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Paul T. Lyon

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EXPERT TESTIMONY IN MISSOURI ON POINT OF IMPACT IN AUTOMOBILE ACCIDENTS

Most automobile accidents present no peculiar or unusual problems for the practitioner in establishing fault and liability. There are some cases, however, that demand of the advocate a great deal of skill and hard work to make out a case of negligence. One of the types of cases that fit into this latter category are divider line collisions between two automobiles. The ultimate issue usually boils down to which driver was on the wrong side of the road at the time of the collision.

All too often testimonal proof in these type accidents is either completely lacking1 or subject to enormous credibility problems. Conflicts appear in the testimony of witnesses and many times in the testimony given by the same witness. To compound this problem, often the only witnesses to the accident are the interested litigants.2 To surmount these problems, the lawyer must turn to the physical evidence left in the wake of an automobile collision.

The physical evidence is used in an attempt to reconstruct the accident for the court or jury, and the attorney will find that he can nearly always place before the jury the physical facts on which the reconstruction is to be based and can argue the implications arising therefrom by way of summation. In many of these cases the investigating police officer is used as a witness to testify as to the physical facts.³ He is usually in the best position to relate the physical evidence, having observed and noted the skid marks, debris, damage, and location of the vehicles involved.

However, permitting the investigating officer or other expert to go further and testify as to the significance of the physical evidence is quite another matter. There are certain well recognized areas on which an expert is permitted to testify and there are other areas that are the subject of a great deal of controversy.

It is quite generally accepted in Missouri and in other jurisdictions that the determination of speed from the length of skid marks is an appropriate subject for expert testimony.4 The Missouri court states:

While we have found no case in this state passing directly on the question, certainly the general weight of authority in this country recognizes that a witness qualified as an expert may give his opinion, based upon the length of the skid marks and other pertinent data as to the minimum speed at the time the brakes were applied of a motor vehicle involved in an accident.5

Housman v. Fiddyment, 421 S.W.2d 284 (Mo. En Banc 1967).

^{1.} Williams v. Cavender, 378 S.W.2d 537 (Mo. 1964). In this case both drivers were killed and there were no other witnesses to the collision.

^{3.} Zelayeta v. Pacific Greyhound Lines, 104 Cal. App.2d 716, 232 P.2d 572 (1951); Hamre v. Conger, 357 Mo. 497, 209 S.W.2d 242 (1948).
4. Dillenschneider v. Campbell, 350 S.W.2d 260 (K.C. Mo. App. 1961);

see Annot. 23 A.L.R.2d 112 (1952).

^{5.} Dillenschneider v. Campbell, 350 S.W.2d 260, 266-267 (K.C. Mo. App. 1961).

The corollary of this type testimony, determining the stopping distance of a car going a certain speed, is also generally accepted as a proper subject for expert testimony.⁶ In Missouri, as well as in other states, this determination is often so well accepted that the courts will take judicial notice of stopping distances.⁷ Other areas where the court will take judicial notice, are reaction times, and average walking speed of pedestrians.⁸ In Leap v. Gangelhoff,⁹ the court accepted without comment the testimony of an expert regarding reaction time and walking speed. Apparently these are areas where the court deems the matter under consideration both so technical that an expert is allowed to testify, and of such common knowledge that the court in other cases will take judicial notice of the fact. Experts have also been allowed to testify as to the turning radius of a vehicle at a certain speed,¹⁰ and also as the mechanics of a truck's steering gear and the truck's behavioral pattern should the mechanism fail in a particular way.¹¹

The courts are reluctant, however, to allow an expert to estimate speed from the damage done to the vehicles.¹² While this issue generally arises in connection with the admissibility of some other form of evidence,¹³ such evidence is generally excluded, most commonly because there was no sufficient showing that the witness in question was qualified as an expert to draw the necessary conclusion. In those cases where such evidence was admitted, the expert was usually shown to have a high degree of qualification in the field of accident reconstruction.¹⁴

Another area of reconstruction evidence that is generally held admissible is experimental evidence. The trial court is given a wide latitude of discretion, and will not be reversed on appeal unless abuse is shown. Although these cases do not always require an expert, ¹⁵ where one is used the evidence is usually admissible. ¹⁶

Perhaps the most controversial area of admissibility of expert testimony in accident reconstruction is point of impact evidence. The Missouri Supreme Court in a recent case had the opportunity to re-examine its position in this area. The case considered involved a collision on a road with an unmarked center-line. The accident occurred as the defendant, driving his heavily loaded station wagon east,

8. Ìmmekus v. Quigg, 406 S.W.2d 298 (Spr. Mo. App. 1966); Losh v. Benton, 382 S.W.2d 617 (Mo. 1964).

