

**IN THE CIRCUIT COURT
SEVENTH JUDICIAL CIRCUIT
IN AND FOR ST. JOHNS COUNTY, FLORIDA**

STATE OF FLORIDA

vs.

JERRY LAYNE ROGERS

CRIMINAL DIVISION
Case No. 83-1440-CF

**MOTION IN LIMINE TO LIMIT
TESTIMONY OF THE STATE'S FIREARMS EXPERT**

Defendant Jerry Layne Rogers, through undersigned counsel, brings this motion in limine to limit the testimony of the State's firearm expert, on the basis that his methods are not generally accepted by the scientific community and thus do not meet the standards of Frye v. United States 293 F. 1013 (D.C. Cir. 1923). The State should be precluded from offering the opinion testimony of its expert that specific bullets and cartridge cases were fired by the same weapon unless and until the State establishes that such evidence comports with the standards of Frye.

STATEMENT OF THE CASE

At the first trial, the State introduced several firearm-related exhibits, including: (a) three bullets recovered from the Winn-Dixie; (b) three PMC cartridge cases found at the Winn-Dixie; (c) a Starr .45 pistol found at Rogers's house; and (d) four boxes of cartridge cases found at Rogers's house. The State also relied upon the testimony of its firearms expert, David Warniment, who had examined the firearms exhibits.

At the trial, Mr. Warniment testified that, based upon his comparison of markings on the base of the cartridge cases, the three PMC cartridge cases were fired by the same weapon.

(Trial Tr. at 6673-74.) Mr. Warniment also concluded that 69 of the

cartridge cases found at Rogers's home "were fired in the same weapon as the cartridge cases" found at the Winn-Dixie. (Trial Tr. at 6683.) Mr. Warniment's conclusions, however, are based only upon his subjective opinion that the markings on the cartridge cases were similar. Indeed, when asked whether there are any number of characteristics that must exist before he can conclude that the cases were fired from the same weapon, Mr. Warniment replied, "No, there's no specific amount of correspondence that's required." (Id. at 6703.)

In the upcoming trial, this Court should preclude the State from offering the opinion testimony of Mr. Warniment -- or any other firearms expert -- that cartridge cases found at Rogers's house were fired from the same weapon as cartridge cases found at the Winn-Dixie. Mr. Warniment's conclusions and methods are entirely subjective and not generally accepted by the scientific community. Accordingly, this Court should exclude any expert testimony that specific cartridge cases were fired from the same weapon unless and until the State establishes that such evidence comports with the standards of Frye.

ARGUMENT

I. EXPERT TESTIMONY REGARDING FIREARMS EVIDENCE IS NOT ADMISSIBLE UNLESS THE PRINCIPLES UPON WHICH IT IS BASED ARE "GENERALLY ACCEPTED."

A. Scientific Evidence is Not Admissible Unless the Principle Upon Which It Is Based Is "Generally Accepted."

To determine the admissibility of scientific evidence based on a novel theory, Florida courts rely upon the test set forth in Frye v. United States, 293 F. 1013 (D.C. Cir. 1923). See Ramirez v. State, No. SC92975, 2001 WL 1628609, at * 4 (Fla. Dec. 20, 2001).¹

¹ Florida continues to use the Frye test when evaluating scientific evidence, even though the United States Supreme Court adopted a different rule for Federal courts in

(continued...)

Under Frye, novel scientific evidence is not admissible unless the scientific principles upon which it is based are "sufficiently established to have gained general acceptance in the particular field in which it belongs." Frye 293 F. at 1014. The underlying rationale for the Frye rule is that "a courtroom is not a laboratory. . . . If the scientific community considers a procedure or process unreliable for its own purposes, then the procedure must be considered less reliable for courtroom use." Stokes v. Stakes 548 So.2d 188, 193-94 (Fla. 1989). In reaffirming its reasons for adhering to the Frye test, the Florida Supreme Court stated:

[W]e firmly hold to the principle that it is the function of the court to not permit cases to be resolved on the basis of evidence for which a predicate of reliability has not been established. . . . In sum, we will not permit factual issues to be resolved on the basis of opinions which have yet to achieve general acceptance in the relevant scientific community; to do otherwise would permit resolutions based upon evidence which has not been demonstrated to be sufficiently reliable and would thereby cast doubt on the reliability of the factual resolutions.

Hadden v. State, 690 So.2d 573, 578 (1997).

The burden is on the proponent of the evidence (here the State) to prove the general acceptance of both the underlying scientific principle and the testing procedures used to apply that principle to the facts at hand. Ramirez, 2001 WL 1628609, at *5. General acceptance must be established by a preponderance of the evidence. Id. To evaluate acceptance, Florida courts look to traditional "hallmarks" of acceptability. Id.

