidence previously imposed by the state’s courts, adding additional requirements to that standard, and encouraging the courts to apply the standard in conformance with the more stringent federal standard.\textsuperscript{98}


\textsuperscript{96} Orkin Exterminating Co. v. Carder, 575 S.E.2d 664, 669 (Ga. Ct. App. 2002) (“Because Daubert involved application of a federal evidentiary rule which has not been adopted in Georgia, Daubert has not been adopted in Georgia either.”); Home Depot U.S.A., Inc. v. Tvrdeich, 602 S.E.2d 297, 301 n.9 (Ga. Ct. App. 2004) (noting that Georgia has not adopted Federal Rule of Evidence 702 or the Daubert standard, and declining to do so).


\textsuperscript{98} See infra Part IV.A-C.
A. The Statute Reinforces the State's Evolving Common Law Standard by Making Clear the Legislature's Intent for a Stricter Standard of Admissibility for Scientific Evidence

Although the old statute provided that all expert testimony was admissible, Georgia courts nonetheless moved toward approaches more consistent with the Federal Rules of Evidence to avoid admitting junk science.99 However, these approaches were inconsistent, leaving the common law standard of admissibility in a "state of flux."100 Even the stricter common law Harper standard that has developed in Georgia does not provide much guidance for trial courts dealing with the admissibility of novel scientific evidence.101 Further, the courts have been inconsistent in determining when to apply the higher threshold Harper standard, even when dealing with scientific evidence.102

Some of the earliest jurisdictions to adopt Daubert reasoned that because their own expert evidence statutes were modeled after Federal Rule of Evidence 702, "they should be interpreted in the same manner as the Supreme Court interpreted that rule."103 However, the Georgia legislature's almost verbatim adoption of the Federal Rules of Evidence in Code section 24-9-67.1 does not necessarily mean that the Georgia Supreme Court will apply the

99. See GEORGIA RULES, supra note 1, § 15.3.
100. GEORGIA RULES, supra note 1, § 15.3; see also Johnson, supra note 53, at 408 (discussing how Georgia cases addressing the admissibility of scientific evidence lack agreement and take different approaches); W. Ray Persons, Thomas M. Byrne, & Paul S. Milich, REPORT OF THE EVIDENCE STUDY COMMITTEE OF THE STATE BAR OF GEORGIA, PROPOSED NEW RULES OF EVIDENCE (Draft, June 6, 2005) at 78 ("Prior to the recent adoption of O.C.G.A § 24-9-67.1, Georgia law on the trial court's role in screening scientific evidence was somewhat muddled.").
101. See Johnson, supra note 53, at 411-14 (discussing how ambiguities in determining "verifiable certainty" may in some circumstances result in the exclusion of certain types of novel scientific evidence which is in fact reliable).
102. See id. at 412-14; E-mail from Paul S. Milich, supra note 94 ("Georgia lawyers and judges were not always very strict in raising and applying Harper."). See generally infra Part IV.C.2. (noting that while Georgia courts generally apply the Harper standard to scientific procedures and techniques, they have inconsistently applied the higher threshold standard to the scientific theories underlying those techniques).
103. David E. Bernstein and Jeffrey D. Jackson, The Daubert Trilogy In the States, 44 JURIMETRICS J. 351, 355 n.23 (2004); see e.g., State v. Foret, 628 So. 2d 1116, 1123 (La. 1993); Commw. v. Lanigan, 641 N.E.2d 1342, 1348-49 (Mass. 1994); State v. Alberico, 861 P.2d 192, 203 (N.M. 1993).
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Daubert standard to its full extent.\textsuperscript{104} In fact, other jurisdictions have rejected Daubert, even though the applicable rules of evidence in those jurisdictions were also based on or identical to Federal Rules of Evidence 702 and 703.\textsuperscript{105} These jurisdictions may be distinguished from Georgia because their evidentiary rules do not contain the express intent for application of Daubert within their respective statutes, whereas Code section 24-9-67.1 specifically spells out such an intent.\textsuperscript{106} Further, while quite a few states have adopted Daubert,

