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EXPERT TESTIMONY IN AVIATION ACCIDENT
LITIGATION: THE COMMON LAW AND
PROPOSED FEDERAL RULES OF EVIDENCE

Litigation arising from general and private aviation accidents
is continually increasing,¹ and this expansion has been accompanied
by a corresponding increase in the use of expert witnesses to aid in
understanding various complex aspects of air crashes. Experts are
utilized in the pretrial stages, for example, to assist attorneys in
understanding the accident in order to prepare a better case.² During
the trial the expert’s superior knowledge is used to aid the fact
finder in deciding liability and damages.

To employ the expert effectively in the presentation of a scientif-
ically accurate, yet understandable case it is essential to have a
comprehension of the common law rules concerning the use of
expert opinion. The proposed Federal Rules of Evidence, however,
will make some important changes in the rules surrounding expert
opinion. Congressional approval of the proposed rules seems prob-
able and the rules are already persuasive authority in the federal
courts. Thus, an analysis of the proposed rules will aid the trial
attorney in the effective use of experts.³

¹ Kennelly, Aviation Accident Case, 15 Trial Lawyers Guide 281, 283
(1971).
² 2 L. Kreindler, Aviation Accident Law § 24.03, at 95 (1963).
³ The proposed Federal Rules of Evidence are set forth at 41 U.S.L.W. 4021
(1972) and at 56 F.R.D. 183.

The proposed rules were submitted to Congress by the Supreme Court for
congressional approval on Feb. 5, 1973. On April 3, 1973, the President signed
the House version of S. 583, which provides the Rules of Evidence “shall have
no force or effect except to the extent and with such amendments, as they may
be expressly approved by Act of Congress.”

Critics of the proposed rules, including Justice William O. Douglas, have
held the Supreme Court exceeded its authority in promulgating the rules. See

More specific criticisms have centered around the "privilege" issue concerning
protection under the law extended to communications between priest and pa-
risheer, lawyer and client, and husband and wife. See 31 Cong. Q. Weekly
Rep. 613 (1973). For a good discussion of the Supreme Court’s authority in
this area, see Comment, Congressional Discretion in Dealing With the Federal
Any analysis of the use of experts at common law and under the proposed Federal Rules of Evidence should explore the appropriate instances in which an expert may be utilized and the requirements for eliciting the desired testimony. It is accepted at common law that an expert witness may be used as an aid to the fact finder in determining liability in an aviation accident case. Experts have recently been used to help determine damages, but there is disagreement concerning what role the expert should play in the jury's assessment of damages.

The proposed Federal Rules of Evidence will help to settle this disagreement and to allow more freedom in the use of experts in determining damages. In addition, the proposed rules will have a significant impact on the procedural rules surrounding the use of experts. The most important changes the new rules will make regarding expert witnesses are in the procedural area regarding opinions on "ultimate issues," prior disclosure of underlying facts before stating an opinion, and the hypothetical question. These provisions of the rules and others will be of great practical importance to the aviation accident litigator.

I. BASIC REQUIREMENTS FOR USE OF EXPERT TESTIMONY AT COMMON LAW AND UNDER THE PROPOSED FEDERAL RULES OF EVIDENCE

A prerequisite for the use of expert testimony at common law is that the subject about which the expert testifies must be outside the

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[The Federal Rules of Evidence were passed and enacted into law on January 2, 1975 (Pub. L. No. 93-595). The final version is substantially the same with respect to expert testimony as the Supreme Court draft. The effective date will be July 1, 1975. Because of the adoption of the Federal Rules of Evidence, the author's discussion of their impact is especially timely and significant—Eds.]
common knowledge of the jury. The fact finder in aviation accident cases is often presented with issues requiring specialized skill or knowledge to understand. In such cases, the courts have been uniform in allowing expert testimony on the issues. Because the interpretation of facts arising in such a case is beyond the comprehension of the average juror, absent expert assistance, testimony of one possessing special skill or knowledge is permissible.

In testifying at trial the expert is allowed to draw inferences from facts and to give his opinions based upon these facts. This is an exception to the general rule that does not allow a witness to give his opinion of the facts in the case. The expert opinion exception has been called one based on necessity.


\[6\] See cases cited note 5 supra; see also 31 AM. JUR. 2d Expert and Opinion Evidence § 16 (1967).


\[8\] See, e.g., Connecticut Mut. Life Ins. Co. v. Lathrop, 111 U.S. 612, 618 (1884); Girson v. United States, 88 F.2d 358 (9th Cir. 1937), cert. denied, 301 U.S. 697 (1937); Spokane & I.E.R.R. v. United States, 210 F. 243 (9th Cir. 1914), aff'd, 241 U.S. 344 (1915); Alaga Coach Line v. McCarroll, 227 Ala. 686, 151 So. 834 (1933). The foregoing authorities support the common-law proposition that a non-expert witness may testify only to the facts within his knowledge and may not state his opinion based on these facts. Proposed Federal Rule of Evidence 701 departs from this proposition and allows opinion testimony by lay witnesses.

Rule 701 states:

If the witness is not testifying as an expert, his testimony in the form of opinions or inferences is limited to those opinions or inferences which are (a) rationally based on the perception of the witness and (b) helpful to a clear understanding of his testimony or the determination of a fact in issue.

