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DAUBERT AND THE USE OF EXPERTS IN VIRGINIA CAPITAL CASES

BY: J. CONRAD GARCIA

I. *Daubert* and Virginia Law

In *Daubert v. Merrell Dow Pharmaceuticals*,¹ the plaintiffs sued a drug manufacturing company contending that one of its drugs, Bendectin, caused birth defects. The manufacturer moved for summary judgment in the district court, arguing that Bendectin does not cause birth defects in humans and that the plaintiffs would be unable to come forward with any admissible evidence to the contrary. The district court granted the manufacturer's motion for summary judgment, holding that scientific evidence is admissible only if the principle upon which it is based is "sufficiently established to have general acceptance in the field to which it belongs."² The plaintiff's evidence did not meet this standard. The "general acceptance" test which the district court implemented was established in *Frye v. United States*.³ The Ninth Circuit affirmed the district court's decision and its use of the *Frye* test.

The United States Supreme Court granted certiorari to determine whether *Frye's* "general acceptance" test was superseded by the Federal Rules of Evidence for allowing expert scientific testimony in federal courts. The Court reversed the lower courts' holdings, ruling that the *Frye* test was superseded by the adoption of the Federal Rules of Evidence.

Daubert dealt specifically with experts offering "scientific knowledge" under rule 702 of the Federal Rules of Evidence:

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.

The Court concluded that "[n]othing in the text of this Rule establishes 'general acceptance' as an absolute prerequisite to admissibility."⁴ The drafting history does not mention the rigid "general acceptance" test and would be at odds with the "liberal thrust" of the Federal Rules and their "general approach of relaxing the traditional barriers to 'opinion' testimony."⁵ The Court, therefore, held that *Frye* was superseded based on the content of the congressionally-enacted Federal Rules of Evidence.

The Court did conclude, however, that even though the *Frye* test had been displaced, limits would still exist on the admissibility of

scientific evidence. A trial court judge must "ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable."⁶ The court determined that the adjective "scientific" in Rule 702 "implies a grounding in the methods and procedures of science. Similarly, the word 'knowledge' connotes more than subjective belief or unsupported speculation."⁷ The Court also noted that Rule 702 requires that scientific evidence or testimony be relevant, in that it assists the trier of fact in understanding the evidence or to determining a fact in issue.⁸

The Court listed four "general observations" for federal judges to inquire about when determining whether scientific evidence should be allowed in the courtroom. These four inquires are not dispositive and many additional factors will bear on the inquiry. Thus these inquires are not a definitive checklist or test.⁹

The four inquires in determining under Rule 702 whether a theory or technique is scientific knowledge that will assist the trier of fact are as follows: (1) ". . . [W]hether it can be (and has been) tested;"¹⁰ (2) "[W]hether the theory or technique has been subjected to peer review and publication."¹¹ "The fact of publication (or lack thereof) in a peer-reviewed journal thus will be a relevant, though not dispositive, consideration in assessing the scientific validity of a particular technique or methodology on which an opinion is premised[;]"¹² (3) The potential rate of error in a particular scientific technique;¹³ and (4) Whether the scientific knowledge has been generally accepted.¹⁴ The Court thus retained *Frye's* "general acceptance" standard as one of its inquiries. The Court noted that widespread acceptance is an important factor, and a technique with only minimal support should be viewed with skepticism when determining the admissibility of evidence.¹⁵ The Court envisioned Federal Rule 702 to be a flexible one.¹⁶

The Court noted that throughout a proceeding, a judge must keep other applicable rules in mind when determining if expert scientific testimony should be allowed in,¹⁷ and that the power to admit scientific evidence is at the discretion of the trial judge. Also, the Court reemphasized "[v]igorous 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."¹⁸

II. *Daubert's* Application In Virginia

Federal Rule of Evidence 702 was adopted by Virginia and codified under Virginia Code section 8.01-401.3(A).¹⁹ The problem with this

¹ 113 S. Ct. 2786 (1993).

