

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA :  
 :  
 v. : CRIMINAL NO. 98-362  
 :  
 CARLOS IVAN LLERA-PLAZA, :  
 WILFREDO MARTINEZ ACOSTA and :  
 VICTOR RODRIGUEZ :

MEMORANDUM OF LAW IN SUPPORT OF GOVERNMENT'S  
MOTION FOR RECONSIDERATION OF THE COURT'S  
EXCLUSION OF FINGERPRINT OPINION TESTIMONY

In its January 7, 2002 ruling regarding the  
admissibility of fingerprint identification evidence, this  
Court ruled that "expert witnesses will not be permitted to .  
. . present 'evaluation' testimony as to their 'opinion' (Rule  
702) that a particular latent print is in fact the print of a  
particular person" (Op. 44). The government respectfully  
submits that this determination is at odds with Rule 702 of  
the Federal Rules of Evidence, and should be reconsidered and  
reversed.

The Court based its determination on a view that the  
fingerprint identification method employed by the FBI has not

been shown to be sufficiently reliable to permit its use as the basis of an expert's opinion. That conclusion is not only incorrect factually, but rests on an apparent misinterpretation of the "reliability" requirement, and of the liberal standard of admissibility of expert opinion under Rule 702. This misinterpretation runs counter to the Supreme Court's Daubert and Kumho Tire decisions and to the substantial body of Third Circuit precedent describing these standards.<sup>1</sup>

Daubert explained the reliability requirement as providing that an expert's opinion must be based on "good grounds," that is, on "more than subjective belief or unsupported speculation." Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579, 590 (1993). The Third Circuit has explained that this "standard is not that high," In re Paoli R.R. Yard PCB Litigation, 35 F.3d 717, 745 (3d Cir. 1994), cert. denied, 513 U.S. 1190 (1995), and contemplates the introduction of expert opinion without a showing that the

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<sup>1</sup> The government acknowledges that it cited some, but not all, of the pertinent authority in our initial submission.

opinion is correct or that alternative opinions are implausible, id. The most recent Advisory Committee notes to Rule 702 affirm that under the rule even an expert opinion "not rely[ing] on anything like a scientific method" may be admissible, if "it is properly grounded, well-reasoned, and not speculative."

In short, the proponent need only show that the testimony is of sufficient reliability to allow the jury to consider it and weigh it against competing opinions. Fingerprint examination as performed by the FBI is the paradigmatic example of "good grounds" on which an expert may rely -- it rests on a painstaking comparison of unique fingerprint characteristics; its methodology is grounded in over 100 years of academic and practical research; it has been proven accurate on countless occasions; it is universally accepted throughout the law enforcement and civil communities; and it is subject to constant testing and review. It is difficult to imagine a discipline which more clearly meets the threshold reliability requirement as defined by the Supreme Court.

In keeping with its precedent, the Third Circuit has repeatedly directed the introduction of expert opinions on less substantial grounds. Most notably, in United States v. Velasquez, 64 F.3d 844 (3d Cir. 1995), the Court held that the testimony of a handwriting examiner, who follows a comparative analysis similar in concept to that used by fingerprint examiners, is admissible under Daubert, as is the countervailing testimony of a critic of the standards employed by handwriting examiners.

Breaking with this precedent, this Court appears to apply a higher reliability standard, suggesting that an opinion based on a scientific or technical method may not be admitted absent a showing that the method is unerringly or nearly always correct; that position is expressly rejected in the controlling case law.

This Court further focused on the fact that a fingerprint examiner's final opinion represents a subjective judgment following his or her trained study of pertinent data, concluding that the opinion therefore does not rest on clear standards. This position is also incorrect. The record shows that the examiners follow clear standards in gathering and

comparing the pertinent data, and then apply their expertise to reach a conclusion regarding the fingerprint comparison. That is the hallmark of permissible expert testimony; the law is clear that a subjective opinion is the essence of testimony under Rule 702, when it is based on expertise and the performance of a reliable method.

The Court's opinion, if left undisturbed, would have grave consequences. It would deprive the government of vital evidence in this case, in which latent fingerprints directly link defendants to heinous murders. It would jeopardize the utility of a sound and proven method of identification in countless prosecutions of criminal activity, using a discipline which surely meets the Rule 702 reliability test explained above. And, if carried to its logical conclusion, the Court's reasoning would virtually eliminate any expert opinion on the myriad subjects on which subjective expert opinion has always been welcomed in the federal courts.