^{6.} Ibid.

^{7.} Immekus v. Quigg, 406 S.W.2d 298 (Spr. Mo. App. 1966); see Annot. 84 A.L.R.2d 979 (1962); De Lay v. Ward, 364 Mo. 431, 432-443, 262 S.W.2d 628, 630-638 (1953).

^{9. 416} S.W.2d 65 (Mo. 1967).

^{10.} Yocum v. Kansas City Pub. Ser. Co., 349 S.W.2d 860 (Mo. 1961).

^{11.} Central & Southern Truck Lines v. Westfall G.M.C. Truck, 317 S.W.2d 841 (K.C. Mo. App. 1958).

^{12.} Dillenschneider v. Campbell, 350 S.W.2d 260, 267 (K.C. Mo. App. 1961); see Annot. 93 A.L.R.2d 287 (1964).

^{13.} Dillenschneider v. Campbell, 350 S.W.2d 260 (K.C. Mo. App. 1961).

^{14.} Foreman v. Heinz, 185 Kan. 758, 347 P.2d 451 (1959); Johnson v. Huskey, 186 Kan. 282, 350 P.2d 14 (1960); Continental Oil Co. v. Elias, 307 P.2d 849 (Okla. 1956).

^{15.} Faught v. Washam, 329 S.W.2d 588 (Mo. 1959).

^{16.} Sullivan v. Hanley, 347 S.W.2d 710 (Spr. Mo. App. 1961).

^{17.} Housman v. Fiddyment, 421 S.W.2d 284 (Mo. En Banc 1967).

entered a downhill curve to his right. The plaintiff was driving west and proceeding up the hill. The only question in the case was which vehicle was on the wrong side of the road at the time of the collision.¹⁸

The plaintiff introduced the testimony of a well recognized expert in the field of automobile accident reconstruction.¹⁹ His qualifications were unchallenged and defendant's counsel conceded in argument the position of importance of the expert and referred to him as highly qualified. On appeal the court stated:

Nor are his conclusions and opinions challenged as far as accuracy and truth are concerned. The question is one of admissibility of expert testimony. 20

The expert was informed of the makes of the automobiles, their directions, and their speeds as testified to by their drivers. He examined the available photographs taken by the parties and inspected the scene of the accident some ten months after the event. Using this information, the principles of dynamics and momentum, and his experience in automobile accident reconstruction, he testified as to his conclusions.

He explained that during maximum engagement of two colliding automobiles, there is an unusually large downward force on the front wheels and that physical signs known as "scrub marks" are often left by the front tires as a result of the heat, weight and friction. Examining photographs of the accident, he identified one of the several black marks shown as a scrub mark. He explained the identifying characteristics of scrub marks as distinguished from ordinary skid marks.

Noting that the major accumulation of debris was east of the scrub mark and point of maximum engagement, he explained the phenomenon that he had observed in experimental crashes of debris being located at some point other than the area of initial impact. He stated that the debris, loosened by impact, will continue to move in the direction of the car from which it had its origin until it meets a superior force such as defendant's automobile and is batted back in the opposite direction before it reaches the ground.

20. Housman v. Fiddyment, 421 S.W.2d 284, 287 (Mo. En Banc 1967).

^{18.} *Id*. at 286.

