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Expert Witnesses—Traffic Accident Analyst

Sophisticated techniques available in the analyzation of physical facts have led to the increased use of traffic accident analysts as expert witnesses. The main consideration in determining when such an expert should be permitted to testify is whether the opinion of the expert will aid the jury in making the correct determination of the factual issues. Wigmore succinctly states this test to be as follows: "On *this subject* can a jury from *this person* receive appreciable help?"¹ Recently, West Virginia recognized a traffic accident analyst as an expert on accident reconstruction and admitted his opinion to aid the jury.² This represents the trend across the country.³ In an early decision dealing with an accident reconstruction expert, the Iowa Court recognized that with the growing complexities of modern life "a failure to make the fullest use of expert opinions in court procedure means, in a great many cases, a denial of proof, and, necessarily, a denial of justice."⁴

A traffic accident analyst might be defined as a person who uses his special skills and knowledge to reconstruct automobile accidents. His expertise consists of his knowledge of principles of science and his ability to critically analyze the physical facts. This ability and knowledge may be gained from a combination of higher education, experience, and special training in accident reconstruction.⁵ Analyzation of the physical evidence at the accident is the object of his training. From the skid marks, ruts, holes, debris, damaged vehicles, other physical evidence, and even photographs of the scene, the traffic accident analyst reconstructs the events leading to the collision.

Before the expert's opinion can be admitted into evidence, the court must determine if he is qualified. West Virginia seems to follow Wigmore's suggestion⁶ by holding that expert opinion is admis-

¹ 7 J. WIGMORE, EVIDENCE § 1923 (3d ed. 1940).

² Lawrence v. Nelson, 145 W. Va. 134, 145, 113 S.E.2d 241, 249 (1960).

³ Annot., 66 A.L.R.2d 1048, 1951 (1959).

⁴ Grismore v. Consolidated Products Co., 232 Iowa 328, 343, 5 N.W.2d 646, 655 (1942).

⁵ Reath, *Scientific Data and Expert Opinion—Its Use In Automobile Accident Cases*, 24 INS. COUNSEL J. 99, 101 (1957); Experience of twelve to fifteen years qualified a train engineer as an expert to testify on certain steam pumps, Lambert v. Virginian Railway Co., 96 W. Va. 158, 162, 122 S.E. 457, 459 (1924); A higher education may include degrees in engineering, physics, and metallurgy, Reath, *supra* at 101; Specialized training could be gained at the Traffic Institute at Northwestern University, 24 INS. COUNSEL J., *supra* at 99.

⁶ 7 J. WIGMORE, EVIDENCE § 1923 (3d ed. 1940).

sible when it will aid the jury in reaching a proper conclusion which it could not reach without such help,⁷ or when the jury could not be fully informed regarding the facts upon which the expert's opinion is based without his examination.⁸ To qualify as an expert, the West Virginia court has stated that a person need have only some knowledge superior to that of the jury.⁹ Determining the competency or qualification of an expert to testify falls within the trial court's province and its judgment will not be reversed unless it clearly appears there has been an abuse of discretion.¹⁰

Once the witness has been qualified by the court, he may state his opinion.¹¹ This testimony must be elicited in the form of a hypothetical question, except where there is no conflict upon the material facts in evidence or where the expert is personally acquainted

⁷ *Attelli v. Laird*, 106 W. Va. 717, 722, 146 S.E. 882, 885 (1929) (by implication); see *Walker v. Walker*, 106 N.H. 282, 284, 210 A.2d 468, 470 (1965).

⁸ *Reall v. Deiriggi*, 127 W. Va. 662, 667, 34 S.E.2d 253, 256 (1945).

⁹ *Stenger v. Hope Natural Gas Co.*, 139 W. Va. 549, 567, 80 S.E.2d 889 (1954). In *Lester v. Rose*, 147 W. Va. 575, 595, 130 S.E.2d 80, 94 (1963) in determining whether to accept the proffered expert the court appeared to rely on the previous recognition of the witness as an expert in the earlier cases of *Kale v. Douthitt*, 274 F.2d 476, 481 (4th Cir. 1960) and *Lawrence v. Nelson*, 145 W. Va. 134, 145, 113 S.E.2d 241, 249 (1960). A perusal of the opinion in this case lends no hint as to how heavily the court relied upon the previous acceptance of the witness in deciding whether to accept the witness as an expert. But, if the court is relying on the previous acceptance as a qualifying factor, it should be noted that this represents a departure from the usual test in determining whether one qualifies as an expert. Furthermore, using prior acceptance as the qualification test of an expert invites a succession of errors. For, if the court that initially determined the party to be an expert was wrong, subsequent use of this individual, predicated on the initial determination, would seriously magnify the effect of the first court's error. Another argument against using prior acceptance as a qualification test is that one qualified as an expert under the previous factual situation may not qualify on the facts existing in the present controversy. For example, the first court may qualify the witness to testify to the speed of a vehicle from the length of the skid marks and in a subsequent case permit the same witness to testify to the point of impact, a topic on which he may not be competent to testify.