\textsuperscript{104} See Strickland, supra note 45, at 1617 (explaining that several states that have adopted rules similar to the Federal Rules of Evidence have nevertheless legally rejected Daubert). There is also a possibility that the Georgia Supreme Court may find O.C.G.A. § 24-9-67.1 (Section 7 of the Tort Reform Act) unconstitutional. See Martha J. Fessenden & David S. Hagy, Georgia’s New Expert Evidence Rule and Changes on the Horizon: Practical and Constitutional Issues, 5 PRODUCT LIABILITY L. SEC. NEWSLETTER 3 (State Bar of Ga., Atlanta, Ga.), Oct. 2005, at 1, 2, 5 ("The General Assembly’s attempt to appropriate Daubert standards through Section 7 of SB3 seems unlikely to pass constitutional muster when applied to pending cases and possibly on other constitutional fronts as well."). Potential constitutional challenges include arguments that the new statute constitutes an unconstitutional delegation of legislative power, violates constitutionally protected due process rights and is void for vagueness, violates the constitutional guarantee of the right to a trial by jury, and violates the equal protection clause of the Georgia Constitution. \textit{Id.} See E-mail from Richard A. Schneider, Partner, King & Spalding, to the author (Nov. 14, 2005, 08:20 EST) (on file with Georgia State Law Review) (explaining that in light of the constitutional challenges, "My prediction would be that the [Georgia] Supreme Court will have trouble with the existing Daubert statute – especially since it has be[en] criticized by the bar committee draft."). Mr. Schneider is a litigation partner in the Atlanta, Georgia office of King & Spalding LLP.

\textsuperscript{105} See, e.g., Grady v. Frito-Lay, Inc. 839 A.2d 1038, 1043-44 (Pa. 2003) (concluding that in Pennsylvania, the Frye rule will continue to be applied, rather than Daubert, even though Pa. R. Evid. is effectively identical to Fed. R. Evid. 702); Logerquist v. McVey, 1 P.3d 113, 133 (Ariz. 2000) (rejecting in Arizona the Joiner and Kumho interpretations of Ariz. R. Evid. 702, even though it is based on Fed. R. Evid. 702); State v. Riker, 869 P.2d 43, 48 n.1 (Wash. 1994) (holding that Washington courts would continue to adhere to the view that the Frye analysis, rather than Daubert, is used in determining the admissibility of evidence under Wash. R. Evid. 702, which is based on Fed. R. Evid 702); Howerton v. Arai Helmet, Ltd., 597 S.E.2d 674, 689 (N.C. 2004) (rejecting the Daubert interpretation of N.C. R. Evid. 702, even though it is based on Fed. R. Evid. 702).

\textsuperscript{106} Compare Pa. R. Evid. 702 (1998) (lacking any reference to Daubert), and ARIZ. R. EVID. 702 (2005) (lacking any reference to Daubert), and WASH. R. EVID. 702 (2005) (lacking any reference to Daubert); and N.C. GEN. STAT. § 8C-1, R. 702(a) (2003) (lacking any reference to Daubert), with O.C.G.A. § 24-9-67.1 (2005) (making specific reference to Daubert). \textit{See also} Shields & Bryan, supra note 35, at 20 (discussing how the authors, with regard to the specific reference to Daubert in O.C.G.A. § 24-9-67.1, have “not been able to locate any similar provision in any other jurisdiction”). Additionally, regarding how Georgia courts will interpret O.C.G.A. § 24-9-67.1, it is notable that not all of the judges in these jurisdictions jurisdictions rejecting Daubert’s interpretation were comfortable with rejecting Daubert in light of the similarity between the state and federal evidentiary rules. \textit{See} Grady, 839 A.2d at 1051 (Newman, J., concurring) (stating that since “the language employed by both [Fed. R. Evid. 702 and Pa. R. Evid. 702] is effectively identical, I cannot affix my name to any decision that fails to give appropriate deference to an interpretation of identical language forwarded by the United States Supreme...
only a minority "have adopted all three holdings in the *Daubert* trilogy" as specified by the Georgia Legislature. The Georgia Court of Appeals recently applied *Daubert* for the first time in determining reliability, specifically citing the stated intent in the statute that Georgia courts "draw from the opinions of the United States Supreme Court in *Daubert*." Thus, while there is considerable discretion in the manner in which the Georgia Supreme Court may apply the new statutory requirements, the legislative "intent to have Georgia courts apply federal case law regarding expert witness testimony is clearly meant to control the previously more liberal standards regarding the nature and extent of admissible expert testimony."109

As a practical matter, some studies suggest that the *Daubert* standard as fully applied may not affect how state courts handle scientific evidence, because courts frequently "either do not understand the additional *Daubert* factors or simply do not find them

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107. Steven B. Hantrt, Mark A. Behrens, & Leah Lorber, *Is the "Crisis" in the Civil Justice System Real or Imagined?*, 38 Loy. L.A. L. Rev. 1121, 1172-73 (2005) (discussing how only ten of the 24 states which have fully adopted *Daubert* have additionally adopted *Kumho Tire* and *Joiner*); see O.C.G.A. § 24-9-67.1 (referring to *Daubert*, *Kumho Tire*, and *Joiner*).