The limitations on lay opinions are that they must be based on first-hand knowledge and must be helpful to the fact-finder. The proposed rule's purpose is to eliminate the controversy which often arises over what is "fact" and what is "opinion." See C. McCORMICK, LAW OF EVIDENCE § 11 (2d ed. E. Cleary 1972) and 7 J. WIGMORE, EVIDENCE § 1919 (3d ed. 1940). The approach taken by proposed Rule 701 is the rule in several state jurisdictions. See CAL. EVID. CODE § 800 (West 1966); KAN. CODE CIV. P. § 60-456(a) (1964); N.J. EVID. RULE 56(1) (Supp. 1974).

See 31 AM. JUR. 2d Expert and Opinion Evidence § 16 (1967). Wigmore stated in regard to the test for receiving expert opinion:
The proposed Federal Rules of Evidence do not require necessity before expert testimony may be admitted. Proposed rule 702 is phrased in terms of whether the opinion of the expert will be helpful to the fact finder. This is a more liberal provision for allowing expert testimony. Proposed rule 702 will not, however, greatly change the frequency with which experts are utilized in aviation accident litigation in determining liability since the courts have generally recognized that the issues involved in an aviation accident are not normally within the common knowledge of the jury. For this reason, expert opinion regarding liability has been freely admitted and proposed rule 702 will not increase the frequency with which experts are used.

At common law the trial court has broad discretion in determining when there exists a necessity for expert opinion. Appellate courts are reluctant to interfere with the trial court's determination absent a clear abuse of discretion. Under proposed Federal Rule of Evidence 702 the trial court will presumably have the same discretion to determine when an expert opinion will be helpful to the fact finder. The standard of review of the trial court's determination at common law will probably serve as the standard of review under the federal rule, and reversals for an abuse of discretion under the proposed rule will probably be rare.

But the only true criterion is:

On this subject can a jury from this person receive appreciable help? In other words, the test is a relative one, depending upon the particular subject and the particular witness with reference to that subject, and is not fixed or limited to any class of persons acting professionally.


10Proposed Federal Rule of Evidence 702 states:

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.

11Marean v. Petersen, 259 Iowa 557, 144 N.W.2d 906 (1966); Lead v. Inch, 116 Minn. 467, 134 N.W. 218 (1912); Tuck v. Buller, 311 P.2d 212 (Okla. 1957).

12C. MCCORMICK, LAW OF EVIDENCE § 13, at n.67 (2d ed. E. Cleary 1972).
II. EXPERT TESTIMONY FOR ASSESSING DAMAGES AT COMMON LAW AND UNDER THE PROPOSED RULES

A discussion of the use of expert witnesses in determining damages should begin with an analysis of wrongful death statutes. Prior to the enactment in 1846 of Lord Campbell's Act,\(^9\) the decedent's survivors had no cause of action against the tortfeasor.\(^4\) The tort was said to die with the decedent. Because of the harshness of this doctrine to the survivors, who may have lost valuable services of the decedent, Lord Campbell's Act created a new cause of action in favor of the decedent's designated personal representative.\(^5\)

Every American state has one of two types of statutory remedies for wrongful death. The majority have enacted "death acts" similar to Lord Campbell's Act. A minority of the states has "survival acts" which theoretically preserve the decedent's cause of action and also provide for damages accruing to the survivors as a result of his death.\(^6\)

The damages recoverable under survival acts which combine the decedent's cause of action and the damages resulting from his death typically include pain and suffering, medical expenses, loss of earnings during the decedent's lifetime, and loss to the survivors of the future earnings of the decedent.\(^7\) The pain and suffering element of damages under the survival statute may be proven by the use of medical experts at trial. The medical expert may state his opinion on the cause of death and at what time death occurred. Defendant's attorney may seek to establish that the death was instantaneous and that the pain and suffering was not prolonged. The medical expert can be useful and is sometimes essential to prove this aspect of the damages.\(^8\)

In the other major type of statute from wrongful death, the so-

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\(^9\) 9 & 10 Vict., c. 93 (1846).
\(^10\) W. Prosser, Handbook of the Law of Torts § 127, at 901-02 (4th ed. 1971); Baker v. Bolten, 1 Comp. 493, 170 Eng. Rep. 1033 (1808), holding that the infliction of death was not a tort against either the survivor or the decedent.
\(^11\) W. Prosser, supra note 14, at 902.
\(^12\) Id. Some states have both types of statutory schemes. See W. Prosser, supra note 14, at 906. A good survey of the wrongful death and survival statutes in the various states is found in S. Speiser, Recovery for Wrongful Death App. A, at 788-904 (which lists the text of the individual state statutes).
\(^13\) W. Prosser, supra note 14, at 905.
called "death acts," which give the decedent's survivors a cause of action in themselves for loss of the decedent's services, the statutory language often limits the damages to pecuniary loss to the surviving beneficiaries. While this may have been intended to include only monetary loss to the survivors, some courts have expanded the concept of pecuniary loss to include loss of society, care and attention.

Loss of the mother's care in the form of attention given to the children's physical, moral and educational welfare may be considered in some states. Also considered are the husband's damages resulting from the wife's lost services. Some states even allow compensation to the survivors for the mental grief and anguish the survivors have suffered. Of course the basis of the damages awarded in any wrongful death or survival action depends upon the wording of the particular statute and the state court's interpretation of that statute.

An expert witness may be invaluable in establishing an element of damages allowed under a particular statute. While the measure of damages in an aircrash suit is left to the good judgment and common sense of the jury, much guidance may be given by experts. For example, experts may be utilized to establish the probable duration of human life, a factor directly related to the lost earnings of

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22 Prauss v. Adamski, 195 Ore. 1, 244 P.2d 598 (1952). See Wilson v. Lund, 80 Wash. 2d 91, 491 P.2d 1287 (1971) (holding that under the Washington wrongful death statute, damages for parental mental anguish surrounding the death of a child were recoverable and that such damages could be proven by psychiatric testimony). See Barrett v. Charlson, 18 Md. App. 80, 305 A.2d 166 (1973) (allowed parental mental anguish as an element of damages based upon a statutory provision).