The Court's exclusion of the identification testimony runs counter to approximately 100 years of judicial practice and contrary to the decision of each federal court, at the district level and above, which has considered the

admissibility of this testimony before and after the Supreme Court's decision in Daubert. In each case, the courts have deemed such identification testimony admissible. Those courts include two judges in this district who, reviewing the same record, have ruled that fingerprint identification testimony is admissible under Rule 702 and Daubert.

For all of these reasons, the government strongly urges the Court to reconsider its decision. If the correct test for "reliability" and authorization for subjective opinion under Rule 702 are employed, we submit, the admissibility of the experts' opinions is plain.

I. The Court's Decision.

Defendants Carlos Ivan Llera-Plaza, Wilfredo Martinez Acosta, and Victor Rodriguez are charged with a series of four murders for hire committed in Puerto Rico and Philadelphia in the summer of 1998. The four young men killed were Ricky Guevara Velez in San Lorenzo, Puerto Rico on June 17, 1998, Luis Garcia and Jorge Martinez on July 12, 1998 in Philadelphia, and Jose Hernandez on September 24, 1998 in Philadelphia. The murders were carried out to further the

goals of a large cocaine and crack cocaine distribution organization with ties to Philadelphia and Puerto Rico.<sup>2</sup>

Critical fingerprint identification evidence

(1) ties Llera-Plaza and co-conspirator Ivan Torres to a "hit team" car used by the murderers in July 1998; (2) ties Acosta to the murder weapon used in the July 12, 1998 murders of Garcia and Martinez; (3) ties Llera-Plaza and co-conspirator Pedro Nieves to the hit team car and the murder weapon used in the September 24, 1998 murder of Hernandez; and (4) excludes two men wrongly arrested, and later released, by local authorities for the Hernandez murder.

Specifically, FBI examiners identified a latent print found inside a box of ammunition taken from the trunk of a car abandoned after a chase by the FBI in Philadelphia on July 8, 1998 as that of defendant Ivan Llera-Plaza. The examiners further identified latent prints found on a gun and a magazine to a gun found in the same car as those of co-conspirator and government witness Ivan Torres. All of that

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<sup>2</sup> Defendant Acosta is charged with respect to the first three murders.

testimony would corroborate the anticipated testimony of Torres and of cooperating co-conspirator Gilberto Perez that Torres, Llera Plaza, and Acosta were in the car because they had come to Philadelphia to commit murder for hire for Victor Rodriguez, and that the guns and ammunition recovered were the tools supplied to them to do the job.

The examiners would further testify that latent fingerprints found inside a Plymouth Volare used in the July 12, 1998 murders of Luis Garcia and Jorge Martinez and recovered the night of the murder, on a plastic sheet of window tinting material covering the murder weapon, were the fingerprints of defendant Acosta and co-conspirator and cooperating witness Benjamin Mejias; and finally that fingerprints found on a Ford Taurus used in the murder of Jose Hernandez on September 24, 1998 and recovered by police immediately after the murder were the fingerprints of defendant Llera-Plaza and co-conspirator Pedro Nieves Rivera, and were not the fingerprints of Angel Sanchez and Jose Negrón, two men wrongly arrested for this murder by local authorities based on since-recanted eyewitness identifications.



The defendants moved in limine to exclude the testimony of the government's fingerprint examiners. The government opposed this motion, and asked this Court to take judicial notice of the uniqueness and permanence of fingerprints, the scientific fact which underlies the experts' analysis.

In its January 7, 2002 ruling, the Court agreed to take judicial notice of the uniqueness and permanence of fingerprints (Op. 17). It further accepted the standard tool of comparative analysis of fingerprint identification, the search for various characteristics which may be compared between known and latent prints. However, it questioned the "reliability" of the FBI's method (referred to as ACE-V) for rendering an opinion whether a latent print matches the known print of a suspect. The Court stated: "the government had little success in identifying scientific testing that tended to establish the reliability of fingerprint identification" (Op. 24).

The Court then held that:

experts can (1) describe how the rolled and latent fingerprints at issue in this case were obtained, (2) identify and place before the jury the fingerprints

and such magnifications thereof as may be required to show minute details, and (3) point out observed similarities (and differences) between any latent print and any rolled print the government contends are attributable to the same person. What such expert witnesses will not be permitted to do is to present 'evaluation' testimony as to their 'opinion' (Rule 702) that a particular latent print is in fact the print of a particular person.