108. See Moran v. Kia Motors Am., Inc. 630 S.E.2d 439, 441 (Ga. Ct. App. 2005). It should be noted, however, that the Evidence Study Committee of the State Bar of Georgia has proposed to delete the stated intent portion of the statute:

    This provision should not be carried forward in the new rules. First, it assumes some correlation between the application of the line of *Daubert* cases and admissibility of evidence "in other states." *Daubert* is not the law in most states, though some states have their own versions of *Daubert* just as Georgia has *Harper*. In any event, one does not look to the federal *Daubert* cases to make sure Georgia is not admitting expert evidence that would be inadmissible "in other states." Second, a statute telling courts that they "may" draw from the opinions of other jurisdictions seems merely advisory and unnecessary in light of the language of O.C.G.A. § 24-9-67.1(b), (proposed 24-7-702(b)).

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useful." Under this theory, the real power of Daubert (and its codification by the Georgia legislature) may lie in its effect of "raising the overall awareness of judges" to the problem of "junk science." Thus, even without full application of the Daubert standard in Georgia, the state's standard of admissibility for novel scientific evidence may nonetheless narrow because judges who are already receptive to the notion of a stricter standard of admissibility for scientific evidence will become more attuned to lawyers' attempts to rely on junk science.

B. Any Application of Daubert May Result in a More Stringent Standard of Admissibility

Georgia legal scholars predict that the Georgia Supreme Court will in fact apply the Daubert standard in some manner. Although Georgia's relatively liberal verifiable certainty standard established in Harper evaluates reliability to a certain degree, it does not utilize the more stringent reliability analysis employed by Daubert. The two

111. Id. at 474.
112. The Georgia Supreme Court decision establishing the higher threshold Harper standard was unanimous. See Harper v. State, 292 S.E.2d 389 (Ga. 1982).
113. See E-mail from Paul S. Milich, supra note 94 ("O.C.G.A. § 24-9-67.1 gives the courts very little wriggle room. Daubert is now the law in Georgia."); E-mail from Andrea A. Curcio, Professor of Law, Georgia State University College of Law, to the author (Nov. 9, 2005, 06:42 EST) (on file with Georgia State Law Review) ("Clearly [the Georgia Supreme Court] will apply the standards set forth in the statute as long as they find the statute constitutional."). Professor Curcio teaches evidence law at Georgia State University. See E-mail from Julie Seaman, Professor of Law, Emory University Law School, to the author (Nov. 9, 2005, 09:22 EST) (on file with Georgia State Law Review) ("I don't understand how the courts could "refuse" to apply the new rule. The statute makes it quite clear that Daubert and FRE 702 is the new standard."). Professor Seaman teaches evidence law at Emory University. See E-mail from Ronald L. Carlson, Professor of Law, University of Georgia School of Law, to the author (Nov. 16, 2005, 15:16 EST) (on file with Georgia State Law Review) ("This tort reform law is a legislative mandate. Accordingly, the Georgia Supreme Court will not see its role as one that nullifies the will of the elected branch. Rather, the Court will honor the choices which were made by the general assembly [sic] and will make an effort to faithfully apply Daubert."). Professor Carlson teaches evidence law at the University of Georgia.
114. See Bernstein & Jackson, supra note 103, at 365 (discussing how the Georgia Court of Appeals' consistent rejection of Daubert has left the state "with a very liberal test for the admissibility of scientific evidence"). Compare supra Part I.B. (discussing the Daubert standard's reliability factors), with supra Part II.B. (discussing the Harper standard's requirements).
standards are similar in the sense that they both reject complete "deference to the views of scientists" in favor of "an independent evaluation of the proffered evidence" while still retaining general acceptance as a factor. However, the Harper standard simply does not contain the number of reliability factors needed to sufficiently test the validity of the immense variety of proposed scientific evidence. For instance, the Harper standard does not provide "criteria by which to evaluate the reliability of a particular technique as applied" by the expert. Instead it considers whether to admit the testimony based only on the probability of the "general trustworthiness" of such evidence.

Therefore, Georgia's adoption of Daubert should make at least some practical difference because changing the framework by which judges analyze facts should presumably change the outcome of these analyses. Further, by preserving the role of the judge as gatekeeper "in making admissibility decisions based upon clearly articulated standards of reliability and relevance," jurors, who do not have the "legal knowledge to sort reliable and relevant evidence from that which is not," are not burdened with this difficult task. This is especially pertinent for novel scientific evidence, because jurors may be more lenient in accepting such testimony, creating a relatively broad standard of admissibility. A trial judge's minimal application of even a few additional Daubert reliability factors should decrease the net amount of scientific testimony reaching the jury, reducing the