(...continued)

Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993). Under Daubert, courts consider four factors to determine whether scientific testimony or evidence is reliable: (i) whether the technique has been tested; (ii) whether the technique has been subject to peer review and publication; (iii) the known or potential rate of error and the existence and maintenance of standards controlling the technique's operation; and (iv) general acceptance. Id. at 593-594.

In Ramirez, the Supreme Court of Florida held that toolmark identification evidence was inadmissible to establish a knife as a murder weapon because the identification technique lacked-the "hallmarks" of acceptability. The court noted that: (i) there was no evidence that the methodology-- or the claim that the method was infallible -- had ever been formally tested or verified; (ii) the test was not subject to meaningful peer review or publication; (iii) the error rate for the method had never been quantified; and (iv) the method was governed by subjective, not objective, standards. *Id.* at *9-10.

B. Firearms Evidence Should be Admitted Only If It Comports With the Frye Standard

In recent years, forensic science has come under a great deal of criticism. *Id.* at *11. In the wake of Daubert v. Merrell Dow Pharmaceuticals 509 U.S. 579 (1993), a number of critics have questioned the admissibility of traditionally accepted areas of forensic science such as fingerprint and firearms examination. *See, e.g.* 3 David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony § 24-9.0 (2002); David E. Rovella, Kumho Could Affect Criminal Cases, Nat'l L. J., Apt. 12, 1999, at A5. Similarly, courts are now addressing the issue of admissibility of these areas of forensic science. For example, in United States v. Llera Plaza, No. 98-362 (E.D. Pa. Jan. 7, 2002) (Pollak, J.), a federal judge considered whether evidence of fingerprints was admissible under the standards of Daubert. *See al* United States v. Harrard, 260 F.3d 597 (7th Cir. 2001) (considering admissibility of fingerprint evidence under Daubert). The judge conducted a thorough analysis of fingerprint methods and held that fingerprint evidence did not meet the standards of Daubert. The court ruled that the government could present expert testimony pointing out observed similarities and differences between two sample fingerprints. The court would not allow the government however, to present expert testimony that in the opinion of the witness, a particular latent print was or was not the print

of a particular person. Upon a motion for reconsideration, the Llera Plaza court ultimately ruled that such expert testimony was admissible, but not before conducting a second analysis of fingerprint evidence and the Daubert factors. United States v. Plaza, No. 98-362, 2002 WL 389163 (E.D. Pa. Mar. 13, 2002). Liera Plaza illustrates that even evidence that has been admitted routinely in courtrooms or that might not be considered "novel" must be subject to analysis under Daubert or Frye to ensure that the methodology is scientifically sound.

Like fingerprint evidence, firearms evidence is admitted routinely in courtrooms. Firearms evidence, however, is considerably less reliable than fingerprint evidence. For example, many state jurisdictions have set standards that require the expert to identify a minimum number of matching points in a fingerprint before he can declare that the fingerprints are from the same person. Llera Plaza, 2002 WL 389163 at *4. Conversely, there are no objective standards for the number of matching striations necessary to declare that two cases were fired from the same weapon. Although the FBI does not rely upon a minimum number of matching points to declare a matching fingerprint, the FBI does use a twelve-point "quality assurance" standard. Id. In firearms examination, by contrast, there are no universally accepted "quality assurance" standards.

Nevertheless, admissibility of firearms evidence has occurred with "virtually no judicial evaluation of the validity of the underlying science or its application." 3 David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony § 29-1.0 (2002). There are remarkably few reported judicial examinations of the scientific evidence and methodology of firearm examination; the existing opinions can be described as both "empty" and "opaque." Id. The fact that firearms evidence has been admitted for years without serious examination does not mean that such examination is unnecessary.

It is critical For the Court to examine the trustworthiness of an expert's scientific testimony because, often, "the jury will naturally assume that the scientific principles underlying the expert's conclusion are valid." Ramirez, 2007 WL 1628609 at *5 (quoting Flanagan v. State, 625 So.2d 827, 828 (Fla. 1993)). Moreover, the Florida Supreme Court has noted that "[a]ny doubt as to admissibility under Frye should be resolved in a manner that minimizes the chance of a wrongful conviction, especially in a capital case." Ramirez, 2001 WL 1628609 at *11. A thorough analysis of the methods of firearms examiners reveals that their methods are inherently unreliable and do not meet the general acceptance standard of Frye. As such, Mr. Warniment (or another firearms expert) should be prohibited from testifying that, in his opinion, two cartridge cases were fired from the same weapon, unless and until the State establishes that this evidence comports with the standards of Frye.

II. THE METHODS EMPLOYED BY FIREARMS EXAMINERS TO FORMULATE THEIR OPINIONS ARE NOT GENERALLY ACCEPTED BY THE SCIENTIFIC COMMUNITY.