23 For a comparison of the statutes and the type of damages allowed under each one, see S. Speiser, supra note 16.
the decedent. While mortality tables are frequently used, the ex-
pert may show why the decedent would have lived longer or short-
er than the norm.

In *Krohmer v. Dahl*, a recent Montana case, the court reason-
ed that use of a statistician gave the jury a reasonable basis upon
which to estimate the probable future earnings of the decedent,
and dismissed defendant's contention that the testimony was spec-
ulative. The probable duration of human life may be established
by an expert actuary, economist or physician and there is an in-
creasing awareness of the need for such experts to assist the jury
in predicting loss of future earnings capacity. Proposed Federal
Rule of Evidence 702 would allow use of experts of this type in
predicting loss of future earnings. But because the common law
recognizes the need for expert testimony for this purpose the use
of the expert in assessing loss of earnings should not appreciably
increase.

In addition to the loss of earnings to the survivors, some statu-
tes and courts have allowed compensation for loss of society, care and
attention. One interesting development is the "substitute mother-
housewife" concept. While the economic loss of an employed moth-
er-housewife may be easily estimated, the loss to the survivors of
their unemployed mother or wife is not so easily established. Some
courts now allow the value of the substitute services of a mother-
housewife to be estimated through the testimony of experts.

The substitute mother-housewife concept provides a good back-
ground for the analysis of proposed Federal Rule of Evidence 702.
It has been suggested that the value of a mother's service is
clearly within the common knowledge of a jury and therefore

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25 145 Mont. 491, 402 P.2d 979 (1965); see also Allendorf v. Elgin, J. & E.
Ry., 8 Ill. 2d 164, 133 N.E.2d 288 (1956), cert. denied, 352 U.S. 833, reh. de-
26 145 Mont. at --, 402 P.2d at 982.
27 See J. Stein, DAMAGES AND RECOVERY § 240, at 506-07 (1972); Kansas
City Southern Ry. v. Morris, 80 Ark. 328, 98 S.W. 363 (1906); Francis v. Sauve,
222 Cal. App. 2d 102, 34 Cal. Rptr. 754 (1963); Scott v. James Gibbons Co.,
192 Md. 319, 64 A.2d 117 (Ct. App. 1949).
28 S. Speiser, RECOVERY FOR WRONGFUL DEATH § 3:18, at 120 (1966).
29 See note 20 supra.
30 Har-Pen Truck Lines v. Mills, 378 F.2d 705 (5th Cir. 1967); Smith v.
Whidden, 87 So. 2d 42 (Fla. 1956); Schmitt v. Jenkins Truck Lines, 170 N.W.2d
632 (Iowa 1969).
31 See note 10 supra.
expert opinion on this issue should be excluded.\textsuperscript{22} This view has been adopted by at least one state court.\textsuperscript{23} Other courts which have considered the issue have recognized that an expert's guidance may be helpful, if not necessary, for the jury to reach an intelligent decision on this element of damage.\textsuperscript{24} Proposed rule 702, couched in terms of allowing expert testimony if it will be helpful, should cause more courts to admit testimony on the value of a mother's services to her survivors.

A federal court approved the use of experts to assess the value of a decedent mother's services to her surviving children in \textit{Merrill v. United Air Lines, Inc.}\textsuperscript{25} In that case, an action was brought in federal court on behalf of two young children who had lost their mother in an aviation accident. To demonstrate the pecuniary loss to the children, plaintiff called a professional home economist as an expert to testify to the nature of the services ordinarily performed by a young mother and the cost of replacing these services by supplying a "substitute mother." The defendant objected to this testimony on the ground that the value of a mother's services was within the common knowledge of the jury and thus not a proper subject of expert opinion.\textsuperscript{26} The trial judge in admitting this testimony, stated:

Popular knowledge and common sense may be and indeed are valuable. But they are not the sole recourse. The fact that parents from time immemorial have taken care of their children does not establish that the views of a professional home economist may not be sounder than those of untrained laymen in determining the cost of those elements that go into the home in order to provide the children with so-called "substitute mother" care.

As knowledge becomes more professionalized, specialists will more frequently be called upon as expert witnesses. This is a

\textsuperscript{22} See \textit{Har-Pen Truck Lines v. Mills}, 378 F.2d 705, 711 (5th Cir. 1967); \textit{Merrill v. United Air Lines, Inc.}, 177 F. Supp. 704, 705 (S.D.N.Y. 1959). In both cases the court rejected defendant's argument that the value of a mother's services was an improper subject for expert opinion.


\textsuperscript{24} See note 30 supra.