116. See Johnson, supra note 53, at 422 (arguing that "lack of success by state ... courts in creating a workable standard for the admissibility of scientific evidence suggests that a single mechanistic standard, [such as] 'verifiable certainty', is inadequate to measure the reliability of of the many types and applications of scientific tests that confront trial courts").
117. Id. at 414
118. Id.
119. See Cheng & Yoon, supra note 110, at 477.
120. See Strickland, supra note 45, at 1627 (discussing how in North Carolina, a jurisdiction similar to Georgia in that the common law standard of admissibility is more liberal than the Daubert standard, the more liberal standard of admissibility allows more testimony to reach the jury).
121. See id. See generally supra Part I.B. (discussing how jurors may be more easily persuaded than judges to accept expert testimony on novel scientific evidence as true).
C. The Statute Encourages Application of Daubert in a Fashion Similar to its Application in Federal Courts, Which Would Result in a Stricter and Further Reaching Analysis of Novel Scientific Evidence

Georgia courts may look to the federal courts, particularly the Eleventh Circuit, in order to determine application of Daubert, because the statute recommends this approach. In fact, in its first case applying Daubert, the Georgia Court of Appeals utilized the reliability factors suggested by the United States Supreme Court.

1. An Overview of the Eleventh Circuit's Application of Daubert Reveals a Much Stricter Reliability Analysis Than Georgia's Harper Analysis

In the Eleventh Circuit, "[t]he admission of expert evidence is governed by Federal Rule of Evidence 702, as explained by Daubert and its progeny," requiring trial judges to "act as gatekeepers" and therefore conduct a "rigorous inquiry" into the admissibility of

122. See Strickland, supra note 45, at 1625; Charles Beans, Dealing With Opposing Expert Witnesses After Senate Bill 3: Old Tricks That Still Work, in 5 PRODUCT LIABILITY L. SEC. NEWSLETTER, (State Bar of Ga., Atlanta, Ga.) (Oct. 2005), at 3-4 (discussing how under the old standard, "whether an opinion lacked a relevant factual basis or was based on junk science was largely left to the judgment of the jury as weight and credibility issues," whereas under the Daubert standard "a higher bar is set for the admission of opinion evidence by expert witnesses" due to the judge's role as gatekeeper).

123. See O.C.G.A. § 24-9-67.1 (2005) (providing that in interpreting and applying the statute governing the admissibility of expert opinion in civil actions, Georgia courts may draw from the opinions of the U.S. Supreme Court in Daubert, Joiner, Kumho Tire, and other cases in federal courts applying the standards announced by the Court in those cases) (emphasis added); E-mail from Paul S. Milich, supra note 94 ("the state courts are likely to be influenced by what the 11th Circuit has done with these issues."); E-mail from Richard A. Schneider, supra note 104 ("Once Daubert is officially adopted, or the existing statute does the trick, I think [the Georgia Supreme Court] will follow 11th Cir. reasoning, approach and caselaw.").

potentially highly persuasive expert testimony.\textsuperscript{125} "[T]he trial court must screen expert testimony to determine if it is relevant and reliable,"\textsuperscript{126} and such testimony may be admissible only if: "(1) the expert is qualified to testify competently regarding the matters he intends to address; (2) the methodology by which the expert reaches his conclusions is sufficiently reliable as determined by the sort of inquiry mandated in \textit{Daubert}; and (3) the testimony assists the trier of fact, through the application of scientific, technical, or specialized expertise, to understand the evidence or to in determining a fact in issue."\textsuperscript{127} Thus, in addition to the extensive analysis imposed by the reliability requirement, the relevance requirement demands that the expert testimony assist the trier of fact by forming "an appropriate 'fit' with respect to the offered opinion and the facts of the case."\textsuperscript{128}

The qualifications, reliability, and helpfulness elements are independently evaluated. Therefore, "while an expert's overwhelming qualifications may bear on the reliability of his proffered testimony, they are by no means a guarantor of reliability." Further, "a reliable opinion expressed by a genuinely qualified expert may not help the jury if it does not pertain to a fact at issue in the case."\textsuperscript{129} The burden of laying this foundation rests with the proponent of the expert testimony.\textsuperscript{130} Trial court judges may utilize outside experts to assist them in performing their gatekeeping function assigned by \textit{Daubert} when determining whether to admit complex and novel scientific evidence.\textsuperscript{131}

\textsuperscript{125} Rink v. Cheminova, Inc., 400 F.3d 1286, 1291 (11th Cir. 2005); Allison v. McGhan Med. Corp., 184 F.3d 1300, 1310 (11th Cir. 1999) (arguing that the jury is less prepared than the judge in making relevance and reliability determinations, and more likely to be "awestruck by the expert's mystique").

\textsuperscript{126} Club Car, Inc. v. Club Car (Quebec) Import, Inc., 362 F.3d 775, 780 (11th Cir. 2004).

