ADMISSIBILITY OF EXPERT TESTIMONY

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I. Statutes governing admissibility of expert testimony.

A. Virginia has adopted by statute, with minor modifications, the Federal Rules of Evidence ("FRE") provisions governing admissibility of expert testimony in civil actions.

B. 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 give opinion testimony. Va. Code § 8.01-401.3 (adopted from FRE 702).

C. An expert witness may give testimony and render an opinion or draw inferences fr om fact, circumstances or data made known to or perceived by such witness at or before the hearing or trial. The facts, circumstances or data relied upon by the expert in forming an opinion or drawing inferences need not be admissible into evidence if of a type normally relied upon by others in the particular field of expertise in forming opinions and drawing inferences. Va. Code § 8.01.401.1 (adopted from FRE 703).

D. No expert or lay witness shall be prohibited from expressing an otherwise admissible opinion or conclusion as to any matter of fact solely because that is the ultimate issue or critical to the resolution of the case. However, in no event shall the witness be permitted to express any opinion which constitutes a conclusion of law. Va. Code § 8.01-401.3 (adopted from FRE 704). This recently adopted provision was cited by the Supreme Court in holding the opinion of an accountant that a business's lost profits were caused by an employee's departure is admissible. R.K. Chevrolet v. Hayden, 253 Va. 50, 480 S.E.2d 912 (1997).

E. An 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. Va. Code § 8.01.401.1 (adopted from FRE 703).

F. In applying Va. Code § § 8.01-401.1 and -401.3, the construction given to FRE 703, 704 and 705 by the federal courts is "instructive". McMunn v. Tatum, 237 Va. 558, 565, 379 S.E.2d 908, 911-12 (1989).

II. Is the expert's opinion a matter of common knowledge?

A. The Supreme Court of Virginia has rigorously policed a ban on admitting expert testimony touching upon matters deemed to be within the "common knowledge" of jurors. The Court held the expert testimony in each of the following described instances to be a matter of common knowledge and thus, inadmissible:

- Proffered evidence that in the opinion of a psychiatrist, the key witness of the prosecution in a murder trial "cannot determine the truth, when she's testifying." Coppola v. Commonwealth, 220 Va. 243, 257 S.E.2d 797 (1979).

- Opinion of state trooper as to what would have been a maximum safe speed at the crash scene under the conditions existing at the time of the collision, which was the subject of a wrongful death action. Peters v. Shortt, 214 Va. 399, 200 S.E.2d 547 (1973).

- Opinion of an engineering professor of an automobile's speed at time of impact based upon the damage done to the vehicle, view of the scene, weight of the automobile and its occupants, and application to these facts of the conservation of energy principle. Grasty v. Tanner, 206 Va. 723, 146 S.E.2d 252 (1966).

- Testimony concerning the safety of using a "snatch block" to load lumber onto a building. Virginia-Carolina Chem. Co. v. Knight, 106 Va. 674, 56 S.E. 725 (1907).

- Testimony on whether advertisements indicated a preference for one religious group. Commonwealth v. Lotz Realty Co., 237 Va. 1, 376 S.E.2d 54 (1989).

- Opinion that the defendant newspaper reporter adhered to the standards for investigative reporting. Richmond Newspapers, Inc. v. Lipscomb, 234 Va. 227, 362 S.E.2d 32 (1987).

- Opinion concerning supervision of a resident of an adult home. Commercial Distribs., Inc. v. Blankenship, 240 Va. 382, 397 S.E.2d 840 (1990).

- Testimony on whether a hole in the ground in the vicinity of a merry-go-round was an unreasonably dangerous condition. Kendrick v. Vaz, Inc., 244 Va. 380, 421 S.E.2d 447 (1992).

B. The boundary between "common knowledge" and "specialized knowledge" was laid out in Board of Supervisors v. Lake, 247 Va. 293, 297, 440 S.E.2d 600, at 602 (1994):

> Expert testimony is inadmissible regarding "matters of common knowledge" or subjects "such that [persons] of ordinary intelligence are capable of comprehending them, forming an intelligent opinion about them, and drawing their own conclusions therefrom."
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> Thus, when the question presented can be resolved by determining what precautions a reasonably prudent person would have taken under like circumstances, no expert testimony is required or permitted.
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> Further, expert testimony is admissible only when specialized skill and knowledge are required to evaluate the merits of a claim. Issues of this type generally arise in cases involving the practice of professions requiring advanced, specialized education, such as engineering, medicine, and law, or those involving trades that focus upon scientific matters, such as electricity and blasting, which a jury cannot understand without expert assistance.