\textsuperscript{26} 177 F. Supp. at 705.
judicial by-product of an age of pervasive technology and expanding social sciences.\textsuperscript{37}

A state court decision representing the view that expert testimony on the value of a mother's services should not be permitted is \textit{Zaninovich v. American Airlines, Inc.}\textsuperscript{38} The \textit{Zaninovich} case was a wrongful death action brought in a New York court on behalf of four children whose parents had been killed in an aviation accident. The trial court allowed expert testimony concerning both the father's future earnings and the costs of providing a substitute for the mother. In reviewing the case, the appellate division stated:

[\textit{T}he court was correct in allowing business expert testimony as to the husband's future prospects in the fruit and produce business. These are not matters in the general knowledge of the jurors, or for that matter, the court. . . . So long as one is entitled to recover for loss of future potentialities, such evidence is permissible. On the other hand, it was error to allow proof as to the costs of providing a substitute for the wife. These are matters within the common ken, and subject to so many variables and choices that no objective standard can be supplied by an expert, if one there be. . . .]\textsuperscript{39}

An analysis of New York case law reveals that the cases within that state are in conflict as to whether the value of a mother's services are within the common knowledge of the jury.\textsuperscript{40} Moreover, the federal courts are not in agreement on whether in a diversity action the court should analyze state law to determine whether expert opinion is admissible on the value of a substitute mother's services.

The Third Circuit takes the position that the question of admissibility of expert opinion is evidentiary and federal law should control. In \textit{Haddigan v. Harkins},\textsuperscript{41} the surviving husband testified

\textsuperscript{37}Id.


\textsuperscript{39}Id.

\textsuperscript{40}Compare \textit{Zaninovich} with \textit{Horton v. State}, 50 Misc. 2d 1017, 272 N.Y.S.2d 312 (Ct. Cl. 1966). In \textit{Horton}, expert testimony was held admissible as to the value of a mother's services.

\textsuperscript{41}441 F.2d 844 (3d Cir. 1970).
in the trial court as to the amount of time his deceased wife had spent cooking, sewing, and performing other household tasks. An employment agency proprietor was called to testify to the hourly rate paid for each of the named jobs and an amount was determined that closely represented the monetary value of decedent's services. The Third Circuit stated in regard to the expert testimony that although no Pennsylvania cases had been called to the court's attention which allowed or disallowed testimony of this kind, state law would not control on this point in any event. The court concluded that this was an evidentiary question upon which federal law controlled. Then, relying on Merrill, the court stated that expert testimony of this kind was admissible in federal courts.

The Fifth Circuit takes a different approach to the question. Har-Pen Truck Lines, Inc. v. Mills involved an action for wrongful death brought in federal court on behalf of the surviving children. In the lower court, plaintiff used the testimony of an economics professor to value the services of a hypothetical housewife. He valued the mother's services from the time of the accident until the youngest child left home. Defendants contended on appeal that Georgia authority precluded the use of such testimony as an invasion of the function of the jury. Rather than stating that the state law did not control, as the Third Circuit did in Haddigan, the Fifth Circuit in Har-Pen Truck Lines discussed the state cases and distinguished them. The Fifth Circuit in justifying the use of expert testimony stated that "theGeorgia courts have expressly sanctioned use of opinion evidence and expert testimony to evaluate services where that was possible." The court relied upon Georgia cases that had allowed testimony on the value of the services of a substitute mother.

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43 Id. at 851.
45 441 F.2d at 852.
46 378 F.2d 705 (5th Cir. 1967).
47 Id. at 711. While the question was not squarely presented on appeal in Har-Pen Truck Lines, it may be implied that the Fifth Circuit follows the view that the propriety of expert opinion in a particular diversity case is determined by reference to state law. This conclusion follows from their reliance on state law in Har-Pen Truck Lines.
48 Id. The Georgia cases relied upon were Western & A.R.R. v. Townsend, 36
There appears to be a conflict in the two circuits' approach to the question of whether expert testimony is admissible to value the services of a substitute-mother. While the Third Circuit in Haddigan stated that the use of expert testimony was an evidentiary question controlled by federal law, the Fifth Circuit in Har-Pen Truck Lines relied on state law for justifying the use of expert testimony. Adoption of proposed federal rule 702 will clear up confusion with respect to what standard should be followed in federal courts in admitting such testimony. If the proposed rules had been applicable when Har-Pen Truck Lines was decided, the Fifth Circuit would not have had to rely upon state cases to justify admission of the expert testimony. Instead, the court, relying on rule 702 which allows expert opinion if it aids the jury, and after determining that the economist's testimony was helpful to the jury, would have approved its admissibility.

One may conclude from an analysis of the above cases that adoption of the proposed Rules will expand the use of expert testimony in proof of the value of services of the substitute mother. Rule 702 would set a definite standard for the use of expert testimony. The courts will not have to rely on the relevant state's law to justify or exclude the use of expert testimony regarding damages. Whether the federal court relies upon state law or federal law may be very important if the applicable state law excludes expert testimony on a certain element of damages. For example if, in a diversity action, the federal court were to rely on New York State law, the decision in Zaninovich could prevent the court from allowing expert testimony on the value of the services of a substitute-mother.

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48 441 F.2d at 851.
49 378 F.2d at 711.
50 This brief discussion raises a more basic question concerning what role state evidence rules will have in the federal courts after adoption of the proposed Federal Rules of Evidence. How compatible are the proposed Rules and the Erie Doctrine? One scholar discussing this problem suggests that the rules governing hearsay, authentication, best evidence, opinion testimony, impeachment of credibility, and relevancy may be classified as procedural for Erie purposes and thus the federal rules should control over analogous state rules. The rules regarding expert opinion may be classified as procedural rules which should control in all federal litigation. Korn, Continuing Effect of State Rules of Evidence in the Federal Courts, 48 F.R.D. 39, 73 (1969).
substitute mother. But if in that same diversity action the court was guided by rule 702 the court could make a determination that the testimony was helpful and thus admissible. Certainly under rule 702, the prospect for the increased use of expert testimony as to valuation of a mother's services is good.