\textsuperscript{127} City of Tuscaloosa v. Harcros Chems., Inc., 158 F.3d 548, 562-63 (11th Cir. 1998).

\textsuperscript{128} See McDowell v. Brown, 392 F.3d 1283, 1299 (11th Cir. 2004) ("[S]cientific testimony does not assist the trier of fact unless the testimony has a justified scientific relationship to the pertinent facts.").

\textsuperscript{129} See Quiet Technology DC-8, Inc. v. Hurel-Dubois UK Ltd., 326 F.3d 1333, 1341 (11th Cir. 2003) ("[A]lthough there is some overlap among the inquiries into an expert's qualifications, the reliability of his proffered opinion and the helpfulness of that opinion, these are distinct concepts that courts and litigants must take care not to conflate.").

\textsuperscript{130} See Cook v. Sheriff of Monroe County, Fl., 402 F.3d 1092, 1113 (11th Cir. 2005).

\textsuperscript{131} See Allison, 184 F.3d at 1310-11 (discussing how judges have hired outside experts, including commissioned panels and technical advisors, to conduct "elaborate \textit{Daubert} inquiries in an effort to sort out conflicting scientific opinions in a comprehensive search for reliability and relevance").
The Eleventh Circuit utilizes the reliability factors of testability, peer review, error rate, and general acceptance, as suggested by the Daubert Court. Thus, in one of the few similarities to Georgia’s Harper standard, the trial court may appropriately “take into account the question of whether the technique has been generally accepted within the relevant scientific community.” Additional reliability factors employed in this circuit are reliability on anecdotal evidence (as in case reports), temporal proximity, and improper extrapolation (as in animal studies). The trial court has broad discretion in determining which reliability factors it will utilize when determining reliability, and it conducts the requisite reliability analysis objectively, rather than subjectively.

The trial court is required to “conduct a Daubert inquiry when the opposing party’s motion for a hearing is supported by ‘conflicting medical literature and expert testimony.’” Although the trial court may be found to have abused its discretion if it does not perform an adequate Daubert reliability analysis when admitting novel scientific evidence, the subsequent review of the trial court’s evidentiary analysis defers to the discretion of the trial judge. Opposing experts’ methodologies resulting in opposite conclusions may still be “sufficiently reliable to undergo further jury scrutiny.” Thus, the judge does not have to “pick one expert over the other” because “to

132. See id. at 1312.
134. Allison, 184 F.3d at 1312.
135. Toole v. Baxter Healthcare Corp., 235 F.3d 1307, 1312 (11th Cir. 2000) (“[W]e grant the district court the same broad latitude when deciding how to determine the reliability of expert testimony as it enjoys in determining whether the testimony is reliable.”); McClain v. Metabolife Int’l, Inc., 401 F.3d 1233, 1250 (11th Cir. 2005) (explaining that courts “are required under the Daubert trilogy to engage in objective review of evidence to determine whether it has sufficient scientific basis to be considered reliable”).
137. See Allison, 184 F.3d at 1309 (stating that an abuse of discretion exists “when the court fails to conduct a suitable inquiry into the relevant factors to determine whether expert testimony should be admitted”) (citations omitted); McCorvey v. Baxter Healthcare Corp., 298 F.3d 1253, 1257 (11th Cir. 2002) (“[O]ur review of evidentiary rulings by trial courts on the admission of expert testimony is ‘very limited.’”)(citations omitted).
do so would improperly usurp the jury’s function.”\footnote{See Allapattah Services, Inc. v. Exxon Corp., 61 F. Supp. 2d 1335, 1341 (S.D. Fla., 1999) ("Merely because two qualified experts reach directly opposite conclusions using similar, if not identical, data bases, or disagree over which data to use or the manner in which the data should be evaluated, does not necessarily mean that, under Daubert, one opinion is per se unreliable.").} The trial court may appropriately exclude otherwise admissible expert testimony under Federal Rule of Evidence 403 if its probative value is “substantially outweighed by its potential to confuse or mislead the jury.”\footnote{United States v. Frazier, 387 F.3d 1244, 1263 (11th Cir. 2004).}