¹⁰ *Toppins v. Oshel*, 141 W. Va. 152, 167, 89 S.E.2d 359, 367 (1955); *State v. Brady*, 104 W. Va. 523, 533, 140 S.E. 546, 550 (1927); *Bank v. Hannaman*, 63 W. Va. 358, 361, 60 S.E. 242, 243 (1908). The terms "qualifications" and "competency" are often used synonymously in West Virginia. However, there is a distinction between the two terms. By competency it is meant that under the complex facts and circumstances a traffic accident analyst would appreciably aid the jury. In certain situations the facts are so obvious that the jury would not need the aid of an expert to determine what led to the accident. But still, a traffic analyst would be a qualified person to reconstruct the accident; however, the simplicity of the situation renders his testimony incompetent.

¹¹ *Overton v. Fields*, 145 W. Va. 797, 808, 117 S.E.2d 598, 606 (1960); *Sebrell v. Barrows*, 36 W. Va. 212, 218, 14 S.E. 996, 997 (1892).

with the facts.¹² In the hypothetical question, the assumed facts need not be based on undisputed evidence tending to prove them;¹³ but, the hypothetical should be based on a state of facts which the evidence in the case tends to prove.¹⁴ In both *Lawrence v. Nelson*¹⁵ and *Lester v. Rose*¹⁶ an assignment of error was that the hypothetical question posed to the expert omitted material facts. On appeal, in both cases, the court reasoned that any errors in the hypothetical question were cured by cross-examination of the expert or were so minor as not to affect the opinion of the expert.¹⁷ These holdings indicate that the court, in proper cases, will bend the rule on hypothetical questions to allow pertinent expert opinion evidence into the case.¹⁸

In addition to problems incident to the admissibility of an expert's opinion because of his competency or qualifications, the testimony may be excluded because of its scope. The West Virginia Supreme Court of Appeals originally indicated that an expert's opinion was not admissible into evidence if it dealt directly with the ultimate issue in the case.¹⁹ If the expert's opinion directly reflected upon this ultimate issue, the court concluded this amounted to an invasion of the

¹² *State v. Maier*, 36 W. Va. 757, 761, 15 S.E. 991, 993 (1892). An expert's opinion, as indicated by the cases, could fall into one of three classifications. His testimony could be no more than an interpretation of scientific laws, and never specifically deal with any facts in the case. Application of scientific laws to the assumed facts propounded in the hypothetical question would be another class. 31 AM. JUR. 2D *Expert and Opinion Evidence* § 17 at 512 (1967); *Hanley v. W. Va. C. & P. Ry.*, 59 W. Va. 419, 430, 53 S.E. 625, 628 (1906). West Virginia has recognized a third hybrid class by allowing the expert's opinion to be based partly upon his knowledge of scientific laws and partly upon the assumed facts in the hypothetical question. *Phenix Fire Ins. Co. v. Virginia-Western Power Co.*, 81 W. Va. 298, 303, 94 S.E. 372, 374 (1917).

¹³ *Byrd v. Virginian Ry.*, 123 W. Va. 47, 51, 13 S.E.2d 273, 275 (1941); *Fairview Fruit Co. v. Brydon & Bro.*, 85 W. Va. 609, 611, 102 S.E. 231, 232 (1920).

¹⁴ *Byrd v. Virginian Ry.*, 123 W. Va. 47, 51, 13 S.E.2d 273, 275 (1941); *Kerr v. Lunsford*, 31 W. Va. 659, 8 S.E. 493, 500 (1888). The West Virginia court has allowed the deposition of an expert to be read into the record after the facts upon which the hypothetical question in the deposition was based had been placed in evidence. *Walker v. Strosnider*, 67 W. Va. 39, 71, 67 S.E. 1087, 1101 (1910).

¹⁵ 145 W. Va. 134, 145, 113 S.E.2d 241, 249 (1960).

¹⁶ 147 W. Va. 575, 595, 130 S.E.2d 80, 94 (1963).