^{19.} The court in *Housman* lists the accomplishments and qualifications of the expert by saying at page 286: "J. Stannard Baker is Director of Research and Development at the Traffic Institute of Northwestern University. A traffic engineer, he directs the major part of the research and development work at the institute. Educated as an electrical engineer, he was on the staff of the National Safety Council 1928-1945 and director of safety for the transit lines in Detroit one year. He has been associated at times with the institute since its founding in 1936. For 30 years he has observed, supervised and studied crashes of motor vehicles under controlled conditions. He teaches traffic reconstruction. He has written texts, manuals, guides, articles and books by the hundreds in this field. He invented devices to calculate speed of vehicles from skid marks. He has testified approximately 200 times in court as an expert. He received various awards for distinguished service and research in highway safety. He is proficient in the science of photogrammetry (making maps from photographs) and wrote a manual on the subject under a government grant."

Using a technique known as photogrammetry (making maps from photographs), he prepared an overlay of the road and on it pinpointed the location of the scrub mark. He also identified and located another skid mark as the mark left by the skidding rear wheel of the defendant's station wagon after impact. The trial court then refused to allow the expert to reconstruct to scale the positions of the automobiles with respect to each other and with respect to the road. The witness explained away other skid marks shown in the photographs as not being related to this accident, but was not allowed to illustrate the positions of the vehicles in stages from the time of initial contact until they came to rest, for the assigned reason that this would usurp the function of the jury.

The court sitting en banc decided to ignore the trend of recent decisions on the subject of point of impact testimony²¹ and stay with the long line of Missouri decisions on this point.²² The Missouri case law on this subject got its start in some unfortunate dictum in Hamre v. Conger23 where after pointing out that the witness, a highway patrolman had not been shown to be sufficiently qualified, the court went further and stated that point of impact is not a proper subject for expert testimony.

The Missouri court, as well as many others, confuses the opinion rule and the rule on expert testimony. For instance, in the decision in Housman v. Fiddyment,24 the court cited earlier Missouri cases and adopted what it believed to be the rule:

Allowing an expert to give an opinion upon a subject of inquiry, instead of requiring that the witness give only facts, is an exception to the rule that witnesses must state facts.25

Wigmore in his classic treatise, recognizes the confusion and emphasizes the need to distinguish: "[T]hus it is essential that the doctrine of Experimental Qualifications should not be confounded with the doctrine of superfluous Opinion evidence."26 He goes on to say: "The whole law of 'opinion evidence,' so called, may be and might well be modified or abolished; but that would not affect in the slightest the sound doctrine of experiential qualifications."27 To help, he suggests two tests:

[f]irst, [I]s this a matter upon which this witness is sufficiently qualified by experience? and if it is, next, Is this a matter upon which

^{21.} Een v. Consolidated Freightways, 120 Supp. 289 (D.N.D. 1954); Wells Truckways v. Cebrian, 122 Cal. App.2d 666, 265 P.2d 557 (1954); Ison v. Stewart, 105 Colo. 55, 94 P.2d 701 (1939); Brower v. Quick, 249 Ia. 569, 88 N.W.2d 120 (1958); Mann's Ex'r v. Leyman Motor Co., 234 Ky. 639, 28 S.W.2d 956 (1930); Tuck v. Buller, 311 P.2d 212 (Okla. 1957); Henthorn v. M.G.C. Corp., 1 Wis.2d 180, 83 N.W.2d 759 (1957); see Annot. 66 A.L.R.2d 1048 (1959).

^{22.} See the discussion of the Missouri cases in the text of this article infra.

^{23. 357} Mo. 497, 209 S.W.2d 242 (1948). 24. 421 S.W.2d 284 (Mo. En Banc 1967).

^{25.} Id. at 289.

^{26. 2} WIGMORE, EVIDENCE § 557 (3rd Ed. 1940). 27. Ibid.

the jury are or may be so well furnished with information that this witness cannot help them appreciably?28

Using Wigmore's test on the evidence presented in this case, it is apparent that the first requirement is met; in fact, it is admitted. The second requirement asks if the witness can help the jury, if he can, then he should be permitted to testify. Wigmore makes no reference to expect testimony being objectionable because it is directed at the ultimate issue or issues to be decided by the jury.