A firearms examiner's method of reaching an opinion on the correspondence of firearms evidence is not generally accepted by the scientific community because it lacks the traditional hallmarks of acceptability: (i) there are no objective standards for making a determination; (ii) there is no quantifiable error rate; and (iii) the method of evaluation is not subject to meaningful peer review. See Ramirez, 2001 WL 1628609, at *9-10.

A. The Methodology of a Firearms Examiner is Not Governed by Objective Scientific Standards.

Identification of bullets and cartridge cases is based upon the theory that each weapon is unique and distinct. Paul C. Giannelli, Ballistics Evidence: Firearms Identification 27 Crim. L. Bull. 195, 204 (1991). During the firing of a weapon, individual markings or "striations" are transferred from the hard surface of a weapon to the softer

surface of the bullet or cartridge case. Brian J. Heard, Handbook of Firearms and Ballistics Examining and Interpreting the Evidence 128 (1997). The striations on bullets and cartridges fired from the same weapon will be the same, whereas striations on bullets and cartridges fired from different weapons will be different. Giannelli, 27 Crim. L. Bull. at 205. To determine whether certain bullets or cartridges were fired from the same gun, the examiner uses a comparison microscope to compare the markings, looking for matching striae. Id. At this point, the question for the examiner is whether the extent of matching striae justifies a conclusion that both projectiles were fired from the same weapon. 3 David L. Faigman et al., Modern Scientific Evidence The Law and Science of Expert Testimony § 24-9.2.12 (2002).

The process of rendering an opinion whether certain bullets or cartridges were fired from the same weapon is entirely subjective. Generally, texts on firearms identification posit that each practitioner must, through practical experience, develop and apply his own intuitive criteria for identification. Id. at 202. One expert described the process of firearms identification as "more of a skill than a science, an intuition informed by extensive experience." People v. Hawkins, 897 F.2d 574, 588 (Cal. 1995) (summarizing testimony of government expert). Because of the lack of objectivity, experts have also characterized firearms identification as more of an art than a science. See, e.g., Giannelli, 27 Crim. L. Bull. at 202.

Without objective standards, an examiner's opinion that two samples were fired from the same weapon is similar to the opinions of individuals upon the merits of art work -- the opinions differ from person to person; but also, the opinion of any one person may differ from day to day. Additionally, an expert may change his own style and methods throughout his own career as he gains more experience. See Charles R. Meyers, The

Objective v. Subjective Boondoggle. 19 Assn of Firearm & Toolmark Exam'rs J. 24, 26 (1987).

Equally troubling is the fact that it is the examiner who determines the modicum of proof necessary to arrive at a definitive opinion Giannelli, 27 Crim. L. Bull. at 202. Unlike fingerprint examination, firearms examiners do not require a predetermined number of points of similarity to declare a match.² Andre E. Moennsens et al., Scientific Evidence in Civil and Criminal Cases 328-29 (4th Ed. 1995). Thus, at Mr. Roger's first trial, Mr. Warniment testified that he was not required to observe a specific amount of correspondence between samples before declaring a match. (Trial Tr. at 6703.)

Moreover, there are no objective criteria to govern what points of similarity or difference may be disregarded. One source states that up to 25 percent of striations will match in two samples, even though the samples were fired from a different weapon. Brian J. Heard, Handbook of Firearms and Ballistics: Examining and Interpreting the Evidence 140 (1997). According to noted firearms author Brian Heard, "it is by experience alone that the examiner is able to mentally exclude those striations which are not of significance and award the necessary degree of credibility to those which form the basis of a positive match." Id.

² There is some movement in the firearms examination community to adopt a universal set of criteria for the number of matching consecutive striations necessary to declare a match. See ³ David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony § 29-2.4 (2002). Based upon a review of current texts and articles on the subject, there is no indication that this criteria has been universally adopted. More importantly, there is no evidence that Mr. Warniment applied any such criteria when he formed his opinion regarding the correspondence of the bullets and cartridge cases.

The Association of Firearm and Toolmark Examiners ("AFTE") has adopted a theory of identification as to how much agreement is necessary before an examiner can declare a match:

The theory of identification as it pertains to the comparison of toolmarks enables opinions of common origin to be made when the unique surface contours of two toolmarks are in "sufficient agreement"

...

Agreement is significant when it exceeds that best agreement demonstrated between toolmarks known to have been produced by different tools and is consistent with the agreement demonstrated by toolmarks known to have been produced by the same tool.³

The AFTE principle, though often quoted by firearms authors, is non-quantitative, vague, and provides little guidance to firearms examiners. AFTE's Theory of Identification nearly states as much: "Currently, the interpretation of individualization/identification is subjective in nature, founded on scientific principles and based on the examiner's training and experience." Id.