(Op. 44).

This ruling essentially eliminates the utility of fingerprint identification evidence in the case. Even if an expert shows the jury magnifications of a latent and rolled print, and illustrates points of comparison between the two, the jury has no way of knowing whether it may make an identification or not. The expert may document 100 points of comparison, but for all the jury knows every person's fingerprints share those 100 similarities. The testimony is meaningless without the expert's explanation of the findings of generations of empirical testing regarding the link between similarities and a reliable identification, and the expert's opinion as to the application of this method in this particular case.

In the Ramsey case, before Judge Yohn, defense counsel conceded as much:

Court: So, you want him to say, well, here are these prints and I see 14 points that seem to me to look the same and that's the end of it?

Counsel: That's right, your Honor.

Court: And what good would that do the jury?

Counsel: Well, it's -- quite honestly, it wouldn't do them all that much good.

Trial Tr. Sept. 21, 2001 at 14.

This result is at odds with the manifest purpose of Rule 702, to admit any reliable opinion testimony which may assist the jury in its task. The fingerprint examiners' opinions should be admitted in this case under that rule.

II. The Reliability Test.

Fingerprint evidence clearly meets the reliability test required under Daubert and its progeny for the admission of expert testimony.<sup>3</sup>

In Daubert, as stated above, the Court explained the reliability test as requiring "more than subjective belief or unsupported speculation." 509 U.S. at 590. It continued: "it would be unreasonable to conclude that the subject of scientific testimony must be 'known' to a certainty; arguably, there are no certainties in science. . . . But, in order to

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<sup>3</sup> Reliability is not the only prerequisite for the admission of expert testimony. In addition, in order for expert opinion to be admitted under Rule 702, the court must be satisfied by a preponderance of the evidence that the expert is qualified, and that the opinion is relevant to the matter at issue and will be helpful to the trier of fact. See, e.g., United States v. Velasquez, 64 F.3d 844, 849 (3d Cir. 1995). In this case, the qualifications of the government's experts and the pertinence of their testimony is not disputed; the only question is the reliability of their analysis.

qualify as 'scientific knowledge,' an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation -- i.e., 'good grounds,' based on what is known." Id.

Notably, Daubert was aimed at expanding, not restricting, the admissibility of expert opinion under Rule 702, in keeping with the Supreme Court's view of the "'liberal thrust' of the Federal Rules and their 'general approach of relaxing the traditional barriers to "opinion" testimony.'" Id. at 588 (quoting Beech Aircraft Corp. v. Rainey, 488 U.S. 153, 169 (1988)). Thus, Daubert rejected the long-prevalent Frye doctrine, Frye v. United States, 293 F. 1013 (D.C. Cir. 1923), which held that a scientific theory was admissible only if it enjoyed "general acceptance" in the pertinent community of expertise. The Supreme Court held that Frye was unduly restrictive in light of Rule 702. The Daubert Court responded to the concerns of some that its ruling would open the floodgates to all manner of questionable expert opinions, stating that those critics are "overly pessimistic about the capabilities of the jury and of the adversary system generally. Vigorous cross-examination, presentation of

contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." Daubert, 509 U.S. at 595-96.

Intererstingly, fingerprint opinion testimony, based on a comparative analysis of latent and known prints, was always held admissible under the Frye test. Indeed, as explained more fully below, fingerprint identification is the paradigm of a "generally accepted" test -- it has been used for nearly 100 years, it has been introduced on thousands of occasions in judicial proceedings, and it is the only method used in the law enforcement and civil communities for the task at issue. The Third Circuit stated as much in United States v. Downing, 753 F.2d 1224 (3d Cir. 1985), a seminal opinion which rejected the Frye test and was later embraced by the Supreme Court in Daubert. The Downing Court stated that under Frye, "Once a novel form of expertise is judicially recognized, this foundational requirement can be eliminated, as is done when, for example, fingerprint, ballistics, or x-ray evidence is offered." 753 F.2d at 1234.

It would thus be incongruous, to say the least, if a method of evaluation which has received such overwhelming

acceptance and consistent use as the FBI's fingerprint identification method would fail under a rule of evidence meant to be less stringent than the general acceptance test of Frye. A review of the law interpreting the newer, Rule 702 standard reveals that this is not the case.