(Citations omitted).

C. Determining whether the Supreme Court will find the expert's opinion a matter of common knowledge can be difficult. Although certain subjects (such as medical causation) are obviously beyond the realm of the knowledge and experience of the average person, other areas in which experts are called to render opinions may be deemed by one court to be a matter of common knowledge and by another court to be a proper subject for expert testimony.

Contrasting Venable v. Stockner, 200 Va. 900, 108 S.E.2d 380 (1959) with Compton v. Commonwealth, 219 Va. 716, 250 S.E.2d 749 (1979) illustrates the divergent results produced by judicial application of the "common knowledge"

limitation on expert testimony. In Venable, the plaintiff called as a witness an expert with 25 years of experience as a safety engineer and accident analyst to render an opinion as to the point of impact of a collision between an automobile and a tractor-trailer. The expert had examined the marks on the highway and photographs of the marks and the vehicles and testified he was able to determine the angle of the impact, the point of impact, and the manner in which the vehicles had collided. The Virginia Supreme Court held that such testimony concerned matters of common knowledge on which the jury was as competent to form an accurate opinion as the witness.

In Compton, a murder case, the issue was whether the shooting of the victim while she was across the table from the accused was accidental. The court affirmed admitting the opinion of a police officer who investigated the shooting. Based on the location of blood and reconstruction of the chair in which the victim had been seated on the evening of her death, the police officer opined that the victim had been sitting in the chair and could not have been standing up at the time she was shot as alleged by the accused. The court stated explanations of the absence of powder burns around the wound, the absence of any of the pellets in the face or body of the victim, the presence of powder burns around the hole in the ceiling, the spatter pattern of blood, the volume of blood on the front of the refrigerator, and the lesser amount of blood near the top of or above the refrigerator were all matters beyond the scope or knowledge of the average juror.

D. The statutory adoption of FRE 702's "assist the trier of fact" language has not relaxed the "common knowledge" standard for admission of expert opinions as evidenced by the following decisions:

- David A. Parker Enterprises, Inc. v. Templeton, 215 Va. 235, 467 S.E.2d 488 (1996) reversed a trial judge's decision to permit a physician to testify wounds were inflicted by a rotating propeller on the grounds a jury was capable of reaching it own conclusion.

- Chapman v. City of Virginia Beach, 252 Va. 186, 475 S.E.2d 798 (1996) held it was error to admit the testimony of a human factors psychologist concerning the hazardous nature of a gate and the foreseeability of a child becoming entrapped in the gate.

Neither of these decisions mentioned the legislative adoption of the "assist the trier of fact" standard and in each case, the Court cited opinions from cases tried before the adoption of the "assist the trier of fact" standard.

E. Federal courts find that the "assist the trier of fact" requirement of FRE 702 for admissibility are not met when the proffered expert opinion concerns a matter of common knowledge. *E.g.*, Persinger v. Norfolk & W. Ry., 920 F.2d 1185 (4th Cir. 1990).

F. Will the occupations and background of the jurors seated on a case play a role in what constitutes "common knowledge? In Hot Springs Lumber Co. v. Revercomb, 110 Va. 240, 65 S.E. 557 (1909), the Supreme Court of Virginia suggested that the background of jurors may be a factor in considering admissibility of an opinion. The court sustained the admission of an opinion of a logger on the feasibility of floating logs down a certain stream and stated:

> Can it be doubted that the opinion of a witness who had made the floating of logs down mountain streams a part of the business of his life, who professed, and, as far as the question under consideration is concerned possessed, intimate knowledge of the stream with reference to which he testified before a jury composed of farmers and mechanics and men in the various avocations of life of ordinary experience and of average intelligence, would be of distinct value in enabling them to arrive at a correct conclusion? Id. At 268, 65 S.E. at 561.

III. Are there any "missing variables" in the opinion's factual basis?

A. If the expert's opinion is based upon assumptions unsupported by the evidence, the opinion will be "mere inadmissible speculation." Thorpe v. Commonwealth, 223 Va. 609, 292 S.E.2d 323 (1982). For example, in Swiney v. Overby, 237 Va. 231, 377 S.E.2d 372 (1989). the Court found that it was impermissible for an expert to testify on the stopping distance of a vehicle when the subject vehicle's brake condition was not in evidence. *See also* Runyon v. Geldner, 237 Va. 460, 377 S.E.2d 456 (1989); *accord*, Mary Washington Hosp. v. Gibson, 228 Va. 95, 319 S.E.2d 741 (1984).