2. The Eleventh Circuit’s Daubert Analysis Is Broader in Scope Than Georgia’s Harper Analysis

The standards for admissibility of novel scientific evidence in federal and Georgia courts are currently similar, since both “require a direct showing that the evidence is, in fact, scientifically reliable,” although to different degrees.\footnote{GEORGIA HANDBOOK, supra note 2, at 169; see Shields & Bryan, supra note 35, at 17 ("To the extent that prior Georgia law allowed trial judges to act as a 'gatekeeper' at all, that role was appropriate only when a party attempted to introduce the results of a novel test or technique."). Compare supra Part I.B. (discussing the Daubert standard's reliability factors), with supra Part II.B. (discussing the Harper standard's reliability requirements).} But Georgia’s application of the Harper standard is inconsistent, at times limited “only to scientific procedures or techniques and not to an expert's reliance on scientific theories” or principles.\footnote{GEORGIA HANDBOOK, supra note 2, at 167-68 (relying on Home Depot U.S.A., Inc. v. Tverdich, 602 S.E.2d 297, 301 (Ga. Ct. App. 2004)).} In this limited type of application, therefore, the issue of an expert’s reliance on scientific theories or principles falls under Georgia’s relatively liberal expert testimony admissibility standard, and thus, the jury determines its weight and credibility.\footnote{See Home Depot, 602 S.E.2d at 301 (explaining that the Harper analysis applies only where the expert bases his or her conclusions on the results of a scientific procedure or technique; challenges to the theory employed by the expert are left to the determination of the jury). See generally supra Part II (discussing Georgia’s liberal standard of admissibility for expert testimony in general).} Since the “development and reliance on novel scientific theories or principles is often inseparable from the use of scientific procedures and techniques to draw and defend those theories,” this limitation creates ambiguity in Georgia’s standard for admissibility.
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for novel scientific evidence.\textsuperscript{143} Federal courts do not make any such distinction, and they apply the Daubert standard to all scientific evidence.\textsuperscript{144} Thus, if Georgia applies Daubert in a fashion similar to how it is applied in the federal courts, this limitation on Georgia's higher threshold field of scrutiny for novel scientific evidence may be eliminated, resulting in a narrower overall state standard of admissibility for novel scientific evidence.\textsuperscript{145} Additionally, the Eleventh Circuit applies the Daubert analysis in accordance with Kumho Tire "to all expert testimony, not just 'scientific' testimony." Thus, novel techniques and theories which may not necessarily be classified as scientific are nonetheless scrutinized under the same standard of admissibility.\textsuperscript{146}

V. THE IMPLICATIONS OF A NARROWER STANDARD OF ADMISSIBILITY FOR NOVEL SCIENTIFIC EVIDENCE IN GEORGIA

The adoption of Daubert in the federal courts has had "far-reaching and unanticipated consequences," and now that Georgia's legislature has likewise adopted Daubert, it is likely to have similar consequences in Georgia.\textsuperscript{147} Georgia's overall standard of

\textsuperscript{143} See GEORGIA HANDBOOK, supra note 2, at 168.
\textsuperscript{144} See Allison, 184 F.3d at 1313 (explaining how Fed. R. Evid. 702 governs "the principle, procedure, or explanatory theory derived by the inductive, scientific technique"); Hudgens v. Bell Helicopters/Textron, 328 F.3d 1329, 1344 (11th Cir. 2003) ("[A]n expert's failure to explain the basis for an important inference mandates exclusion of his or her opinion."); GEORGIA HANDBOOK, supra note 2, at 169-70.
\textsuperscript{145} Several Georgia Appellate Court judges have questioned the distinction between scientific procedure or technique, and scientific principles. See Home Depot, 602 S.E.2d at 303 (Adams, J., concurring specially) (observing that it is difficult to determine whether the Harper standard does in fact apply to scientific principles, as well as scientific procedures or techniques; and suggesting that the Supreme Court of Georgia could provide some guidance); id. at 304 (Andrews, P.J., and Mikell, J., dissenting) ("The Harper test clearly applies not only in cases where the application of a particular scientific test or technique is at issue, but also where expert opinion testimony is offered which is based upon an analysis of data supporting a scientific principle or theory."). The Supreme Court of Georgia denied certiorari, however, on October 25, 2004. Id.
\textsuperscript{146} Maiz v. Virani, 253 F.3d 641, 669 (11th Cir. 2001); see also Kumho Tire Co., 526 U.S. at 147 (holding that all expert testimony is governed by the Daubert analysis, not just scientific expert testimony); E-mail from Paul S. Milich, supra note 93 (explaining that while Daubert applies to non-scientific evidence, "Harper usually was not applied to non-scientific experts").
\textsuperscript{147} Shields & Bryan, supra note 35, at 21.
admissibility for novel scientific evidence will likely narrow, resulting in varying implications. Although the narrower standard will theoretically apply to both plaintiffs and defendants, “it may end up having a stronger impact upon plaintiffs” because they carry the burden of proof in civil cases, and it will further increase the cost for plaintiffs, particularly in medical malpractice cases, in which the plaintiff is required to obtain a physician’s affidavit prior to filing suit.

