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An Overview of Firearms Identification Evidence for Attorneys. III: Qualifying and Using the Firearms Examiner as a Witness

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ABSTRACT: This article attempts to broaden the perspective of attorneys, but it should be of value to all forensic scientists. Although the subject matter is directed to attorneys, it nevertheless is applicable to the professional understanding of members of all professional disciplines. It covers methods of utilizing and qualifying witnesses, and the cited court decisions and rules of evidence should enable the reader to find a base from which to begin additional research.

KEYWORDS: jurisprudence, ballistics, witnesses

The use of witnesses having a professed expertise in specific areas of science is common practice within our courtroom processes. Those persons claiming expertise in firearms are almost commonplace. The attorney involved in either the prosecution or defense processes within the field of justice must have the basic legal understanding of the method used to qualify a witness claiming certain expertise as well as an understanding of how to best use such witnesses effectively within the courtroom.

The term "expert witness" is a misnomer. The term does not connote that the witness is generally correct or particularly astute in his observations or ability relative to any given scientific area. Courts label a witness an "expert" when by training, knowledge, or experience that witness has the ability to express an opinion relevant to a matter at issue in a lawsuit. The court makes the subjective decision that such testimoney will assist the trier of fact to better understand the issues involved.

Because presentation of firearms evidence requires the testimony of a person, it is essential for an attorney to understand the courtroom procedures to qualify the witness. The court must make three determinations before the testimony of a witness having specific expertise in the realm of firearms examinations can be deemed admissible:

1. Is the witness's opinion necessary to assist the trier of fact to better understand the evidence and make a just determination of the issues involved in the lawsuit?
2. Is the particular witness qualified by knowledge, skill, experience, training, or education to express an opinion on the subject at issue?

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3. Does the witness's scientific opinion have a minimum level of acceptability in his field so that his views are not totally spurious, conjectural, or erroneous?

The answers to these three questions are determined by the trial judge who must make the decision as to whether or not the witness is qualified and competent to express an opinion in a case involving firearms [*1*]. The trial judge's decision to admit or exclude a person as a witness possessing the requisite expertise will not be overturned unless it is clearly erroneous or an abuse of discretion [*2,3*]. The decision to allow a witness to testify as an expert is highly discretionary and is within the sound judgment of the trial judge.

In the area of firearms evidence, questions of firearms identification, including bullet identification and determining the flight path of bullets, are recognized as areas where qualified persons having certain expertise, rather than lay witnesses, may testify. Therefore, it is difficult to find a trial judge who will hold that, as a matter of law, a witness cannot testify as an expert when the witness has special knowledge, training, or experience that would be helpful for the trier of fact to better understand the evidence or to clarify the issues involved in a lawsuit. In fact, courts are prone to refuse to permit any witness to testify in the area of firearms identification unless they are satisfied that the witness has some degree of knowledge, experience, or background to render him qualified to express an opinion.

Courts require a minimum level of training, experience, or education before permitting a witness to testify as a witness competent in the area of firearms. Courts are liberal in allowing witnesses to testify as experts if it is shown that the witness has experience without specialized education in the area of firearms. In *State v. Mayfield* [*4*], the court held that a witness with 20 years' service in the infantry, who had examined many types of pistols, could testify as an expert that the defendant's gun would fire. In *State v. Macumber* [*5*], the trial court refused to qualify a defense witness as an expert to testify that the ejector markings on the shell casing from the alleged bullet causing death (murder) could not be identified as coming from the defendant's pistol. The appellate court held that the defense witness was qualified as an expert in firearms identification though he had not made comparisons of ejector markings prior to the instant case. The latter holding was based upon the witness's chemistry degree, his study with a recognized expert, his presidency of a company producing automatic pistol ammunition, his employment by two noted weapons manufacturers as an engineer in the design and production of rifles and ammunition, and his authorship of four articles concerning firearms.

A witness can express his expert opinion based on his experience in the theory and practice of firearms identification. The qualifying process of the witness usually is not arduous, and courts are receptive to qualifying a specific witness who has some degree of expertise. The degree of the witness's training, his lack of experience, deficits in education, and the acceptability of his theories are matters that relate to credibility and whether or not he should be believed by the trier of fact. As such, the issue is not whether or not he is qualified as an expert to express an opinion. Cross-examination of an alleged expert can be rigorous, with the objective being to expose lack of preparation, deficits in education, lack of experience and training, and fallacies of reasoning. The issues of competence and credibility of an expert witness are totally different. Police officers, laboratory technicians, and others who have had some experience with firearms identification may be qualified by the court to act as an expert even though the witness's background discloses weaknesses in education, experience, or training.