² *Id.* at 2792.

³ 293 F. 1013, 1014 (D.C. Cir. 1923).

⁴ *Daubert*, 113 S. Ct. at 2794.

⁵ *Id.* at 2794, quoting *Beech Aircraft Corp. v. Rainey*, 488 U.S. 153, 169 (1988) (citing Rules 701 to 705).

⁶ *Id.* at 2795.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.* at 2796.

¹¹ *Id.* at 2797.

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.* Fed. R. Evid. 703 (allowing expert opinion based on otherwise inadmissible hearsay only if such evidence is of a type reasonably relied upon by experts in the particular field), 706 (allowing the court at its discretion to select an expert), and 403 (permitting the exclusion of relevant evidence if its value unfairly prejudices the jury).

¹⁸ *Id.* at 2798.

¹⁹ Va. Code Ann. § 8.01-401.3(A) states: "In a civil proceeding, 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." (emphasis added).

statute is that it speaks of "a civil proceeding." The Supreme Court of Virginia held that a similar statute, Virginia Code section 8.01-401.1²⁰, which mirrored Federal Rule of Evidence 703 and 705, was limited to civil cases despite the Commonwealth's argument that the statute should be expanded to criminal cases:

The Commonwealth, . . . , urges us to adopt, in substance, the view of the Federal Rules of Evidence We are unwilling to accept this invitation. The General Assembly, in 1982, enacted Code § 8.01-401.1 which essentially adopts the foregoing provisions of the Federal Rules of Evidence. That statute's application is expressly limited to "any civil action." We regard this limitation as a clear expression of legislative intent to retain the historic restrictions upon expert testimony in criminal cases in Virginia.²¹

Therefore, the enactment of Code section 8.01-401.3 should affect only civil cases. The test for determining the admissibility of scientific evidence is determined by the common law of Virginia.

For criminal cases, the Supreme Court of Virginia has declined to adopt the "general acceptance" test developed in *Frye*,²² instead holding that "relevant scientific evidence is admissible if the expert is qualified to give testimony and the science upon which he testifies is reliable."²³ Thus,

the court must make a threshold finding of fact with respect to the reliability of the scientific method offered, unless it is of a kind so familiar and accepted as to require no foundation to establish the fundamental reliability of the system, such as fingerprint analysis, [citation omitted]; or unless it is so unreliable that the considerations requiring its exclusion have ripened into rules of law, such as "lie-detector" tests, [citation omitted]; or unless its admission is regulated by statute, such as blood-alcohol test results, Code §§ 18.2-268(O), -268(Y)."²⁴

A trial court's finding will not be disturbed on appeal if its decision is supported by credible evidence. If the scientific reliability is disputed, and if the court finds there to be a sufficient foundation to warrant admission of evidence, the court may, in its discretion, admit the evidence with instructions to the jury.²⁵ "Wide discretion must be vested in the trial court to determine, when unfamiliar scientific evidence is

²⁰ Va. Code Ann. § 8.01-401.1 states: "In any civil action any expert witness may give testimony and render an opinion or draw inferences from facts, circumstances or data made known to or perceived by such witness at or before the hearing or trial during which he is called upon to testify. The facts, circumstances or data relied upon by such witness in forming an opinion or drawing inferences, . . . need not be admissible in evidence.

The expert may testify in terms of opinion or inference and give his reasons therefor without prior disclosure of the underlying facts or data, unless the court requires otherwise. The expert may in any event be required to disclose the underlying facts or data on cross-examination.