The role of trial judges as gatekeepers will increase, and so too will the overall burdens on trial judges, as they will be asked to make decisions regarding scientific reliability that they “may not be prepared by training and experience to make.” Application of the narrower standard of admissibility may produce inconsistent results regarding the same expert testimony due to trial judges interpreting and applying the reliability factors differently. Scientific procedures and techniques that were previously “judicially noticed” under the Harper standard may no longer be deemed reliable and thus will be inadmissible. Scientific theories underlying experts’

148. See generally supra Part IV (discussing the general reasons why the standard for admissibility of novel scientific evidence may narrow).
149. See E-mail from Andrea A. Curcio, supra note 113 (elaborating that “[i]f a plaintiff’s expert cannot meet the narrower standard, he or she will be disqualified and that may result in summary judgment or a directed verdict”); E-mail from Ronald L. Carlson, supra note 113 (“The more accepted technology usually helps the defendant. Path breaking epidemiological studies are usually sponsored by plaintiffs in toxic tort or products cases. So the new rule asks plaintiffs to jump through more legal hoops than defendants, as a general proposition.”); E-mail from Julie Seaman, supra note 113. (“The defense bar and business interests pushed for Daubert. Plaintiffs’ lawyers opposed it. It is part of a ‘tort reform’ bill. This is a defendant-friendly rule.”); E-mail from Paul S. Milich, supra note 94 (opining that a narrower standard of admissibility helps defendants more than plaintiffs).
151. See id.
152. See E-mail from Ronald L. Carson, supra note 113 (“Novel evidence will have to be retested in civil cases under the Daubert standard.”); E-mail from Julie Seaman, supra note 113 (“I think it is inevitable that some kinds of novel scientific evidence that have heretofore been judicially noticed as reliable under Harper will be re-examined under the new scheme.”); E-mail from Richard A. Schneider, supra note 104 (discussing how while some[t]ests and procedures previously recognized under the old Harper standard, like radar, blood alcohol, etc. will remain admissible,” other evidence “like the doctor testimony in [Home Depot] and the hands in the jar test in [the] Orkin case are likely to face much scrutiny and not make it.”).
opinions may no longer be immune to scrutiny by the trial judge for reliability.\textsuperscript{153}

It is debatable whether a narrower standard of admissibility will significantly affect how attorneys select which cases they try.\textsuperscript{154} It is apparent, however, that the narrower standard will affect the preparation of experts.\textsuperscript{155} Attorneys “will have to prepare experts for their ‘dual’ roles— as defenders of their science in a \textit{Daubert} hearing and as expert witnesses at trial.”\textsuperscript{156}

The overall cost of litigation will probably increase because experts will have to spend more time preparing their testimony at greater expense.\textsuperscript{157} The narrower standard will “likely make

\begin{itemize}
\item \textsuperscript{153} See E-mail from Ronald L. Carlson, supra note 113 (“[T]he Home Depot case rule that only test results which come from instrumental techniques must be subjected to stringent court testing has been replaced. \textit{Daubert} is not so strictly limited. Since the legislature said ‘follow \textit{Daubert},’ anything scientific and instrumental as well as novel non-instrumental proof -- will fall under the \textit{Daubert} scientific testing rule.’”); see also supra Part IV.C.2 (discussing how the Eleventh Circuit’s \textit{Daubert} analysis is broader in scope than Georgia’s \textit{Harper} analysis).
\item \textsuperscript{154} Compare E-mail from Richard A. Schneider, supra note 104 (doubting any impact on how attorneys select cases, stating “Plaintiffs are still likely to bring cases as long as they have some doctor who will support their causation hypothesis and give it a whirl.”), and E-mail from Andrea A. Curcio, supra note 108 (“Despite the myths, very few plaintiffs’ lawyers take cases in which they are looking to win via ‘junk science.’ Plaintiffs’ lawyers work on a contingency basis. If they lose, they not only don’t get paid, but they have spent a lot of time and money working up a case and they lose that, too.”), with E-mail from Paul S. Milich, supra note 94 (opining that there will be a significant impact on how attorneys select cases, stating “Plaintiffs attorneys in injury cases spend a lot of money getting a case to trial. Plaintiffs’ attorneys must look long and hard at the prospect of a successful \textit{Daubert} challenge (which won’t come until after a substantial investment in the case has already been made).”) and E-mail from Ronald L. Carlson, supra note 113 (“Plaintiff attorneys will be more careful in selecting cases because the financial burden of overcoming court resistance to new and somewhat uncertain technology will be substantial.”).
\item \textsuperscript{155} See E-mail from Richard A. Schneider, supra note 104 (“Smart plaintiffs lawyers will walk their expert through a \textit{Daubert} cross and see how they do.”); E-mail from Paul S. Milich, supra note 94 (discussing how attorneys “must be much more careful in choosing their experts,” and that the preference will be for “[e]xperts with distinguished resumes” and “experts who have no apparent interest in the outcome of the case (disinterested scientists)”; E-mail from Ronald L. Carlson, supra note 113 (predicting “[t]he preparation and coaching process will be intensified,” and that “[e]ffective woodshedding of witnesses will be required in order for the attorney who presents the expert to prevail at \textit{Daubert} hearings”); E-mail from Andrea A. Curcio, supra note 113 (stating that the standard “should definitely effect how experts are prepared,” and that “[a]ll trial lawyers must be aware of the rule and must make sure that their experts are prepared to answer the kind of questions set out in \textit{Daubert}.”).
\item \textsuperscript{156} E-mail from Paul S. Milich, supra note 94 (explaining that “[t]he emphasis used to be on choosing an expert who will impress and relate well to the jury,” whereas “now counsel must consider how well the expert will be able to defend his methodology and conclusions before a ‘gatekeeping’ judge.”).
\item \textsuperscript{157} See Shields & Bryan, supra note 35, at 21.
\end{itemize}
depositions last longer," thus making them more expensive. \(^{158}\)
Additionally, litigation over the typical lines of inquiry in *Daubert*
including whether they have published their theory, whether it is
testable and repeatable, whether it tracks the medical literature, etc.
will also "cost a great deal of time and money." \(^{159}\)