III. SUFFICIENT QUALIFICATION AS AN EXPERT

In addition to the basic requirement that the subject about which the expert testifies must not be within the common knowledge of the jury or that the testimony must be an aid to the jury under the proposed rules, another requirement must be satisfied before one may testify as an expert. The witness must possess sufficient expertise to be an aid to the jury. The expertise required may be gained by skill, knowledge or experience. The witness may have become qualified as an expert by reading or through practice or a combination of both. An example of this principle is found in Bratt v. Western Air Lines, Inc., where a witness with no scholastic training in aerodynamics was allowed to testify as an expert. The witness was a man of practical experience who had personally made a study of structural strain in aircraft. He based his opinion upon his own knowledge and his examination of the wreckage. The Tenth Circuit in approving the use of the testimony stated that there is no precise requirement as to the method by which the witness acquires the requisite amount of knowledge. Similarly, other cases recognize the principle that one may be qualified as an expert from study with no actual experience.


54 155 F.2d 850 (10th Cir. 1946), cert. denied, 329 U.S. 735 (1946).

55 Id. at 853.

56 Isenhour v. State, 157 Ind. 517, 62 N.E. 40 (1901); Selby v. Osage Torpedo Co., 112 Okla. 303, 241 P. 130 (1925). It should be noted that other courts require some practical experience with the particular subject in controversy. These cases seem to hold that mere theoretical study is insufficient. See Huffman
The trial judge has broad discretion in making the factual determination whether a witness is qualified as an expert, and reversals for abuse of discretion are rare. In Bratt the Tenth Circuit stated:

"Whether a witness called to testify to any matter of opinion has such qualifications and knowledge as to make his testimony admissible, is a preliminary question for the judge presiding at the trial, and his decision of it is conclusive unless clearly shown to be erroneous as a matter of law." Stillwell Manufacturing Co. v. Phelps, 130 U.S. 520, 9 S. Ct. 601, 603, 32 L. Ed. 1035.

Wigmore's assessment of the judge's discretion for determining qualification as an expert is stronger:

. . . the trial court must be left to determine, absolutely and without review, the fact of possession of the required qualification by a particular witness.

While Wigmore points out that such an absolute view foreclosing appellate review of a trial judge's determination of qualification has not been generally accepted he does state several persuasive arguments in support of his belief.

Proposed rule 702 speaks to the qualification of experts in traditional terms. The rule requires that the experts possess "special

v. Lindquist, 37 Cal. 2d 465, 234 P.2d 34 (1951); Fuchs v. City of St. Louis, 167 Mo. 620, 67 S.W. 610 (1902).

57 Chateougay Ore & Iron Co. v. Blake, 144 U.S. 476 (1892); Spring Co. v. Edgar, 99 U.S. 645 (1878); Sher v. De Haven, 199 F.2d 777 (D.C. Cir. 1952).

58 155 F.2d at 853.

59 2 J. WIGMORE, EVIDENCE § 561, at 641 (3d ed. 1940). Whether a witness is qualified as an expert actually involves a two-part test. First it must be determined what the required level of qualification is. For example, if a witness is a member of a profession, as a doctor, an engineer, or a chemist, the question may be whether that witness must be a specialist in a particular branch of the profession. Second, the trial court must determine if the particular witness has met the required qualification. One may conclude from a study of the cases that the distinction between the two determinations is often blurred.

60 Wigmore points out that the complicated facts that may surround a witness' competency are best understood by the trial judge. Also cross-examination is always available to examine the true qualifications of the witness. In addition, Wigmore states that for reasons of judicial economy, the judges of the Supreme Courts should not be required to investigate the "trifling character" of the disputes that may develop over a witness' qualifications. 2 J. WIGMORE, EVIDENCE § 561, at 642-43 (3d ed. 1940).

knowledge, skill, experience, training or education. Since this is the same basic requirement presently applied by the courts, the common law requirement and the cases interpreting it may be relied upon for support in determining whether a witness is qualified as an expert under proposed rule 702. In addition, the large degree of discretion which the common law leaves to the trial court regarding qualifications will undoubtedly apply in the application of proposed rule 702.

IV. PROCEDURAL EVIDENCE RULES GOVERNING EXPERT TESTIMONY

Once it has been determined that the subject is a proper one for expert testimony and that the witness is qualified as an expert, the attorney must introduce the expert testimony. The actual introduction of expert testimony is beset by a number of procedural rules which have made the introduction of such testimony troublesome for trial attorneys, confusing to witnesses and wasteful of time to courts. The proposed Federal Rules of Evidence would permit a sensible relaxation of these procedural strictures.

A. Opinion on Ultimate Issue

One topic of controversy at common law is the propriety of asking the expert a question calling for an opinion upon an ultimate issue the jury is to decide. The objection to this type of question was usually that it "invaded the province of the jury." This objection can be avoided by breaking down the general question into more specific questions. The question may also be proper if it is framed so as to inquire what the expert's opinion would be in a similar or analogous situation. Under this guise, the jury may imply that opinion is applicable to the present case. The rule prohibiting opinions on ultimate facts in issue seemed to be the rule in many states prior to 1942. But in 1942, there began a

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63 Proposed Federal Rule of Evidence 702.
62 To be qualified as an expert at common law, the “witness must have a sufficient skill, knowledge, or experience in that field or calling” as to be an aid to the fact-finder. C. McCormick, Law of Evidence § 13, at 30 (2d ed. E. Cleary 1972).
64 Id. § 13, at 28.
60 Ladd, Expert and Other Opinion Testimony, 40 Minn. L. Rev. 437, 445 (1956).
trend to abandon the rule with the landmark case of *Grismore v. Consolidated Products Co.*