To the extent called to the attention of an expert witness upon cross-examination or relied upon by the expert witness in direct examination, statements contained in published treatises, periodicals or pamphlets on a subject of history, medicine or other science or art, established as a reliable authority by testimony or by stipulation shall not be excluded as hearsay. If admitted, the statements may be read into evidence but may not be received as exhibits. If the statements are to be introduced through an expert witness upon direct examination, copies of the statements shall be provided to opposing parties thirty days prior to trial unless otherwise

offered, whether the evidence is so inherently unreliable that a lay jury must be shielded from it, or whether it is of such character that the jury may safely be left to determine credibility. . . ."²⁶

As of this date there has only been one Virginia case discussing *Daubert*, *Cotton v. Commonwealth*.²⁷ In *Cotton*, the defendant was convicted of robbery based on fingernail comparison evidence. The majority concluded that the trial court had used its sound discretion in admitting the fingernail comparison based upon credible evidence.²⁸ The Commonwealth's expert presented to the trial court her: extensive curriculum vitae, setting forth academic and professional qualifications, work experience, and professional associations concerning fingernail analysis.²⁹ The majority concluded that the Commonwealth's expert had withstood cross-examination and found no error in the trial court's acceptance of the fingernail comparison as a valid scientific means of personal identification and, therefore in allowing the expert to describe the comparison of the fingernail fragment found at the scene with the defendant's fingernail.³⁰

Judge Benton, concurring and dissenting in part, believed that the expert's testimony should not have been allowed and, would have reversed the conviction. Judge Benton critically analyzed the Commonwealth's expert qualifications and tests that were run on the fingernail and concluded that the results were not reliable.³¹ Judge Benton incorporated into his analysis *Daubert* and its four inquiries. He concluded that

[a]lthough consideration of these factors is not expressly required by any ruling from the Supreme Court of Virginia, these factors manifest a concern not limited to federal jurisprudence, that the principles and methodology which underlie a proffered technique be based upon 'a reliable scientific technique,' the test espoused by *Spencer*. Furthermore, these factors are relevant in Virginia because our Supreme Court requires an inquiry into the question of reliability.³²

A rehearing *en banc* was granted, in *Cotton v. Commonwealth*.³³ The panel decision of the Court of Appeals was affirmed in part and reversed in part on other grounds. Judge Benton referred to his initial dissenting opinion, but no further discussion of *Daubert* took place. Thus, *Daubert* has yet to be expressly adopted or rejected in the Virginia Courts, but Virginia's common law test would appear to be reconcilable with *Daubert*'s analysis along the lines argued by Judge Benton.

ordered by the court." (emphasis added),

²¹ *Simpson v. Commonwealth*, 227 Va. 557, 566, 318 S.E.2d 386, 391 (1984).

²² *O'Dell v. Commonwealth*, 234 Va. 672, 364 S.E.2d 491 (1988), *cert. denied*, 488 U.S. 871 (1988).

²³ *Farley v. Commonwealth*, 20 Va. App. 495, 498, 458 S.E.2d 310, 312 (1995) (citing *O'Dell*, 234 Va. at 695-96, 364 S.E.2d at 504-05).

²⁴ *Spencer v. Commonwealth*, 240 Va. 78, 97, 393 S.E.2d 609, 621 (1990).

²⁵ *Id.*

²⁶ *Id.* at 240 Va. at 98, 393 S.E.2d at 621.

²⁷ 19 Va. App. 306, 451 S.E.2d 673 (*rev'd and remanded on other grounds*) (1994) (*reh'g granted (March 9, 1995)*).

²⁸ *Cotton*, 19 Va. App. at 311, 451 S.E.2d at 676.

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.* at 316-319, 451 S.E.2d at 678-681.

³² *Id.* at 321-322, 451 S.E.2d at 681.

³³ 20 Va. App. 596, 459 S.E.2d 527 (1995).

This leaves defense counsel with the opportunity to argue that the *Daubert* factors are to be used by the Virginia Courts. Virginia case law and *Daubert* both place great emphasis on the relevance and reliability of expert testimony. Therefore, defense counsel should argue that *Daubert* is persuasive authority in Virginia and that logic calls for its adoption.