B. Where tests are a component of the opinion's basis, there must be proof that the conditions existing at the time of the tests and at the time relevant to the facts at issue are substantially the same. Tittworth v. Robinson, 252 Va. 151, 475 S.E.2d 261 (1996).

C. In Griffin v. The Spacemaker Group, Inc., __Va.__, 486 S.E.2d 541 (June 6, 1997), the Supreme Court of Virginia reversed the finding of the trial court excluding the expert testimony of a mechanic and engineer that the abrasion of a hose installed on a forklift could not have occurred entirely during 101 hours of use since the forklift had been reconditioned. The Supreme Court held that the experts' inspection of the forklift and their knowledge of its operation was a sufficient factual basis for their opinions. Each expert had "considered the structure and design of the hoses and the force necessary to cause abrasion of their exterior coating and interior lining." Id. at 486 S.E.2d 544.

D. Griffin cited Tittsworth. The distinction between the cases appears to be that the Griffin experts relied upon their experience with similar products and materials while the Tittsworth experts relied upon the research and tests of others. The Supreme Court discerned a lack of similarity in the research and tests in Tittsworth that was not apparent in the empiricism embodied in the Griffin experts' opinion basis.

IV. Expert testimony on the opinion's basis: the McMunn rule.

A. In McMunn v. Tatum, 237 Va. 558, 379 S.E.2d 908 (1989) the Court affirmed the exclusion of an expert witness's testimony of opinions contained in medical records relied upon by the expert. Although the expert was entitled to base his opinion upon the records including the opinions, the Court held that on direct examination, the expert could not inform the jury of the hearsay matters of opinion found in the materials upon which the expert relied.

B. The McMunn rule was applied in Todd v. Williams, 242 Va. 178, 409 S.E.2d 450 (1991) to rule inadmissible a medical expert's testimony that he had spoken with other physicians who agreed with his opinion and about opinions contained in medical literature relied upon by the expert. Va. Code § 8.01-401.1 has subsequently been amended (by adopting with slight modification FRE 803(18)) to permit opinions contained in literature deemed to be a reliable authority to be admitted into evidence on direct examination.

C. The McMunn rule applies only to hearsay opinions not facts. In Foley v. Harris, 223 Va. 20, 286 S.E.2d 186 (1982), the Court approved an expert in real estate values testifying about statements made by prospective purchasers about the subject property but held such testimony would be admitted only for the limited purpose of determining what weight should be given to the expert's conclusion.

D. What is "fact" and what is "opinion" can be a difficult determination. For example, is the scoring of the health of newborns in which a nurse or physician grades the activity, color, breathing, heart beat and appearance known as an "Apgar" a matter of fact or opinion? The Supreme Court was confronted with this question in Gaalaas v. Morrison, 233 Va. 148, 353 S.E.2d 898 (1987) and declined to decide whether it was fact or opinion choosing instead to find any error in its admission was harmless.

E. The process of becoming an expert in large measure represents the assimilation of the opinions of mentors and experts who have published in the field. Because of this fact, most opinions rendered by experts in court will be in part or whole the opinions of others. McMunn only precludes the expert from informing the jury of the opinions of others (with the exception of authorities admitted pursuant to § 8.01-401.1). If the expert has adopted the opinion of another as his own, the expert should be permitted to express what is now the testifying expert's opinion if he doesn't relate that the opinion is an opinion held by a non testifying expert.

V. Daubert and its impact on admissibility of expert testimony.

A. In Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S.579, 113 S.Ct. 2786 (1993), the Supreme Court announced a new framework to assess the admission of expert scientific testimony. It departed from the Frye rule, Frye v. United States, 293 F. 1013 (App.D.C.1923), which held that the standard on the admissibility of scientific evidence was that which was "generally accepted as reliable in the relevant scientific community." 293 F. 1014 (D. C. Cir. 1923). In Daubert, the Court noted that the Frye rule was superseded by the adoption of the Federal Rules of Evidence, and that nothing in Rule 702 establishes general acceptance as an absolute prerequisite to admissibility. 113 S.Ct. at 2794.