In *Grismore*, plaintiff was a turkey raiser who had been persuaded to buy a supposedly beneficial new type of turkey food. After feeding the new product to his turkeys for several days, the turkeys began to die in great numbers. At the trial an expert was called by plaintiff and, after a hypothetical narration of the facts, the expert was asked his opinion of the cause of death of the turkeys. The defendant objected to the question as an invasion of the province of the jury. On appeal the Supreme Court of Iowa, in an extensive opinion, concluded that the question was permissible. Since the testimony of an expert was allowed in order to aid the jury, the jury was entitled to the full benefit of his opinion. The expert can never "invade the province of the jury" or "usurp the function of the jury" because the jury is always free to reject the expert's opinion.

Since *Grismore* the trend has been to allow expert opinion embracing an "ultimate fact in issue." The proposed Federal Rules of Evidence have specifically approved this approach in proposed rule 704 which states:

> Testimony in the form of an opinion or inference otherwise admissible is not objectionable because it embraces an ultimate issue to be decided by the trier of fact.

The rule applies to non-expert as well as expert witnesses. The advisory committee points out that the new rule will not admit opinions which would merely tell the jury who should win the case. Rule 702 provides that the expert opinion must be an aid to the jury and proposed rule 403 provides for exclusion of evidence

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232 Iowa 328, 5 N.W.2d 646 (1942).

Id. at —, 5 N.W.2d at 656.

if it wastes time." The committee believed that these rules would be a sufficient safeguard against the substitution of the expert's conclusion for the jury's verdict. As one scholar stated in regard to the rule allowing opinion upon an ultimate issue, "[a] rule such as that adopted by the Model Code of Evidence or by the Grismore case simply eliminates unnecessary reversals on the imaginary error that the jury has been robbed of their power to decide."

B. The Bases for Expert Opinion and the Hypothetical Question

The most important effect the proposed Federal Rules of Evidence will have on expert testimony is in regard to the basis of opinion testimony and the hypothetical question. An analysis of this procedural area may begin with rather simple propositions. The first proposition is that all opinions or inferences, to be properly admitted, must be founded upon certain premises of fact. The factual premises upon which the opinion is based must be supplied to the jury by testimony. The same expert witness may be able to supply both the premises of fact and the inferences from these facts, or the expert may supply either the premises or just the inferences. If the witness supplies only the inferences or conclusions in the form of his opinion, the factual foundation for these conclusions must be submitted to the jury for their consideration. The jury must consider the validity of the underlying facts in order to determine the validity of the conclusion. If the jury chooses to reject all or part of the facts, then the jury may reject the conclusion as well. So the basic requirement emerges that the premises of fact upon which the conclusion is based must be supplied to the jury in some manner. This requirement has formed the rationale for the hypothetical question in situations in which the witness has not personally observed the facts his opinion is founded upon.

If, however, the expert witness has personal knowledge of the

70 Proposed Federal Rule of Evidence 403 provides:
Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence.

71 Advisory Committee's Note to Proposed Federal Rule of Evidence 704, 56 F.R.D. 284. The committee stated that Rules 702 and 403 would exclude opinions that were merely legal conclusions. Id. at 285.


73 2 J. Wigmore, Evidence § 672, at 792-93 (3d ed. 1940).
facts of the case, he may state his opinion based upon this personal observation. It is not necessary for the attorney to ask for the expert opinion in a hypothetical form. The question need not be stated hypothetically because, if desired, the particular facts that are the basis of the expert opinion may be elicited on direct examination or cross examination. If the fact-finder then concludes the factual premise to be erroneous, the opinion of the expert may be rejected. Some courts, rather than allowing the factual basis to be elicited on direct or cross examination, require the expert to state the factual foundation for his opinion prior to stating his opinion. Proposed Federal Rule of Evidence 705 states:

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 judge requires otherwise. The expert may in any event be required to disclose the underlying facts or data upon cross-examination.

While rule 705 will have an extremely important impact upon the hypothetical question, the rule is also applicable when the expert testifies from personal observation of the facts in the case. Rule 705 adopts the view followed by many courts that if the expert possesses personal knowledge of the facts in the case, he need not state his factual basis prior to giving his opinion. The rule is phrased so that the burden is on the court to require prior disclosure of the factual basis for the opinion. If the judge does not

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75 2 J. Wigmore, EVIDENCE § 675, at 796 (3d ed. 1940).


require prior disclosure, factual bases may be elicited by the adversary on direct or cross examination.\textsuperscript{78}

If he does not possess personal or first-hand knowledge, the expert has traditionally been asked to assume certain facts and state his opinion upon these hypothetical facts.\textsuperscript{79} This is to insure that the premises of fact which form the bases of the opinion may be considered and rejected or accepted by the fact finder.\textsuperscript{80} The main problem surrounding the use of the hypothetical question involves the form and scope of the question.

One method for using the hypothetical question is to allow the expert witness to be present during the trial and listen to the testimony presented. Then the expert when testifying may be asked in giving his opinion to assume the truth of the testimony presented in the case, or testimony presented for one party or one witness.\textsuperscript{81} The question is subject to objection if the witness is asked to assume the truth of all the testimony in the case. The obvious reason for the objection is that the testimony may be conflicting and the jury may not be able to determine what testimony the expert's opinion is based upon.\textsuperscript{82} This broad type of question could only be approved if the testimony was clearly not conflicting.\textsuperscript{83} When the witness is asked to assume all the testimony for one party to be true, the question is not as objectionable.