A more contemporary source is the Uniform Rules of Evidence which would cast the opinion rule and the rule on expert testimony in the following manner:

- Rule 56. Testimony in Form of Opinion.—(1) If the witness is not testifying as an expert his testimony in the form of opinions or inferences is limited to such opinions or inferences as the judge finds (a) may be rationally based on the perception of the witness and (b) are helpful to a clear understanding of his testimony or to the determination of the fact in issue.
- (2) If the witness is testifying as an expert, testimony of the witness in the form of opinions or inferences is limited to such opinions as the judge finds are (a) based on facts or data perceived by or personally known or made known to the witness at the hearing and (b) within the scope of the special knowledge, skill, experience or training possessed by the witness.
- (3) Unless the judge excludes the testimony he shall be deemed to have made the finding requisite to its admission.
- (4) Testimony in the form of opinions or inferences otherwise admissible under these rules is not objectionable because it embraces the ultimate issue or issues to be decided by the trier of the fact.²⁹

The qualifications of the witness can be based upon experience, observation, or knowledge. These may stem from long exposure to the subject under inquiry through job experience, special training or from some other source. The party offering the expert must demonstrate his special qualifications to the trial court and the trial court should be left to determine "absolutely and without review, the fact of possession of the required qualifications by a particular witness."30 The difficulty of the particular problem often enters into the competency of a witness to testify and is best understood by the trial judge alone. Emphasizing this judicial discretion, Wigmore states that there is an ample safeguard in cross examination to reveal the qualifications of the witness, and states that it is an injustice to require supreme court justices to investigate such trifles.31

Once the qualifications of the witness have been established, emphasis should be directed at the issue of whether the expert can aid the jury, taking

^{28.} *Ibid*.29. Uniform Rules of Evidence 56.30. 2 Wigmore, Evidence § 561 (3rd Ed. 1940).

^{31.} Ibid.

into consideration, the facts of the particular case. Emphasis should not be placed on an area of exclusion as the court did in Housman, 32 The opinion in that case leaves little question on the admissibility of point of impact testimony in Missouri. To say that in every case involving point of impact, highly qualified expert testimony is inadmissible, states a rule that is much too rigid in its application.

In some highly persuasive reasoning, a California court stated:

Thus, expert testimony is admissible or not dependent upon whether the subject matter is within common experience or whether it is a special field where the opinion of one of skill and experience will be of greater validity than that of the ordinary juryman. It is quite obvious that the conclusion, based upon the facts of the particular case, as to just where a collision between two vehicles occurred, may be so obvious that any reasonable person, trained or not, can draw that inference from the facts. It is equally clear that cases may occur where the opinions of trained experts in the field on this subject will be of great assistance to the members of the jury in arriving at their conclusions. In such cases a traffic officer who has spent years investigating accidents in which he has been required to render official reports not only as to the facts of the accidents but also as to his opinion as to their causes, including his opinion, where necessary, as to the point of impact, is an expert. Necessarily, in this field, much must be left to the common sense and discretion of the trial court.33

In Een v. Consolidated Freightways, 34 a leading case on point of impact testimony, the federal court states:

In the case at hand, contrary inferences as to which side of the road the accident occurred on were earnestly argued by opposing counsel from the physical facts existing immediately after the accident. It would seem, therefore, that this is not a case where the conclusion as to where the collision occurred is so obvious that any reasonable person, trained or not, could easily draw the inference. Rather, it would seem to be a case where trained experts in the field would be of considerable assistance to the jurors in arriving at their conclusions.35

In contrast, the Missouri court found that the testimony of the expert in Housman added nothing to the jury's knowledge and found his testimony as to the point of maximum engagement "particularly prejudicial"36 when he located the scrub mark to be one and one-half feet into plaintiff's lane.

The court places heavy reliance on the uniform rulings of the Missouri courts in earlier decisions. In Homan v. Missouri Pac. R. Co.,37 there was a collision between a bus and a railroad car. The court ruled that it was not error on the part

^{32. 421} S.W.2d 284 (Mo. En Banc 1967).

^{33.} Zelayeta v. Pacific Greyhound Lines, Inc., 104 Cal. App. 2d 716, 726-727, 232 P.2d 572, 579 (1951). 34. 120 F. Supp. 289 (D. N.D. 1954).

^{35.} *Id*. at 293.

^{36. 421} S.W.2d at 290.