To the contrary, the courts, and particularly the Third Circuit, have been faithful to the Supreme Court's mandate to apply a liberal standard of admissibility under Rule 702. In essence, the Supreme Court's cases simply drew the line at what is colloquially referred to as "junk science," the attestations of purported experts without any reliable basis in fact or study. Iacobelli Construction, Inc. v. County of Monroe, 32 F.3d 19, 25 (2d Cir. 1994). See Daubert (questioning the reliability of testimony by a witness who simply "re-analyzed" 30 studies of over 130,000 patients, all of which found no link between use of Bendectin and the complained-of injuries, and reached a different conclusion); General Electric Co. v. Joiner, 522 U.S. 136, 145-46 (1997) (medical causation expert relied only on four epidemiological studies, which were either inconclusive or irrelevant to the pertinent issue); Kumho Tire Co., Ltd. v. Carmichael, 526 U.S.

137, 154 (1999) (tire expert purported to state opinion regarding cause of tire failure, based solely on a visual examination of questionable value, and without consideration of substantial evidence contrary to his view).

Apart from such extreme circumstances, the Third Circuit has often held that the reliability "standard is not that high." In re Paoli R.R. Yard PCB Litigation, 35 F.3d 717, 745 (3d Cir. 1994) (commonly referred to as Paoli II), cert. denied, 513 U.S. 1190 (1995). Paoli II, which remains the most influential discussion of the Daubert standard in this Circuit, explained that the requirement of a showing of "reliability"

does not mean that plaintiffs have to prove their case twice -- they do not have to demonstrate to the judge by a preponderance of the evidence that the assessments of their experts are *correct*, they only have to demonstrate by a preponderance of evidence that their opinions are reliable. . . . Daubert states that a judge should find an expert opinion reliable under Rule 702 if it is based on "good grounds," i.e., if it is based on the methods and procedures of science. A judge will often think that an expert has good grounds to hold the opinion that he or she does even though the judge thinks that the opinion is incorrect. . . . The grounds for the expert's opinion merely have to be good, they do not have to be perfect. The judge might think that there are good grounds for an expert's conclusion even if the judge thinks that there are better grounds for some alternative conclusion, and even if the judge thinks that a scientist's methodology



has some flaws such that if they had been corrected, the scientist would have reached a different result.

Id. at 744 (italics in original).

The Rules Advisory Committee, in amending Rule 702 in 2000, expressly adopted the Paoli II explanation. In addition, furthering the rule's liberal policy of accepting expert testimony, the Committee explained that even expert testimony "not rely[ing] on anything like a scientific method" may be admissible, if "it is properly grounded, well-reasoned, and not speculative."

Following Paoli II, the Third Circuit has repeatedly emphasized the limited nature of the reliability measure. See, e.g., In re TMI Litigation, 193 F.3d 613, 692 (3d Cir. 1999) ("So long as the expert's testimony rests upon 'good grounds,' it should be tested by the adversary process -- competing expert testimony and active cross-examination -- rather than excluded from jurors' scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies."), cert. denied, 530 U.S. 1225 (2000); Holbrook v. Lykes Bros. S.S. Co., Inc., 80 F.3d 777, 784 (3d Cir. 1996) ("The reliability requirement, however, should not be applied

too strictly. . . . If the expert has 'good grounds' for the testimony, the scientific evidence is deemed sufficiently reliable. A determination that the expert has good grounds assures that the expert's opinions are based on science rather than 'subjective belief or unsupported speculation.'"); Oddi v. Ford Motor Co., 234 F.3d 136, 145-46 (3d Cir. 2000), cert. denied, 121 S. Ct. 1357 (2001).

Some of the Third Circuit cases illustrate the permissibility of the reliability test. Notably, in United States v. Velasquez, 64 F.3d 844 (3d Cir. 1995), the district court admitted the testimony of a handwriting analyst identifying the authorship of a document by two people, over the defendant's objection "that handwriting analysis lacked measurable standards and could not be considered a legitimate science." Id. at 846. The government's expert then testified to a process conceptually similar to that at issue here, in which she identified individual characteristics in the known and questioned writings, made a comparison, and expressed an opinion regarding identity. Id. at 846 n.3. The Third Circuit concluded: "In the present case, there is no question that the district court properly admitted Ms. Bonjour's

handwriting analysis testimony because her testimony met all three of the requirements of Rule 702." Id. at 850. In particular, the Court stated, the testimony "was sufficiently reliable to be admissible." Id. at 851.<sup>4</sup>

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<sup>4</sup> In its opinion, this Court (Op. 45-46) cited the opinion in United States v. Hines, 55 F. Supp.2d 62 (D. Mass. 1999), where the district court ruled that an expert could note the similarities between questioned writings and known exemplars, but not state an opinion of a match. This Court, however, overlooked the fact that the Third Circuit in Velasquez expressly permitted the opinion testimony which Hines rejected.