III. How *Daubert* Can Help in Capital Cases

Expert testimony is important in many capital cases, including testimony dealing with ballistics, future dangerousness, and blood splatters. A prosecutor has the burden of establishing that the Commonwealth's scientific evidence is admissible. Any objections to its admissibility must be carefully framed so they can be properly preserved for appeal.³⁴ Remember as defense counsel that after the four inquiries of *Daubert*, there still is the balancing test under Rule 403 of whether the value of the evidence substantially outweighs the unfair prejudice arising from the admission of such testimony.³⁵ Therefore, any testimony pursuant to *Daubert* requires a pretrial hearing.³⁶ If a pretrial hearing is not granted, a motion to exclude the expert should be drafted. An advantage to these types of pre-trial motions is that they exclude the prejudicial material before a jury can hear it.

This approach is in keeping with the Virginia Supreme Court's view that "[a] separate hearing is generally advisable to avoid a possible mistrial in the event a trial court concludes the tests are not sufficiently reliable to be introduced in evidence."³⁷ An opponent of expert testimony "need not wait until after the evidence has been admitted to assert a challenge. He may raise it prior to trial by motion to exclude the evidence or at trial by examining the expert, out of the presence of the jury prior to a ruling on the admissibility of the [evidence]."³⁸ Under the Rules of the Court, the defendant has a right to discover written scientific reports.³⁹ These provisions in Virginia law should, at the very least, provide defense counsel with pertinent information regarding the Commonwealth's case.

Because expert testimony is closely related to the admissibility of scientific evidence, the tests for the admissibility of expert testimony must be researched by defense counsel as well. Generally the admissibility of expert testimony has been governed by whatever "the subject matter of the inquiry was not within the range of common experience."⁴⁰ Moreover, Virginia's rule for the breadth of the expert's testimony is

more narrow for criminal cases than that for federal rule 703 or for civil proceedings in Virginia under Virginia Code section 8.01-401.1.⁴¹ In criminal cases, an expert

may give an opinion based upon his own knowledge of facts disclosed in his testimony or he may give an opinion based upon facts in evidence assumed in a hypothetical question . . . Generally, an expert witness in Virginia has not been permitted to base his opinion on facts not in evidence.⁴²

Any time the Commonwealth intends to use an expert, defense counsel should make a motion in limine for all underlying data upon which the government expert relied, such as manuals, guidelines, reports, rules, regulations, as soon as defense has been placed on notice that an expert will testify.⁴³ If such a motion is denied and the Commonwealth places an expert on the stand, defense counsel should subject the expert to rigorous cross examination, and, in doing so inquire, as to the underlying facts or data that help form the expert's opinion.

Many times a prosecutor will attempt to use law enforcement officers as de facto experts in certain fields. This type of testimony is very prejudicial to the defendant because police officers are "not experts but advocates and their testimony is unfairly prejudicial."⁴⁴ To try to safeguard the client's right to a fair trial, request that any police officer who is going to testify as an expert not be allowed to testify also as a fact witness,⁴⁵ and request that the prosecutor not refer to the police officer as an expert.⁴⁶ If the Commonwealth failed to give notice of an officer as an expert, object and use this to bolster your argument that the officer really is not an "expert" but rather just a lay witness since even the prosecutor seems to view the officer that way. And, if the witness is not an expert, the witness's opinion testimony is inadmissible.⁴⁷ In Virginia "[o]pinion evidence is only admissible where it would be helpful to the jury. If the jurors are as capable of forming their own opinions upon given data as the witness whose opinion is offered in evidence, then the opinion is not admissible."⁴⁸ Therefore, defense counsel should challenge such testimony as inadmissible opinion testimony.

Defense counsel, of course, should also be planning how to admit their experts' testimony. An anticipatory motion should be drafted⁴⁹ with the goal of persuading the court to admit defense's testimony because it is

³⁴ Barbara Bergman, et. al., *Samurai Lawyer: Aggressive Use of Underutilized Evidence Rules*, supplement p. 5, April 28, 1995, (The Louisiana Association of Criminal Defense Lawyers).