Daubert requires trial judges to act as gatekeepers and make a preliminary assessment, pursuant to Rule 104(a), and act as gatekeepers when faced with a proffer of expert scientific testimony. The judge must determine whether the offered expert testimony is (1) scientific knowledge and(2) will assist the trier of fact to understand or determine a fact in issue. These entail preliminary assessments of whether the reasoning or methodology underlying the testimony is sufficiently valid and whether it can be properly applied to the facts of the case. Daubert language also imposes the requirement that the scientific evidence "fit" the case, raising the threshold for relevancy.

In discussing how the judge should perform an assessment of the expert's reasoning and methodology, Daubert discussed four factors that judges *may* use in their determination of whether or not the expert's testimony is scientific knowledge. Those are:

(1) whether a theory or technique can be and has been be tested;
(2) whether the theory or technique has been subjected to peer review and publication;
(3) consideration of the known potential rate of error; and
(4) general acceptance of the methodology.

113 S.Ct. at 2796-97.

Daubert stressed these factors are not the exclusive criteria for a trial judge to consider. "Many factors will bear on the inquiry, and we do not presume to set out a definitive checklist or test." 113 S.Ct. at 2796. The Court emphasized the inquiry is a "flexible approach" and pointed out a number of authorities have suggested varying factors which "may well have merit". 113 S.Ct. at 2797, n. 12.

Daubert addresses the admissibility of scientific evidence, unlike Frye which focused on novel scientific evidence. Daubert does not limit its application to novel science. *See* 113 S.Ct. 2796, n. 11. Also, Daubert does not require, although it permits, the explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance within that community. 113 S.Ct.2797, *citing* United States v. Downing, 753 F.2d 1224, 1238 (3d Cir. 1985).

B. Daubert specifically stressed the "focus, of course, must be solely on principles and methodology, not on the conclusions that they generate." 113 S.Ct. at 2797. In Re Joint Eastern & Southern District Asbestos Litigation, 52 F3d 1124 (2d Cir. 1995), a trial judge's exclusion of an expert's opinion that colon cancer was caused by asbestos exposure was reversed because the trial judge's independent assessment of expert witnesses' conclusions and comparative credibilities of experts and scientific publications went beyond authority granted by Daubert.

C. Subsesquent to Daubert, the lower federal courts have wrestled with what experts and types of opinions should be subjected to a Daubert analysis. The following examples illustrate the scenarios in which Daubert motions have been raised and the divergent holdings:

Only novel scientific evidence? Edwards v. ATRO SpA, 891 F.Supp. 1074 (E.D.N.C. 1995). Product liability action by worker who was injured when co-worker's pneumatic nail gun discharged. Defendant's counsel sought to exclude all the testimony by plaintiff's experts arguing inadequate qualification and that testimony failed to meet Daubert standard. The court held that Daubert has a narrow focus, pertaining only to *novel* scientific evidence. The opinions offered by plaintiff's engineers were based upon facts, investigations, research and traditional technical or mechanical expertise. *But see* Daubert, 113 S.Ct. 2786, 2796, n.11 ("we do not read the requirements of Rule 702 to apply specially or exclusively to unconventional evidence.").

All expert testimony? Rice v. Cinncinnati, New Orleans & Pacific Ry. Co., 920 F.Supp. 732 (E.D. Ky. 1996). Daubert is applicable to all expert testimony offered under Rule 702, including the qualification of experts witnesses, because it is relative to the gatekeeper function.

United States v. Starzecpyzel, 880 F. Supp. 1027 (S.D.N.Y. 1995). Daubert factors do not apply to a questioned document examiner's testimony. Daubert only established standards for fields whose scientific character is unquestioned. No new standards apply to non scientific experts.

Engineer's opinions. Pestel v. Vermeer Manufacturing Co., 64 F.3d 382 (8th Cir. 1995) applied the Daubert analysis to a mechanical engineer's opinion concerning the need for an improved guard on a stump remover and excluded the opinion.

Stanzk v. Black & Decker, 836 F. Supp. 565 (N.D. Ill. 1993) ruled an engineer's opinion that a saw blade guard offering more protection to users was inadmissible because the expert had not actually constructed and tested his proposed design and the defendant manufacturer's expert's studies concluded it was not feasible.