The jury may not, however, be able to clearly determine what one party's witnesses testified to or that party's witnesses' testimony may be conflicting.\textsuperscript{84} If the expert is only asked to assume the truth


\textsuperscript{80} 2 J. Wigmore, \textit{Evidence} § 672, at 792-93 (3d ed. 1940).


\textsuperscript{84} Cases admitting the opinion in such a situation are Dunagan v. Appalachian Power Co., 33 F.2d 876 (4th Cir. 1929); Comm'r v. Johnson, 188 Mass. 382,
of one or a few witnesses' testimony, the hypothetical question may be proper. The propriety of the question again depends upon the clarity of the testimony in the jury's mind. If a single witness' testimony was confusing to the jury or self-contradictory, a hypothetical question based upon this testimony may be improper. Wigmore suggests that it is best in these situations to allow the trial judge in his discretion to determine the propriety of the question in view of whether the premises of fact are clear to the tribunal.

If the premises of fact forming the basis for the opinion are not clear to the fact-finder, the court may require the attorney to state the assumed facts of the hypothetical question prior to the expert's opinion being given. The attorney may be required to state the assumed facts even if the witness was present at the trial if the testimony is unclear or conflicting. If the expert witness was not present at the trial and did not hear the testimony presented, it follows logically that the fact-finder must be made aware of the premises of fact from which the opinion is drawn. In this way the premises of fact may be considered and if the premises are found to be faulty, the opinion may be rejected.

When the assumed facts must be stated prior to the expert's opinion, a practical problem emerges of how complete the description of assumed facts should be. Must it include all the facts in the case or just selected portions of the facts? Some courts have stated that all the material facts in evidence should be placed in the hypothetical question. This supposedly avoids the danger of a one-sided picture of the evidence as it has been presented and insures

74 N.E. 939 (1905); State v. Eggleston, 161 Wash. 486, 297 P. 162 (1931). A case excluding the opinion in such a situation is People v. McElvaine, 121 N.Y. 250, 24 N.E. 465 (1890).

80 In re Collins, 150 Cal. App. 2d 702, 310 P.2d 663 (1957); Damm v. State, 128 Md. 315, 45 A. 188 (1900); Baltimore City Passenger Ry. v. Tanner, 49 Md. 315, 45 A. 188 (1900); Burnside v. Everett, 186 Mass. 4, 71 N.E. 82 (1904); Contra, Southwest Metals Co. v. Gomez, 4 F.2d 215 (9th Cir. 1925).

81 2 J. WIGMORE, EVIDENCE § 681, at 803 (3d ed. 1940). A question asking for an opinion on a single witness' testimony will usually be held proper. Id. § 681, at 804.

82 Id. § 681, at 804-05.

83 Id.

that the jury will not ignore any evidence presented by the other opponent. The clear disadvantage to a rule requiring all the material facts to be stated is that the hypothetical question may be extremely lengthy and boring to the jury. The result may be that the jury may accept the net opinion of the expert without considering the premises of fact upon which it is based.\textsuperscript{90}

The more widely prevailing view is that the hypothetical question may contain those facts which the questioner wishes the opinion to be based on. The questioner may take as limited a view as he desires subject to certain basic policy considerations.\textsuperscript{91} Clearly the question should not be one that is misleading or confusing to the jury or one in which highly material facts are omitted. In sum the question should contain sufficient facts for the expert to give an intelligent opinion and one which will actually be an aid to the jury.\textsuperscript{92} Necessarily the trial judge is given broad discretion in determining whether a question is fairly presented considering all the relevant evidence in the case.\textsuperscript{93} Leaving this determination to the judge's discretion is preferable to attempting to state a general rule for the scope of the hypothetical question. In addition to the foregoing considerations, the attorney must be careful to state the question in truly hypothetical form. If stated otherwise the jury may be misled into believing that a certain fact is admitted or proven when actually that fact is at issue.\textsuperscript{4}

Various criticisms have been leveled at the hypothetical question. While sound in theory, the hypothetical question in actual practice has led to "intolerable obstruction of truth."\textsuperscript{94} One criticism is that because not all the material facts need be stated,\textsuperscript{95} clever counsel can shape the question so as to produce a partisan conclusion not

\textsuperscript{90} 2 J. WIGMORE, EVIDENCE § 682, at 805-06 (3d ed. 1940).


\textsuperscript{92} 2 J. WIGMORE, EVIDENCE, § 682, at 807-09 (Supp. 1972).

\textsuperscript{93} Id. § 682, at 810; Taylor v. Reo Motors, Inc., 275 F.2d 699 (10th Cir. 1960). In addition to the safeguard provided through the discretionary power of the judge, the adversary may always elicit any omitted facts on cross-examination. C. MCCORMICK, LAW OF EVIDENCE § 14, at 34 (2d ed. E. Cleary 1972).

\textsuperscript{94} State v. Wangberg, 272 Minn. 204, 136 N.W.2d 853, 855 (1965).

\textsuperscript{95} 2 J. WIGMORE, EVIDENCE § 686, at 812 (3d ed. 1940).

\textsuperscript{96} See cases cited note 91 supra.
representing the expert’s actual opinion. In the courts that do require all the material facts to be stated, the question is exceedingly lengthy and boring to the jury. Thus the question may tend only to bias, confuse or bore the jury.”