**CONCLUSION**

Although Georgia courts had taken some steps towards greater
scrutiny of expert testimony based on novel scientific evidence, the
General Assembly has intervened and imposed a much more
assertive standard of scrutiny. \(^{160}\) The legislature effectively affirmed
the direction in which Georgia courts have embarked, by requiring
that a stricter standard of admissibility is appropriate when examining
scientific evidence in civil cases. \(^{161}\) Thus, Georgia courts know
exactly where the legislature stands concerning the standard of
admissibility for scientific evidence. \(^{162}\)

Additionally, even if Georgia courts do not apply *Daubert* to its
fullest extent, its limited application may still result in a more
stringent standard of admissibility due to the additional scrutinizing
reliability factors being applied. \(^{163}\) Since Georgia’s common law
standard is vague concerning reliability analysis, the application of
even a few additional *Daubert* reliability factors should exclude
certain evidence which may have been otherwise admissible under the
*Harper* analysis. \(^{164}\) Furthermore, minimal application of *Daubert*
may simply have the effect of raising judges’ awareness of unreliable

\(^{158}\) E-mail from Andrea A. Curcio, *supra* note 113.
\(^{159}\) E-mail from Andrea A. Curcio, *supra* note 113; e-mail from Richard A. Schneider, *supra* note 104 (predicting the majority of the litigation will center on the ‘general acceptance’ factor in the *Daubert* analysis, stating, “Plaintiffs will argue that any reasoning applying settled principles by an educated person is admissible, where defendants will insist that wild opinions, not generally accepted, [no] matter how well tied to underlying scientific principles, should not be admitted.”).
\(^{160}\) *See supra* Part IV.A.
\(^{161}\) *See supra* Part IV.A.
\(^{162}\) *See supra* Part IV.A.
\(^{163}\) *See supra* Part IV.B.
\(^{164}\) *See supra* Part IV.B.
science, thus making it more difficult for such evidence to be admitted.\textsuperscript{165} Finally, the statute encourages Georgia courts to apply the \textit{Daubert} standard in a manner similar to its application in federal courts, which would result in a more stringent standard with a farther reaching application.\textsuperscript{166} The Eleventh Circuit utilizes a much more defined and restrictive reliability analysis than the relatively vague \textit{Harper} analysis by applying both the main \textit{Daubert} factors suggested by the Supreme Court as well as additional reliability factors derived from case law.\textsuperscript{167} Additionally, unlike Georgia, this circuit does not merely scrutinize the scientific procedure or technique at issue, but consistently applies its reliability analysis to the scientific theory underlying the expert’s conclusions as well.\textsuperscript{168}

These considerations combine to produce a narrower overall standard of admissibility for novel scientific evidence with varying implications for Georgia practitioners. However, Georgia’s Supreme Court has yet to address the legislature’s codification of \textit{Daubert}, and so the specific application of \textit{Daubert} in Georgia is unclear. What is clear, however, is that it will become more difficult for novel scientific evidence to be admitted into evidence, thus approaching the legislature’s goal that Georgia courts not admit expert testimony which a majority of other jurisdictions would refuse.

\textit{Alfred R. Politzer}

\textsuperscript{165} See supra Part IV.B.
\textsuperscript{166} See supra Part IV.C.
\textsuperscript{167} See supra Part IV.C.
\textsuperscript{168} See supra Part IV.C.