¹⁷ *Lawrence v. Nelson*, 145 W. Va. 134, 145, 113 S.E.2d 241, 249 (1960); *Lester v. Rose*, 147 W. Va. 575, 595, 130 S.E.2d 80, 94 (1963). The West Virginia court may even continue to follow the precedent set in *State v. Evans*, 136 W. Va. 1, 6, 66 S.E.2d 545, 548 (1951), that an expert's opinion is not objectionable where it "relates to whether a given effect *might* result from a certain cause." This is not considered speculative, but rather a common and proper method of examination.

¹⁸ *Butcher v. Stull*, 140 W. Va. 31, 38, 82 S.E.2d 278, 283 (1954).

¹⁹ *Redman v. Community Hotel Corp.*, 138 W. Va. 456, 469, 76 S.E.2d 759, 766 (1953); *State v. Hull*, 45 W. Va. 767, 776, 32 S.E. 240, 244 (1899).

jury's province since it was charged with determining this question. More recently, however, the West Virginia court has intimated it is more concerned with getting the expert's opinion before the jury than battling with the elusive issue of whether the opinion goes to the ultimate issue.²⁰ The court rationalizes this approach by stating that the weight to be given the expert's opinion is a jury determination,²¹ which should be based mainly upon a finding that the facts assumed in the hypothetical question have been proven.²²

Once it has been determined that a properly qualified traffic accident analyst is an expert competent to give an opinion and, the proper method for eliciting this opinion has been decided, the question still remains as to how such opinion may be employed.

One of the most common instances is where a party calls an expert to corroborate testimony and thus hopefully substantiate his side of the controversy.²³ It is argued that the main justification for utilizing an expert in any circumstance is that his testimony will contribute to an elucidation of the facts involved. Yet, when each side in the controversy employs an expert, some would note that instead of clarifying the essential facts, the contradictory expert opinions simply confuse the triers of fact. However, upon a more critical analysis it could be argued that where two such experts reach differing opinions the jury without their aid could not possibly approach a proper solution.

Establishing a prima facie claim is yet another means of employing an accident analyst. In a California case where the accident occurred late at night during a heavy rain, the defendant's bus driver testified that the bus was approximately thirty feet past a crosswalk when he heard a noise as if something had hit the side of the bus; he stopped the bus, and found plaintiff's decedent lying fifteen to twenty feet outside a crosswalk. The court allowed plaintiff to qualify the investigating officer as an expert whose opinion that plain-

²⁰ *Lester v. Rose*, 147 W. Va. 575, 598, 130 S.E.2d 80, 95 (1963); *Duling v. Bluefield Sanitarium Inc.*, 149 W. Va. 567, 142 S.E.2d 754 (1965).

²¹ *Bank v. Hannaman*, 63 W. Va. 358, 361, 60 S.E. 242 (1908); *Tower v. Whip*, 53 W. Va. 158, 162, 44 S.E. 179, 181 (1903).

²² 31 AM. JUR. 2d *Expert and Opinion Evidence* § 183 at 79 (1967).

²³ *West v. Jack Cooper Transport Co.*, 372 S.W.2d 642, 644 (Mo. Ct. App. 1963). *Reath, Scientific Data and Expert Opinion—Its Use In Automobile Accident Cases*, 24 INS. COUNSEL J. 99 (1952). In West Virginia it appears that the only purposes to which a traffic analyst's opinion has been applied are corroboration and impeachment. *Lester v. Rose*, 147 W. Va. 575, 597, 130 S.E.2d 80, 94 (1963).

tiff's decedent was struck while within the marked safety zone established a prima facie case of negligence.²⁴

Additionally, impeaching the credibility of witnesses provides another opportunity for utilization of an accident analyst. For example, plaintiff testified that his vehicle was struck in the right rear after having nearly completed a right turn. But, defendant contended that the plaintiff turning right without a visible signal, pulled in front of him, at which instant the accident occurred. Defendant's expert was then permitted to testify that the accident could not have happened as the plaintiff contended.²⁵

The subjects most frequently testified to by traffic accident analysts are speed and the point of impact.²⁶ The basic process used by the experts in determining speed consists of measuring tire skid marks and applying certain laws of physics.²⁷ It may also be necessary to calculate the displacement of the vehicles at the point of impact in establishing the speed.²⁸ The point of impact is important in deciding the issue of negligence and may be indicated by the debris, water and oil spots, gouges, and other physical evidence found at the accident scene.²⁹

²⁴ *Kastner v. Los Angeles Metropolitan Transit Auth.*, 63 Cal. 2d 52, 56, 403 P.2d 385, 387, 45 Cal. Rptr. 129, 131 (1965). For another case in which an expert's opinion established a prima facie case in a wrongful death action see *Richardson v. Buehre*, 153 F. Supp. 120, 124 (D.C. Minn. 1957). For a case where defendant used an expert to establish a prima facie defense see *Campbell v. Clark*, 283 F.2d 766 (10th Cir. 1960). Reath, *Scientific Data and Expert Opinion—Its Use In Automobile Accident Cases*, 24 INS. COUNSEL J. 99 (1957).