^{37. 334} Mo. 61, 64 S.W.2d 617 (En Banc 1933).

of the trial court to exclude the testimony of automobile repairmen as to the position of the bus and flatcar at the time of the collision. The court stated that the nature and location of the damage to the flatcar and bus and their relative positions at the moment of the collision were not matters of an "unusual, complicated, or technical nature." Citing other authority for the point, the court states, that one test of the admissibility of such evidence is "whether the court or jury will be aided by receiving the evidence." The exclusion of the evidence in this case does not seem at all unreasonable in view of the number of eyewitnesses available, and the qualifications of the "experts." In a later case brought by the husband of the plaintiff in the *Homan* case discussed above, the court reiterated its earlier decision on the subject as controlling and refused to allow an automobile dealer and repair shop operator to testify.

The next case decided on this issue involved the testimony of a highway patrol sergeant who testified that certain damage to a truck was caused by "an object going in the opposite direction." The court refused to reverse the case on this ground because the evidence was not prejudicial.

Then in Hamre v. Conger,⁴² which the court in Housman cited so approvingly, there was an intersectional collision between a truck and a car, and a highway patrolman testified for the plaintiff as to the location of dirt, glass and other debris. He went on to state that in his opinion, the point of impact was at the center of the debris. The court found that the witness was not properly qualified and then went on to say:

Whatever value the *location* of the debris or the *center* of the debris falling from two motor vehicles upon impact may have upon determining the point of impact is not, in our opinion, a proper subject for expert or opinion evidence.⁴³

This statement is the origin of the broad exclusionary rule propounded by the court in *Housman*. Where an expert's opinion is based solely on locating the heaviest concentration of debris and placing the point of impact there, then it may be a matter on which the average juror would be as competent as any expert, and it is indeed questionable whether an expert could appreciably aid the court or jury. However, if it is true, as the expert in *Housman* testified, that debris does not fall immediately from colliding autos, but tends to be carried or batted back in the direction of movement of the car with larger momentum, then it seems highly probable that the testimony of an expert having supervised and conducted many experimental crashes would aid a jury in fixing the location of initial impact. Although the court in *Hamre* talks about excluding expert testimony on this point,

^{38.} Id. at 79, 64 S.W.2d at 625.

^{39.} *Ibid*.

^{40. 335} Mo. 30, 70 S.W.2d 869 (1934).

^{41.} Cornwell v. Highway Motor Freight Line, 348 Mo. 19, 152 S.W.2d 10 (1941).

^{42. 357} Mo. 497, 209 S.W.2d 242 (1948).

^{43.} Id. at 507, 209 S.W.2d at 249.

its decision was undoubtedly influenced by the fact that the "expert" in that case was a highway patrolman and probably not as well qualified as the expert in Housman.

In later cases, the courts agreed with Hamre, but found no prejudicial error in admitting the testimony of highway patrolmen as to the point of impact. In the case of Cox v. Wrinkle,44 the patrolman's testimony was in fact favorable to the objecting party. In like manner, the court in Welch v. McNeely, 45 found the answer of a witness unresponsive and therefore not prejudicial, when in answer to a question regarding his opinion as to the point of impact, the witness stated the location of the greatest concentration of debris.

Chester v. Shockley,46 the next case in the series of decisions, involved the testimony of a police officer who stated that by considering the location of the dirt, the point at which the skid marks changed direction and where they ended, he had determined what he thought was the point of impact. The court found error in admitting the policeman's testimony and gave no reasons for its refusal to allow the evidence; it merely cited the foregoing authorities as a basis for its decision.47

In Duncan v. Pinkston,48 the court found error in the admission into evidence of the testimony of a highway patrolman based on the location of debris as to the point of impact. The court stated:

Such evidence has been held to be improper as not being a proper subject of expert or opinion evidence and as invading the province of the jury.49

It has become well recognized that "invading the province of jury" is not an objection well taken. Numerous Missouri cases have so held,50 and they are supported by cited and respected authorities.⁵¹ That objection had its origin in the opinion rule which itself is under bombardment by legal authorities and writers in the field.52

As the Missouri court in State v. Paglino⁵³ has stated:

The province of the jury is to hear all of the evidence including opinion evidence, to weigh it all, and to decide the issues. Thus an opinion (evi-

^{44. 267} S.W.2d 648 (Mo. 1954). 45. 269 S.W.2d 871 (Mo. 1954). 46. 304 S.W.2d 831 (Mo. 1957). 47. In Ryan v. Campbell "66" Express, Inc., 304 S.W.2d 825 (Mo. En Banc 1957) the court again recognized the decisions in Missouri on point of impact but chose not to elaborate on the point.