A common fallacy in the area of firearms evidence is the labeling of a witness involved in firearms identification as a ballistics expert. "Ballistics" may sound more knowledgeable and authoritative to some persons and might impress juries and judges. However, the two terms do not mean the same thing. A ballistics expert is concerned with the combustible firing process itself, both externally and internally, or the beginning and ending trajectory.

A firearms examiner is concerned with the identification of the firearm and the bullets that may have come from the particular weapon, the individual and class characteristics of both bullet and weapon, and the mechanisms of firearms and is capable of reconstructing the applicable conditions.

It is essential for attorneys to qualify a witness in the right context and to refrain from calling a witness a "ballistics expert" when, in fact, the witness possesses expertise in firearms identification. The only case found by the authors dealing with the distinction between ballistics and firearms identification is *State v. Leonard* [6]. In that case a police officer testified that "a ricochet bullet" would probably cause a more ragged wound than a direct shot and that "Saturday Night Specials ... are not known for their accuracy." The Iowa Supreme Court held that the trial court's refusal to consider the police officer as a ballistics expert based solely on his experience with firearms was proper, but added that such experience would qualify the police officer in firearms identification. Thus, an attorney who fails to recognize the distinction between "ballistics expert" and "firearms examiner" may have a witness excluded from testifying.

Another concern in qualifying a witness is whether or not the testimony to be given is competent, in particular, whether or not the opinion is based on principles that have gained a minimum level of scientific acceptability within the given field. There are few court decisions in this area but, as a basic principle of law, a witness must base his testimony on principles that have some minimal level of acceptability in a given field. In *Frye v. United States* [7], the court rejected the use of an expert interpreting the results of polygraph examinations because, at least at that time, the polygraph was not generally accepted as an instrument that could accurately measure truth and deception. This element of qualifying a witness has now become less important because courts are now more prone to admit an expert opinion when it can be demonstrated that the theoretical basis of the opinion is at least reasonably probable and provable. This eliminates the requirement that members of a particular field of scientific expertise approve a particular scientific theory or test. However, an attorney should recognize that new theories and approaches to firearms examination may be attacked on competency grounds based upon the decision in the *Frye* case [7].

The types of opinions that can be expressed by firearms examiners are many and varied. Under Federal Rules of Evidence [8], a witness may express an opinion on an ultimate issue of law. Prior to the adoption of that rule, an alleged expert could not express an opinion on an ultimate legal issue in a lawsuit. A "reconstruction engineer," for example, could not express an opinion based upon his reconstruction of an accident and, based on his knowledge and experience, could not state that a driver of a particular car was negligent. Under the Federal Rules of Evidence, which have been accepted in whole or in part in many states, a witness having specific expertise may express an opinion on an ultimate issue in a lawsuit. Courts generally do not consider this type of an opinion an infringement on the function of the trier of fact if the testimony is not otherwise objectionable. It would be totally permissible to ask an expert witness for an opinion on whether or not a particular weapon was used to perpetrate a crime. Again, the credibility of such testimony is for the trier of fact to determine, and rigorous cross-examination may well expose weaknesses in the witness's preparation, knowledge, or background or his bias or faulty logic.

The facts or data in any particular case upon which a witness possessing certain expertise bases an opinion may be determined by the witness or made known to him before or at the trial. A firearms examiner may base his opinion, in part, on the research of other firearms examiners as well as his own knowledge and experience applied to the particular case. The Federal Rules of Evidence [9] permit this type of opinion. Such opinion is not within the hearsay rule and is admissible. Therefore, a firearms examiner may express an opinion based on the experiments of others, his knowledge from journals or academic

treatises, or simply the opinion of other witnesses possessing expertise in the particular field in question.

The first source of information under the Federal Rules of Evidence [*9*] is the firsthand observation by the witness. Opinions based on such observations have been traditionally allowed. A firearms examiner or other witness possessing specific expertise who has studied the flight paths of bullets or prepared photomicrographs of bullets may express an opinion based on the results of his examination, studies, experience, inquiries, and tests.