³⁵ *Id.*

³⁶ *Id.* at 7, (citing *Robinson v. Missouri Pacific R. Co.*, 16 F.3d 1083 (10th Cir. 1994) (district court should make an early pretrial evaluation of issues of admissibility involving scientific expert opinions); *In re Joint Eastern and Southern Districts Asbestos Litigation*, 151 F.R.D. 540, 545 (E.D.N.Y. 1993) (*Daubert* may require pretrial hearings under Rule 104 of the Federal Rules of Evidence to determine whether, and under what conditions, expert testimony is admissible.))

³⁷ *O'Dell*, 234 Va. at 695, 364 S.E.2d at 504.

³⁸ 2 Charles E. Friend, *The Law of Evidence in Virginia*, § 17-14 (4th ed. 1993) (citing *Commonwealth ex rel. Evans v. Harrison*, 5 Va. App. 8, 13, 360 S.E.2d 212, 214 (1987)).

³⁹ 1 Charles E. Friend, *The Law of Evidence in Virginia*, § 14-12 (4th ed. 1993). (citing *Spencer v. Commonwealth*, 238 Va. 295, 384 S.E.2d 785 (1989)), citing Va. Sup. Ct. R. 3A:11(a)(1)-(2).

⁴⁰ 2 Friend at § 17-14(a).

⁴¹ Va. Code Ann. § 8.01-401.1 is the mirror image of Federal Rules of Evidence 703 and 705 except that the statutory language limits it to

"civil actions." The Virginia Supreme Court rejected the argument that § 8.01-401.1 should be interpreted to include criminal cases. *O'Dell v. Commonwealth*, 234 Va. 672, 364 S.E.2d 491, cert. denied, 488 U.S. 871 (1988).

⁴² 1 Friend at § 17-18 (citing *Simpson v. Commonwealth*, 227 Va. 557, 318 S.E.2d 386 (1984), citing *Wheelwright v. Matthew*, 210 Va. 382, 171 S.E.2d 180 (1969). For further discussion concerning the basis for expert testimony see 2 Friend, § 17-18.

⁴³ Bergman, *supra* note 32, at 11.

⁴⁴ *Id.* at 10.

⁴⁵ *Id.* (citing *Beach v. United States*, 466 A.2d 862 (D.C. 1983)).

⁴⁶ *Id.* (citing *United States v. Thomas*, 797 F. Supp. 19, 24 (D.D.C. 1992)).

⁴⁷ *Id.* at fn. 12.

⁴⁸ *Lakeside Inn Corp. v. Commonwealth*, 134 Va. 696, 701, 114 S.E. 769, 771 (1922). See 2 Friend, § 17 *et seq.* for further explanation.

⁴⁹ Bergman, *supra* note 32, at 15 (citing Charles W. Daniels' winning motions with the author's alterations.)

scientific testimony, grounded in the methods and procedures of science, . . . [which] will assist the trier of fact to understand or determine facts and issues concerning defendant's intent and knowledge. The testimony is based on scientific knowledge, relating to hypotheses that can be and have been tested, techniques that have been subjected to peer review and publication, subject to reasonably acceptable potential rates of error, subject to standards controlling the techniques operation, and sufficiently accepted within the relevant scientific . . . community.⁵⁰

⁵⁰ Bergman, *supra* note 32, at 16.

⁵¹ *Id.*

The motion should also stress that the evidence is necessary to provide the defendant a fair trial guaranteed by the Fifth Amendment and as part of the "right to produce witnesses guaranteed by the Sixth Amendment . . ."⁵¹ The motion must be supported by memoranda and other points of authority to persuade the court to allow such testimony. Even though the Virginia courts have not formally adopted *Daubert*, such a motion places great importance on the relevance and reliability of scientific evidence, which is the backbone of Virginia's evidence rules concerning scientific expert testimony.