The other case cited by this Court which precluded opinion testimony was United States v. Van Wyk, 83 F. Supp.2d 515 (D.N.J. 2000), aff'd mem., 262 F.3d 405 (3d Cir.), cert. denied, 122 S. Ct. 66 (2001). However, that matter dealt with "forensic stylistics" -- where a linguist compares the style of writing in known and questioned documents -- a discipline which all parties agreed was a "novel" expertise.

Moreover, the Court held that the district court had abused its discretion in excluding the contrary testimony offered by the defense of a professor who, based on his own research, criticized the standards used by the handwriting examiner. "[H]e opined that handwriting analysis is not a valid field of scientific expertise because it lacks standards to guide experts in weighing the match or non-match of particular handwriting characteristics." Id. at 846. The Third Circuit held that this view, as it was grounded on empirical research and more than simple speculation, was also admissible expert testimony.

Velasquez thus illustrates the "'strong and undeniable preference for admitting any evidence having some potential for assisting the trier of fact' which is embodied in the Federal Rules of Evidence,'" id. at 849 (quoting DeLuca v. Merrell Dow Pharmaceuticals, Inc., 911 F.2d 941, 956 (3d Cir. 1990)), and cannot be reconciled with the opinion in this case. Velasquez is consistent with many Third Circuit decisions prescribing the admission of expert opinion simply because the opinion rested on study and experience comprising "good grounds."

As another example, Paoli II was a toxic tort case brought by neighbors of a railyard where PCB's were used for a quarter century, who alleged that they suffered from a variety of physical ailments as a result. The Court of Appeals held that the district court abused its discretion in excluding all expert testimony offered on the basis of "differential diagnosis," where a physician undertakes to diagnose the cause of an illness by examining a patient, performing laboratory tests, and then considering any alternative explanations for the illness. The Court further held that the district court abused its discretion in excluding studies on animals of the effect of PCB's, given that "animal studies are routinely relied upon by the scientific community in assessing the carcinogenic effects of chemicals on humans." 35 F.3d at 780.

Notably, the Court found these areas of expertise sufficiently reliable, even while acknowledging that the accuracy of the witnesses' methods could not be known. With respect to differential diagnosis, the Court observed that a diagnosis regarding a particular individual cannot be empirically tested, but "[t]his merely makes it a different type of science than science designed to produce general

theories; it does not make it unreliable science." Id. at 758. The Court held that a physician's opinion based on a faithful application of the method is admissible, because differential diagnosis "is a technique that has widespread acceptance in the medical community, has been subject to peer review, and does not frequently lead to incorrect results. . . ."  
." Id. See also Heller v. Shaw Industries, Inc., 167 F.3d 146, 158 (3d Cir. 1999) (permitting introduction of "differential diagnosis" regarding the link between symptoms and exposure to a product without the need to prove "a statistically significant correlation.").

Similarly, the Paoli II Court found an abuse of discretion in the exclusion of animal studies not because those studies were demonstrably accurate in establishing a link between PCB's and the plaintiffs' illnesses, but because the tests met the reliability requirement: "where there is reason to think that animal studies are particularly valuable because animals react similarly to humans with respect to the chemical in question, and where the epidemiological data is inconclusive and some of it supports a finding of causation, we think that the district court abused its discretion in

excluding the animal studies. Certainly, the evidence meets the relevance requirements of Rule 402 and we think, after taking a hard look, that it also meets the reliability requirement of Rules 702, 703 and 403." 35 F.3d at 781.

The liberal standard of admissibility mandated by these decisions directs the admission of fingerprint opinion testimony.

### III. Application of the Reliability Standard to Fingerprint Opinion Evidence.

Even before assessing the familiar "Daubert factors," it is obvious that fingerprint opinion testimony is admissible under the liberal reliability test articulated in the Supreme Court and Third Circuit cases.