The second source of facts or data on which experts may base their opinions is further testimony of another witness present at trial. The witness, in such latter instance, may answer hypothetical questions or criticize the opinions of other witnesses at trial. It is no longer objectionable to have a witness of like expertise base an opinion on the opinion of another witness. Although this leads to "a battle of experts," an attorney can expose weaknesses in the method, approach, and conclusions reached by an opposing firearms examiner by having his own firearms examiner analyze the testimony of the expert called as a witness by the opposing side. Such an approach is permissible under the Federal Rules of Evidence [*10*] and is an effective method of exposing weaknesses of the testimony previously given at the trial.

The third source of facts or data upon which witnesses possessing specific expertise base their opinions consists of data, other than those developed by the witness himself, presented to him outside of court. The witness is permitted under the federal rules to express an opinion based on the data presented. This permission expands the judicial practice of the past and allows the expert to formulate opinions based on the data of other witnesses or on treatises and other scientific studies. However, a party has the right to cross-examine the witness and question the use of the particular data on which the opinion is based. In a criminal case, counsel representing the opposing party has the right to cross-examine the person responsible for any underlying data that the witness used in formulating his opinion.

Firearms experts include independent forensic scientists, crime laboratory personnel, police personnel, and members of academe. In accordance with the Federal Rules of Evidence [*11*], the court may appoint an expert on the court's own motion without any request or motion on the part of any of the parties. These court-appointed experts are paid out of the court's funds and are subject to cross-examination by both parties. The litigating parties, however, are free to call expert witnesses of their own selection [*12,13*].

In a civil case the party has a right to take a deposition of the other party's witnesses before the trial. Depositions by the prosecution in criminal cases generally are allowed only in exceptional cases when the witness possessing specific expertise is unavailable and the defense consents to the taking of the deposition [*14*]. In a criminal case, it is preferred that an expert appear in court, take the oath, and be subject to cross-examination by the opposing side.

An attorney should be aware of the requirements of qualifying the witness possessing particular expertise and should recognize the sources on which the expert witness may base his opinion. In preparing the firearms examiner as such a witness the following information is necessary:

(1) the witness's educational background;

(2) the types of professional organizations to which the witness belongs;

(3) the experience of the witness on the topic of firearms in the area within which he will be testifying;

(4) any awards or honors bestowed on the witness by peers within his field of expertise;

(5) the general acceptability of the firearms examiner's opinion in the scientific field, including any treatises, studies, or other scientific sources supporting or opposing his proffered testimony;

(6) the accuracy of any data or information supplied to the firearms examiner who is to testify;

(7) the known past biases or prejudices, if any, of the firearms examiner to be called as a witness;

(8) the firearms examiner's courtroom experience with the subject matter at issue;

(9) treatises or scientific journals upon which the firearms examiner relies in expressing his opinion; and

(10) the firearms examiner's exact procedure or method used in formulating his opinion.

The firearms examiner should supply this information to the attorney before the trial to allow counsel to thoroughly prepare the witness's testimony. Such preparation will avoid successful challenges to the firearms examiner's qualifications. It will also aid in the anticipated cross-examination of the witness. The firearms examiner should assist legal counsel but should never be permitted to control the presentation of the evidence. Too many attorneys wrongfully assume the qualifications of alleged experts. The firearms examiner while testifying should be permitted to expound on his opinion in narrative fashion. He should be questioned and prepared for effective cross-examination by opposing counsel. Failure to follow these practices may be dangerous and frequently will lead to the dilution of the opinion rendered.

References

[*1*] *United States v. Trice*, 476 F.2d 89 (9th Cir. 1973).
[*2*] *Salem v. United States Lines Co.*, 370 U.S. 31 (1962).
[*3*] *Hamling v. United States*, 418 U.S. 87 (1974).
[*4*] *State v. Mayfield*, 220 S.E.2d 643 (N.C. 1976).
[*5*] *State v. Macumber*, 544 P. 2d 1084 (Ariz. 1976).
[*6*] *State v. Leonard*, 243 N.W.2d 887 (Iowa 1976).
[*7*] *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).
[*8*] The Federal Rules of Evidence, 704.
[*9*] The Federal Rules of Evidence, 703.
[*10*] The Federal Rules of Evidence, 705.
[*11*] The Federal Rules of Evidence, 706.
[*12*] *Scott v. Spanjer Brothers, Inc.*, 298 F.2d 928 (2d Cir. 1962).
[*13*] *Danville Tobacco Assoc. v. Bryant-Bunkner Assoc. Inc.*, 333 F.2d 202 (4th Cir. 1964)
[*14*] *United States v. Whiting*, 308 F.2d (2d Cir. 1962).

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