DNA EVIDENCE IN VIRGINIA

BY: STEVEN M. JOHNSON

Although the admissibility and reliability of DNA evidence made big headlines during O.J. Simpson's trial just last year, problems surrounding DNA testing were around well before the "trial of the century." The Capital Defense Digest published an article in 1992 on DNA evidence,¹ but advances in technology, literature, case law, and defense tactics in the intervening years warrant another look at DNA evidence.

I. Technological Advances In DNA Analysis²

The Polymerase Chain Reaction (PCR) form of DNA testing was first developed by Kary Mullis in 1984.³ This simple technique revolutionized the study of DNA to such an extent that Ms. Mullis was awarded the Nobel prize in 1994.⁴ PCR is generally used when the sample containing DNA is degraded or too small to perform the more accurate RFLP test.⁵

Imagine two Leggos, one red and one white, stuck together. Those Leggos are snapped apart and a new white Leggo attaches to the old red Leggo and a new red Leggo attaches to the old white Leggo. This process repeats over and over, creating millions of paired Leggos. This is essentially how the PCR process is used to replicate DNA.

The most common form of PCR is the DQA1 test. This test is performed by mixing the sample (or template DNA) with the *Taq* DNA Polymerase enzyme, the four DNA building blocks,⁶ and DNA probes or primer. This mixture is heated to separate the template DNA into single strands. As the mixture cools, the primers bind to both strands of the DQA1 gene. The *Taq* DNA Polymerase then recognizes the bond of

primer and template as a place to catalyze the making of new DNA, identical to the old DNA.⁷ The process is repeated thirty times, creating literally millions of DQA1 genes.⁸ The DNA is again separated into two strands, allowing probes to bind with specific sequences present in the newly created (amplified) DNA.⁹ Nylon is then pressed against the sample and half the sample (a "dot") attaches to the nylon in a distinct pattern. This pattern can then be compared to the known samples for identification.¹⁰

Kamrin MacKnight identifies four concerns with PCR testing: "(1) 'Allelic drop-out'; (2) the sensitivity of the test and the potential for contamination; (3) the small number of laboratories conducting the test; and (4) interpretation problems."¹¹

"Allelic drop-out" describes a situation where the test procedure preferentially amplifies one of two alleles (various types of each gene) to such an extent that it would appear a heterozygous individual (carrying both a dominant and recessive gene) is homozygous (carrying either both dominant or both recessive genes).¹² Apparently this problem only occurs when the testing temperature drops significantly below 94° Celsius.¹³

Because PCR is such a sensitive test, another possible problem is that contaminating DNA might be present in the sample which would disguise the sample DNA.¹⁴ This problem is of particular concern in criminal cases where a crime scene is not as sterile as a laboratory. Although one possible source of contamination is non-human DNA, the probes in the test system do not recognize, much less amplify non-primate DNA (leaving open the unlikely scenario of contamination by

¹ Christopher J. Lonsbury, *The Current State of DNA Evidence*, Capital Defense Digest, Vol. 4, No. 2 p. 11 (1992). Mr. Lonsbury's article focuses on RFLP DNA testing mechanics, probability calculations, case law through early 1992 and some advice for defense counsel.

² This section is a simplified explanation of the PCR test. See, Kamrin T. MacKnight, *The Polymerase Chain Reaction (PCR): The Second Generation of DNA Analysis Methods Takes the Stand*, 9 Santa Clara Computer & High-Tech. L.J. 287 (1993), and Howard Coleman & Eric Swenson, *DNA in the Courtroom* (1994).

³ MacKnight, *supra* note 2, at 300-01.

⁴ Coleman & Swenson *supra* note 2, at 53.

⁵ *Id.*

⁶ Adenine, guanine, thymine and cytosine.

⁷ Coleman & Swenson, *supra* note 2, at 53.

⁸ *Id.*

⁹ MacKnight, *supra* note 2, at 306.

¹⁰ *Id.* at 306-307.

¹¹ *Id.* at 314.

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.* at 316.