²⁵ *Yocum v. Kansas City Public Service Co.*, 349 S.W.2d 860, 864 (Mo. 1961); *accord Peterson v. Salt River Project Agricultural Improvement & Power District*, 96 Ariz. 1, 391 P.2d 567, 572 (1964); *Hughes v. Kilgore*, 233 Cal. App. 2d 541, 542, 43 Cal. Rptr. 820, 821 (1965). Reath, *Scientific Data and Expert Opinion—Its Use In Automobile Accident Cases*, 24 INS. COUNSEL J. 99 (1957).

²⁶ Other subjects where a traffic analyst has been declared competent to testify are: where the windshield of plaintiff's car was struck by poles which defendant was towing, *Peterson v. Salt River Project Agricultural Improvement & Power District*, 96 Ariz. 1, 391 P.2d 567 (1964); whether a tire was cut from the outside or ruptured from the inside, *Cribbs v. Daily*, 67 Ill. App. 2d 441, 449, 214 N.E.2d 588, 592 (1966); to decipher the events of two nearly simultaneous accidents, *City of Phoenix v. Schroeder*, 1 Ariz. Appeals 510, 405 P.2d 301 (1965); whether the damage was caused by the rear or front collision in a three car mishap, *McCormick v. Sexton*, 239 Ark. 29, 286 S.W.2d 930, 933 (1965); and, where the expert offered his opinion as to who was the driver of the vehicle involved in an accident, *Walker v. Walker*, 106 N.H. 282, 287, 210 A.2d 468, 472 (1965).

²⁷ 10 PROOF OF FACTS, *Skidmarks & Stopping Distances* 661 (1961).

²⁸ 10 PROOF OF FACTS, *Reconstruction of Accident* 137 (1961).

²⁹ *Id.* at 146.

Although the expert has been categorized as a traffic accident analyst, courts have qualified people with different vocations as experts to voice their opinions based upon reconstruction of the accident. As early as 1934, a police officer was unsuccessfully offered as an expert to analyze skid marks, but on appeal it was held error to have excluded his testimony.³⁰ Now, as a matter of course, many courts accept police officers as qualified experts competent to give their opinion from their observations at the accident scene.³¹ Even automobile mechanics,³² insurance investigators,³³ and, in one instance, a professor of science³⁴ have been qualified to state their opinion as an accident analyst.

Recent developments in the utilization of accident reconstruction experts seem to indicate that the courts favor the use of such experts. Evidencing this, a recent case allowed a patrolman to give his opinion without being qualified as an expert by holding that the patrolman's qualifications as an expert could not be doubted.³⁵

It should seem fair to predict that as scientific techniques of analysis become more sophisticated, use of those skilled in these methods to elucidate the probabilities, by analysis of the physical facts, will become even more prevalent.

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³⁰ *Saladow v. Keystone Transp. Co.*, 241 App. Div. 161, 271 N.Y.S. 293, 294 (1934).

³¹ *Rhynard v. Filori*, 315 F.2d 176, 179 (8th Cir. 1963); *McCormick v. Sexton*, 239 Ark. 29, 386 S.W.2d 930 (1965); *Kastner v. Los Angeles Metropolitan Transit Auth.*, 45 Cal. Rptr. 129, 131, 403 P.2d 385, 387 (1965); *Grant v. Clarks*, 78 Idaho 412, 422, 305 P.2d 752, 757 (1956); *Lucas v. Duccini*, 258 Iowa 77, 137 N.W.2d 634, 637 (1965); *Tuck v. Buller*, 311 P.2d 212, 215 (Okla. 1957).

³² *Dibert v. Ross Pattern & Foundry Development Co.*, 105 Ohio App. 264, 267, 152 N.E.2d 369, 374 (1957); *McBroom v. Orner*, 64 Wash. 2d 887, 889, 395 P.2d 95, 96 (1964).

³³ *Burleson v. Champion*, 283 F.2d 653, 654 (5th Cir. 1960).

³⁴ *Wentzel v. Huebner*, 78 S.D. 481, 485, 104 N.W.2d 695, 697 (1960).

³⁵ *Bonner v. Polacari*, 350 F.2d 493, 496 (10th Cir. 1965).

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