The FBI fingerprint examiner is not engaged in "junk science;" he or she is using a method of comparative analysis which has been employed for a century, has been proven to make accurate identifications, and is the exclusive method used in the field. For these reasons alone, the examiner plainly has at least "good grounds" for an opinion. Surely, if a witness may state an opinion for the cause of a person's illness based

on extrapolating from tests of a suspected substance on mice; or a doctor can state an opinion of a person's mental state based on an examination of the patient and the study of others' conditions; or a handwriting examiner is allowed to state an opinion regarding a person's handwriting; a fingerprint examiner must be allowed to opine, where that opinion rests on decades of study of the individual characteristics of human fingerprints and the proven means for identifying prints.

Indeed, it is apparent that, among the litany of expert opinions embraced by the Third Circuit and other courts under Rule 702, fingerprint testimony is perhaps the most solidly established and well grounded of any. If this testimony is not admissible, it will be necessary to reconsider entirely the Third Circuit's prior opinions as well as the liberal standard announced in Daubert.

On this score, the testimony from the Mitchell record of Stephen B. Meagher is alone sufficient to meet the threshold Daubert test. His testimony demonstrates that the FBI examiners express opinions based on a careful, scientific analysis, and that those opinions are relied upon throughout



American law enforcement and civil communities. Daubert demands no more.

Meagher is a Supervisory Fingerprints Specialist holding the Unit Chief position within the FBI laboratory. He has devoted his career, since 1972, to the study and identification of fingerprints. He explained to the Mitchell court the painstaking, three-level analysis of fingerprint characteristics which FBI examiners rigorously apply, forming the basis of their ultimate opinions. This process includes verification of any identification by more than one trained examiner.

Meagher said that he himself has made thousands of identifications of fingerprints, and millions of comparisons. Gov. Ex. 8-2 and CV; 8 D.T. 62-65. He has done so not only in criminal investigations, but also as a leader of teams assembled by the government to identify the victims of disasters, such as plane crashes. 8 D.T. at 56-61.

Meagher is certified by the FBI, and is a member of the International Association for Identification (IAI). He has had extensive continuing education courses, and has considerable teaching credentials in latent fingerprint

examination. Id. It is untenable to suggest that a witness possessing such experience and expertise in a widely recognized field does not meet the threshold requirement of "reliability" to offer his opinion regarding fingerprint identification for the consideration of the jury, or, conversely, to state that his opinion is based on nothing more than speculation or conjecture.

While Daubert made clear that the factors it outlined for the admission of expert testimony need not necessarily apply in each case, and were intended only as a guide, consideration of the factors is also useful and reaffirms the plain admissibility of the examiners' opinions.

Given Daubert's recognition that the list of factors to be considered in weighing the admissibility of expert testimony is not a closed set, 509 U.S. at 593, the Third Circuit has amplified the list of pertinent considerations. These include:

- (1) whether a method consists of a testable hypothesis;
- (2) whether the method has been subject to peer review;
- (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable;

(7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the method has been put.

Paoli II, 35 F.3d at 742 n.8. It is apparent that every factor considered by the courts is satisfied by fingerprint opinion evidence.<sup>5</sup>

A. Whether the method consists of a testable hypothesis.

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<sup>5</sup> In this discussion, we focus on the method on which the proffered testimony is based, that is, the procedure used in the FBI laboratory which evaluated the prints in this case. That method happens to be similar to the comparative method used in every jurisdiction in the United States and throughout the developed world. To be sure, under the broad standard for admissibility followed in this Circuit, different and even novel methods of fingerprint evaluation if used by other agencies would also be admissible, so long as they rested on scientific evaluation and more than mere conjecture. But the question before this Court is simply the Daubert reliability of ACE-V as used by the FBI.

"Ordinarily, a key question to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact will be whether it can be (and has been) tested." Daubert, 509 U.S. at 593. The fingerprint identification method can be and constantly is tested; it is possible to show known exemplars to qualified examiners and test their proficiency. As explained further below, FBI examiners have exhibited almost unerring accuracy on proficiency tests for years. Further, the defendants as well as any others are free to perform whatever tests and introduce whatever reliable evidence they like to disprove the method, although that will be difficult, given that the method to date has completely passed every test.

In amending Rule 702 in 2000 to expressly adopt the Daubert view, the Advisory Committee touched on the test factor as follows: "whether the expert's theory can be challenged in some objective sense, or whether it is instead simply a subjective, conclusory approach that cannot reasonably be assessed for reliability." Fingerprint analysis manifestly satisfies this standard.

In its opinion, this Court found that the FBI's method has not been scientifically tested, and cannot be, since by the examiners' admission the final identification of latent and known prints is a subjective determination. This analysis is wrong.