Freeman v. Case Corp., 924 F.Supp. 1456, 1466 (W.D. Va. 1996). Mechanical engineer's testimony on the design of tractor brakes is not scientific testimony to which Daubert

applies.

Opinions of treating physicians. Zarecki v. National Railroad Passenger Corp., 914 F. Supp. 1566 (N.D. Ill. 1996). A railroad reservations agent, diagnosed with carpal tunnel syndrome, brought suit under FELA. Plaintiff did not offer her treating physician as an expert, but the court, *sua sponte*, directed the parties to address whether the expert should have been disclosed. The court then excluded the physician's testimony because it failed to meet the requirements of Daubert. The court held that the physician's testimony was based on his own subjective beliefs and observations without showing that he conducted any studies or authorities to support his views as to the cause of his patient's carpal tunnel.

D. The depth of scrutiny of the expert's scientific methodology has varied greatly among the courts. The following are some examples of the approaches taken by courts:

In Benedi v. McNeil-P.P.C., Inc., 66 F.3d 1378 (4th Cir. 1995), the Fourth Circuit held Daubert sets forth guidelines and is meant to be flexible; it does not require epidemiological data, only reliability and relevance. On the issue the liver toxicity of acetominophen (Tylenol) with alcohol, there was no requirement for epidemiological data. It was sufficient that the treating physicians appearing as experts relied upon changes in appearance of liver, blood levels of acetominophen, history of its usage with alcohol, liver enzyme levels and lack of evidence of other causes. Court declared it would find such methodologies reliable because medical community daily uses these methodologies in treating patients.

The Ninth Circuit, upon remand of Daubert , excluded the opinions of the experts whose opinions were the subject of the Supreme Court decision. Daubert v. Merrell Dow Pharmaceuticals, 43 F.3d 1311 (9th Cir. 1995), *aff'g* 727 F.Supp. 570 (S.D. Cal. 1989), *vacated and remanded*, 113 S.Ct. 2786 (1993). The court suggested a more rigorous analysis would be appropriate for data prepared in anticipation of litigation:

> "One significant factor to be considered is whether the experts are proposing to testify about matters growing naturally and directly out of research they have conducted independent of litigation, or whether they have developed their opinions

> expressly for purposes of testifying. That an expert testifies for money does not necessarily cast doubt on the reliability of his testimony . . . [In] determining whether proposed expert testimony amounts to good science, we may not ignore the fact that a scientist's normal workplace is the lab, not the courtroom or the lawyer's office."
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> 43 F. 3d 1317.

E. Some courts have been especially wary of medical opinions based on animal studies:

In order for animal studies to be admissible to prove causation in humans, there must be good grounds to extrapolate from animals to humans, just as the methodology of studies must constitute good grounds to reach the conclusion. Re Paoli R.R. Yard PCB Litigation, 35 F.3d 717 (3d Cir. 1994).

Direct extrapolation from animal studies to opine as to cause of limb defects in humans, without human studies, is theoretical with an extraordinarily high rate of error and weighs against finding expert testimony based on scientific knowledge. Wade-Greaux v. Whitehall Laboratories, Inc., 874 F. Supp 1441 (D. Virgin Islands 1994).

F. A court applying Daubert must determine what is the relevant scientific community. In Wade-Greaux v. Whitehall Laboratories, Inc., 874 F. Supp. 1441 (D. Virgin Islands 1994), an internal medicine specialist's opinion was excluded as to whether a drug caused human birth malformations. The relevant scientific community was deemed to be the specialty of teratology because teratologists developed methodology for investigating and determining whether a particular agent caused birth malformations in humans.

G. Would the Supreme Court of Virginia embrace the reasoning of Daubert? Virginia had specifically rejected the Frye rule prior to the Daubert decision. Spencer v. Commonwealth, 240 Va. 78, 393 S.E.2d 609 (1990); O'Dell v. Commonwealth, 234 Va. 672, 364 S.E.2d 491 (1988). The Supreme Court has been quite vigilant in the factual basis of expert opinions. This examination has sometimes included attacking an expert's reliance on scientific or medical studies. In Tittworth v. Robinson, 252 Va. 151, 475 S.E.2d 261 (1996), use of data from tests examining forces necessary to produce neck injuries were deemed not "substantially similar" to the issue of the cause of a lumbar injury. This perceived discrepancy was one reason cited for exclusion of an expert's opinion relying on the data.

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