The solution to the problems of the hypothetical question and other procedural requirements is found in the more realistic and practical approach used by the proposed Federal Rules of Evidence. The rules do not forbid the use of the hypothetical question but rather give the questioner the option of using the hypothetical form or a more direct question. The trial judge in his discretion may require the question to be in hypothetical form. Regardless of the form of the question, the cross-examiner is free to bring out the factual basis of the expert’s opinion. Proposed rule 705 (which determines whether the factual basis must be stated prior to giving the opinion) should be read in conjunction with proposed rule 703, which states:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to him at or before the hearing. If a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence. (emphasis added).

The rule allows the data forming the basis for an opinion to come from three sources. The facts may be acquired by personal observation as is allowed at common law. Secondly, the facts may be presented to the expert at trial by the use of the hypothetical question in which case every fact relied upon must be in evidence or by having the expert present throughout the trial to hear the evidence submitted. The third source of facts for the expert’s opinion is from data presented to the expert outside of court that he has

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98 Proposed Federal Rule of Evidence 705 provides:
The expert may testify in terms of opinion or inference and give his reasons therefore without prior disclosure of the underlying facts or data, unless the judge requires otherwise. The expert may in any event be required to disclose the underlying facts or data on cross-examination.

It should be noted that this rule does not abolish the hypothetical question but rather gives the questioning attorney the option of not using the hypothetical form.

99 Cases cited note 74 supra.
not personally observed. This third source is the one that differs substantially from the common law approach taken by many courts. The majority of jurisdictions have held that opinions are inadmissible if based upon opinions or report of others that are not in evidence or that are inadmissible under the hearsay rule.  

Rule 703 abolishes this common law requirement and allows the opinion to be based upon the reports of others. The data must be of a type reasonably relied upon by experts normally. A good example is the medical doctor who reasonably relies upon the reports of nurses, technicians, other doctors and hospital records. Cross examination provides another safeguard by allowing the opponent to elicit the fact that the expert did not personally test or observe the data upon which he relies. While the medical reports of the nurses, technicians, or doctors upon which the expert witness relies could be introduced in evidence, Rule 703 allows the attorney to ask the expert's opinion directly without the expense and time that would be expended in introducing the reports. In aviation accident litigation, the expert witness may state his opinion upon accident reports not in evidence if the reports are reasonably reliable. This could result in a considerable saving of time and expense.

In combination, proposed rule 703 and rule 705 provide a simplified and practical method of examining the expert witness. Rule 705 will allow attorneys the option of using the hypothetical question subject to the discretion of the trial court. This will help to alleviate partisan conclusions by experts and to alleviate the boredom of the jurors occasioned by the use of lengthy and often confusing hypothetical questions. Rule 703, by allowing opinions based upon reports of others, expands the basis of expert opinion in order that the jury may be more fully benefited by the expert's superior knowledge. Sufficient safeguards against abuse surround

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101 The Advisory Committee noted that the rule would not allow opinions of "an 'accidentologist' as to the point of impact in an automobile collision case based on statements of bystanders, since the requirement of reliance is not satisfied." 56 F.R.D. 284. The comment would seem to indicate that the court is not required to accept the expert's statement that the data is reasonably reliable in the particular field if the court believes the data to be unreliable.

102 Advisory Committee's Note to Proposed Federal Rule of Evidence 703, 56 F.R.D. 283.
both rules, and the net result should be that experts are used more fully, more efficiently and for the greater benefit of the jury.

VI. CONCLUSION

The importance of the expert witness in air crash litigation makes it imperative to have an understanding of the common law rules and the proposed federal rules regarding expert opinion. The common law has approved the use of the expert in aviation accident reconstruction. Although proposed rule 702 is a more liberal provision for allowing expert opinion, the use of experts as an aid in determining liability will probably not be significantly affected because the common law recognizes that the cause of an air crash is not within common knowledge of the jury. The expert's role in helping to assess damages is also important in an air crash case. The adoption of the proposed rules will establish a definite standard for admissibility of expert testimony. Because new rule 702 requires only that the testimony be an aid to the jury, experts may be used more frequently in assessing damages, especially in the substitute housewife area. State rules regarding admissibility of the expert's opinion on the value of the deceased housewife's services will not control and the frequency of this type of testimony may increase.

Of greatest importance to the aviation litigation attorney are rules 703 and 705. The many problems that surrounded the use of the hypothetical question and other common law procedural requirements will be alleviated by adoption of the new federal rules. The attorney will no longer be required to propound lengthy and boring hypothetical questions. No longer will there be disputes on the length and content of the hypothetical question. Rather the expert will be allowed to state his opinion directly and more effectively. This will give a clearer picture to the jury of the expert's true opinion. The rules provide adequate safeguards to insure that the expert's opinion is well founded. The other very significant departure from common law allows the opinion of the expert to be based upon the reliable reports of others which need not be admissible in evidence. Thus rule 703 provides an efficient and economical means of presenting the expert's opinion to the jury. The rules will solve many of the complicated procedural problems judges and attorneys have faced in the aviation accident case. While provid-
ing adequate procedural safeguards, the new rules allow the expert’s opinion to be presented more efficiently and for the greater benefit of all the participants in the aviation accident suit. The adoption of the proposed Federal Rules of Evidence regarding expert opinion will be welcomed by aviation attorneys and trial judges as providing a more practical and efficient framework for the presentation of an expert's opinion.  

Paul W. Gertz

103 The approach of the proposed rules regarding expert opinion has been adopted by the courts of Wisconsin. Rabata v. Dohner, 172 N.W.2d 409 (Wis. 1969). Other state courts will undoubtedly be influenced by the federal rules.