The FBI's method is not subjective. It rests on a careful analysis of similar characteristics in latent and known prints. The examiner, resting on extensive training in noting similarities and dissimilarities in fingerprints, and in reasoning from such observations whether the prints match or not, is reaching a conclusion which is grounded in a scientific method. The accuracy of this approach can be and routinely is tested.

As the government will demonstrate at the next evidentiary hearing in this matter, based on the permission granted by the Court to reopen the record, FBI latent print examiners have been subject to annual proficiency testing since 1995. During these past seven years, ending with the 2001 proficiency test, a cumulative total of 447 examiners were tested. Each of the examiners had to examine 7 to 13 latent prints during each test. Out of those thousands of

comparisons, four examiners each made one error, three of which were missed identifications, and only one of which was a false identification. Three of the errors occurred on the 1995 test, and one on the 2000 test. Therefore, proficiency in this testing has been well over 99%. See Attachment A.<sup>6</sup>

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<sup>6</sup> The Court also referred to testing conducted by Collaborative Testing Services (CTS). As the Court noted (Op. 37 n.24), only 44% of the subjects in 1995 correctly identified all latent prints being tested, a rate which increased to 58% in 1998. These tests are not very pertinent, given that not all of the subjects were qualified latent print examiners or from accredited labs. Rather, the test is open to anyone who is willing to pay a \$300 testing fee. Only two FBI examiners have taken the test each year since 1995. Studying these results is like judging the quality of practicing attorneys by studying the failure rate for the state's bar exam. Still, by 2001, 80% made no mistakes at all on the latest test, as the government will show at the hearing. See Attachments B and C.

These facts amply demonstrate that the accuracy of the FBI's method is testable, and has proven outstanding. Given the prevailing law that a method need not be correct to be admissible, but only provide "good grounds" for an opinion, it is evident that the FBI method is admissible under Rule 702, subject to whatever contrary opinion or test results the defense wishes to present.

The Third Circuit has rejected expert testimony that was based on no reliable, testable method at all. See, e.g., Oddi v. Ford Motor Co., 234 F.3d 136, 156 (3d Cir. 2000) (while standard of reliability is not high, district court did not abuse discretion in excluding testimony regarding bumper design which was based on a "haphazard, intuitive inquiry" without any empirical testing at all), cert. denied, 121 S. Ct. 1357 (2001); see also In re TMI Litigation, 193 F.3d 613, 682 (3d Cir. 1999) (court may reject conclusions which "fly in the face of reality."), cert. denied, 530 U.S. 1225 (2000). That is surely not the situation here.

B. Whether the method has been subject to peer review.

This Court questioned whether fingerprint analysis meets this factor, given that it has not been the subject of

many peer-reviewed articles. But publication is not the only means of "peer review;" rather, the Supreme Court spoke of "peer review" more broadly as "submission to the scrutiny of the scientific community [which] increases the likelihood that substantive flaws in methodology will be detected." Id.

Fingerprint analysis has long been subject to scrutiny in the relevant community of forensic expertise, and peers oversee and test each other's work in the field on a daily basis.<sup>7</sup>

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<sup>7</sup> Fingerprint analysis is not entirely a scientific discipline, and is studied and assessed beyond the halls of academe. In this regard, the Supreme Court's decision in



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Kumho Tire is notable, making clear that the same liberal reliability standard applies to any form of expert opinion, whether based on scientific, technical, or other expertise. Daubert's reference to "peer review" must also be read to allow consideration not just of peer review in the narrow scientific journal sense, but as embracing any form of scrutiny within a community of expertise which gives a gatekeeper comfort regarding the reliability of the pertinent state of knowledge. Any other view would do disservice to the liberal standard mandated by Daubert, Kumho Tire, and Rule 702. See Advisory Committee Notes to 2000 Amendments, quoting favorably American College of Trial Lawyers, Standards and Procedures for Determining the Admissibility of Expert Testimony after Daubert, 157 F.R.D. 571, 579 (1994) ("[W]hether the testimony concerns economic principles, accounting standards, property valuation or other non-scientific subjects, it should be evaluated by reference to the 'knowledge and experience' of that particular field.").

The government respectfully submits that the reliability of fingerprint opinion testimony is far more strongly grounded in this factor than a study which has merely gained publication in a journal or two. Exhibits 7-1 and 7-2 in Mitchell list over 350 reference works applicable to the field, including Sir Francis Galton's seminal work, Finger Prints, published in 1892. Galton's book has survived as an authoritative reference for over 100 years, demonstrating overwhelming evidence of acceptable "scientific" peer review. Plainly, this is a field in which there is extensive peer review and widespread acceptance of the basis method of fingerprint analysis.