^{48. 340} S.W.2d 753 (Mo. 1960).

^{49.} Id. at 758.

^{50.} State v. Paglino, 319 S.W.2d 613 (Mo. 1958); State v. Cochran, 356 Mo. 778, 203 S.W.2d 707 (1947); State v. Brown, 291 S.W.2d 615 (Mo. 1956); Central & Southern Truck Lines, Inc. v. Westfall GMC Truck, Inc., 317 S.W.2d 841 (K.C. Mo. App. 1958).

^{51. 7} WIGMORE, EVIDENCE § 1920 (3rd Ed. 1940).

^{52.} See McCormick, Some Observations Upon the Opinion Rule and Expert Testimony, 23 Texas Law Rev. 109, 110 (1945).

^{53. 319} S.W.2d 613 (Mo. 1958).

dence) cannot 'invade the province of a jury,' and this (is true), even though the opinion is upon the very issue to be decided. An objection that an expert opinion invades the province of the jury is not a valid one.⁵⁴

In Williams v. Cavender. 55 there was a divider line collision between two automobiles. Both of the drivers died as a result of the collision and there were no other eyewitnesses to the tragedy. The only witness of any real consequence was the highway patrolman who investigated the accident, having arrived on the scene some twenty minutes after the accident. The need for a well qualified expert witness is dramatically represented here. The skid marks, debris and location of the damaged vehicles were silent witnesses to the collision. In the hands of a highly trained specialist in the field, these pieces to the jigsaw puzzle could have been arranged into a very meaningful picture of the accident. The court displays its reluctance to decide the case by saying:

It is always unfortunate when we are forced to determine the merits of a case upon such meager and strictly circumstantial evidence as we have here.56

The court refused to find the testimony of the patrol officer prejudicial because the objecting party had elicited the same testimony on his direct examination. However, the court was careful not to disturb the prior point of impact decisions in Missouri.

In reaching its decision, the court in Williams, very carefully analyzed the physical evidence. Nevertheless, after the analysis, the court was forced to admit that it could not explain the nineteen-foot arcing skid that led to the front wheel of one of the automobiles. In an attempt to justify its lack of explanation, the court stated:

We do not feel that the movement of that car after the actual impact is of any great importance, for it could have little relation to the car's movements prior to impact.57

It is submitted that the movement of an automobile after a collision is very closely connected to the speed, direction, and location that it has both prior to the collision and at the time of impact. It would seem that the aid of a properly trained and qualified expert would have been of some assistance in this case.

On the basis of the foregoing decisions the court in Housman concluded that it was prejudicial error to admit the testimony of the expert because the ultimate issue for decision (point of impact) "was within the ken and competence of the average juror."58

The testimony of an expert is admissible because his professional pursuit, or

^{54.} Id. at 623.

^{55. 378} S.W.2d 537 (Mo. 1964). 56. *Id.* at 540. 57. *Id.* at 542.

^{58. 421} S.W.2d at 292.

his peculiar skill or knowledge allows him to draw an inference where men of common experience would be left to doubt. No definitive line can be drawn between matters of common knowledge and those requiring expertise, and for this reason the matter is better left to the discretion of the trial court, which best understands the facts and circumstances of the evidence.

Very commonly an expression of opinion by an expert is broad enough that the court or jury might adopt it as a basis for the ultimate decision in the case. However, this does not mean that the witness is deciding the case or that in so testifying he is usurping the functions of the jury. He is merely giving an opinion based upon his skill or training, which the court or jury may or may not accept as testimony that will lead to a disposition of the case. The jury is at liberty to reject the testimony and as a further safeguard can be instructed on this point.

In most automobile accidents, the evidence is not self-explanatory to the layman. It seems much more reasonable to get to the truth of the matter as rapidly as possible, relying on traditional safeguards such as cross-examination to test the qualifications of the witness and the basis for his opinion.

PAUL T. LYON