Thus, an examiner still must rely upon his individual, subjective judgment to make an identification. There are simply no generally accepted objective criteria upon which an expert may ground his identification.⁴ Although there may be some agreement among examiners on general principles of firearms examination, there are no objective

³ Theory of Identification, Range of Striae Comparison Reports and Modified Glossary Definitions - An AFTE Criteria for Identification Committee Report, 24 Ass'n Firearm & Toolmark Exam'rs J. 336 (1992).

⁴ John Davis, author of *Firearms, Toolmarks and the Striagraph*, has expressed belief that "Since all toolmarks are 'unique' in a sense, I doubt that 'universal' criteria can be found that would apply to all such marks to permit conclusions purely 'objective' in nature." See 3 David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony § 29-2.3.1 (2002).

guidelines to govern an expert's opinion on what constitutes a match. The lack of governing standards raises serious questions about the reliability of a firearms examiner's conclusions. Furthermore, because the methodology is wholly subjective, depending upon the experience, judgment, and intuition of each examiner, there is no way of ascertaining whether the individual and idiosyncratic determinations an examiner to reach his conclusion are generally accepted.

B. The Error Rate for Firearms Examinations Has Never Been Quantified

Anecdotal evidence reveals that firearms examiners make misidentifications. Giannelli, 27 Crim. L. Bull. at 195. A misidentification, though embarrassing to the examiner, comes at a high cost to the individual who is wrongfully accused and whose liberty-or even his life -is unjustly taken away. To date, however, forensic science researchers have not calculated error rates for firearm and toolmark comparison. Id. According to one author, based on present data, the field of firearms examination is in a "poor position" to calculate error rates. See 3 David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony § 29-2.3.2 (2002).

Some commentators have relied on the results of proficiency testing program administered by the Forensic Sciences Foundation as information about error rates. Giannelli 27 Crim. L. Bull. at 195. These tests, however, do not provide accurate information regarding the error rates of firearms examiners. First, the tests were designed to be used by individual laboratories as a means of quality assurance, not as a nationwide study of error rates. Id. Second, the tests are not blind, and as a result, some laboratories do not treat the tests as they would treat other examinations. Id. Some laboratories spend less time on the test than a normal examination because it is only a test. Other laboratories spend more time on the test than a normal examination. As a result, these proficiency tests do not

accurately reflect the error rate of firearms examination. In the absence of valid data concerning error rate of firearms examination, it is impossible to conclude that firearms examination or the methods of a particular firearms examiner are reliable.

C. The Methodology of a Firearms Examiner is Not Subject to Scientific Scrutiny and Meaningful Peer Review

It is widely recognized by both courts and scientists that critical scrutiny and peer review is the lifeblood of the scientific method. The Supreme Court's opinion in Daubert emphasized what scientists and numerous courts had long acknowledged- the vital role of peer review in the development of scientific methodologies. As Justice Blackmun aptly put it, "submission to the scientific community is a component of 'good science,' in part because it increases the likelihood that substantive flaws in methodology will be detected." Daubert 509 U.S. at 593.

Because firearms examination depends upon the subjective judgment of each firearms examiner, meaningful peer review and scientific scrutiny can never truly exist. To develop an opinion regarding whether two bullets of cartridges were fired by the same weapon, an examiner must rely upon his subjective judgment, experience, and intuition. An examiner's subjective judgment and intuition, however, are not subject to peer review. Thus, a key component of the evaluation process is not subject to meaningful peer review and scientific scrutiny and there is a lesser chance that substantive flaws in the methodology will be detected.

CONCLUSION

For the reasons discussed above, the methods employed by a firearms examiner to reach an opinion on the correspondence of evidence is not generally accepted. The methodology lacks the traditional hallmarks of acceptability, predominantly because it is grounded in the examiner's subjective judgment. There are no objective scientific criteria

for making a conclusion. There is no data indicating a quantifiable error rate. Finally, the examiner's subjective method of evaluation is not subject to meaningful peer review. In the absence of these factors, permitting the State's firearms expert to offer his subjective opinion on the issue of evidence correspondence would undermine the scientific process that the principles of Frye were designed to safeguard. Accordingly, Mr. Warniment (or another firearms expert) should be precluded from testifying whether particular bullets or cartridge cases were fired by the same weapon, unless and until the State establishes that such evidence comports with the standards of Frye.

Respectfully submitted,

Clyde E. Wolfe, Esq.
10 McMillan Street
Suite 1
St. Augustine, FL 32084

Timothy C. Hester
Matthew E. Fishbein
Richard W. Smith
COVINGTON & BURLING
1201 Pennsylvania Avenue, N. W.
Washington, D.C. 20004-2401
(202) 662-6000

Attorneys for Defendant

May 10, 2002