This Court further dismissed the work of the leading professionals in the fingerprint analysis field, all of which is subject to constant scrutiny in this very active discipline, because they "tend to be skilled professionals who have learned their craft on the job and without any concomitant advanced academic training" (Op. 30). This view takes inadequate consideration of the mandate of Rule 702, that the qualifications of an expert be considered in the same

liberal fashion as the reliability of his or her opinion.

Paoli II, 35 F.3d at 741. Therefore, it has long been held that even a person who gains specialized knowledge without any formal training or schooling at all may qualify as an expert.

See, e.g., 2000 Advisory Committee Notes ("the text of Rule 702 expressly contemplates that an expert may be qualified on the basis of experience. In certain fields, experience is the predominant, if not sole, basis for a great deal of reliable expert testimony."); Hammond v. International Harvester Co., 691 F.2d 646, 653 (3d Cir. 1982) (permitting engineer with sales experience in automotive and agricultural equipment, who also taught high school automobile repair, to testify in products liability action involving tractors).

The rigorous training and peer review employed by fingerprint examiners is certainly sufficient to meet this Daubert factor.<sup>8</sup>

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<sup>8</sup> Cf. Heller v. Shaw Industries, Inc., 167 F.3d 146, 155 (3d Cir. 1999) (a physician's differential diagnosis is admitted where he followed the "tools of the trade," including experience, education, consultations, and physical examinations, even though the diagnosis is not peer reviewed); Kannankeril v. Terminix Intern., Inc., 128 F.3d 802, 809 (3d Cir. 1997) (district court abused its discretion in excluding the expert testimony regarding differential diagnosis; the

C. The known or potential rate of error.

The first question to be addressed is which rate of error is relevant -- the error rate for the methodology, or the error rate of practitioners in applying that methodology.

In Daubert, the Supreme Court made clear that the appropriate focus is on the former. 509 U.S. at 590 n.9. That is sensible; where a method is reliable, any error in its application may be exposed through the testimony of contrary experts in that method. In this case, the Court did not quarrel with the government's proposition that the methodology error rate is zero.

The Third Circuit has further explained that practitioner error rate may be relevant only where practitioners are so prone to mistake in the application of a method that the reliability of the method must be questioned.

See, e.g., Paoli II, 35 F.3d at 745. As is clear from the reports of FBI proficiency testing described above, that

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absence of peer review did not prevent admission of the testimony, where the opinion was not novel but was based on "widely accepted scientific knowledge").

cannot be said of the FBI's fingerprint identification method. See United States v. Havvard, 260 F.3d 597, 601 (7th Cir. 2001) ("the probability for error is exceptionally low").

Most significantly, the collective actual and anecdotal knowledge of the FBI lab (since 1933) establishes that no erroneous identification has ever been offered in court by an FBI examiner. In each of two cases, an erroneous identification was transmitted to the prosecutor in a report.

Each error was discovered by the original examiner while preparing his/her testimony before trial. In the entire history of the FBI, no one, either during or after a case, has ever shown that an erroneous (false positive) identification opinion was offered in court.

The absence of such significant practitioner error as would undermine the reliability of the method was also apparent from the Mitchell record. This Court focused on the result of the survey in the Mitchell case, where the defendant's prints and the questioned latent prints were sent to 34 agencies for identification, of which only a few did not make an identification (Op. 36). As an initial matter, this Court's statement that "[n]ine of the 34 reporting agencies

did not make an identification in the first instance" (Op. 36) is incorrect. In truth, only five agencies initially did not identify one of the latent thumb prints which were submitted.

In the first instance, 25 identified both thumb prints, one identified only the right print, and three identified only the left print. Trial Tr. Feb. 2, 2000 at 79-81. Also significantly, none of the 34 agencies ruled out Mitchell as the source of the latent prints. Thus, this test alone, while limited, must give a gatekeeper ample confidence in the basic reliability of the method.

At the Mitchell trial, the defendant called 12 expert identification witnesses who had examined the Mitchell evidence and failed to match one or both prints. Trial Tr. Feb. 3, 2001 at 143-213 and February 4, 2001 at 2-98. This Court (Op. 37) recited many of the reasons provided for the missed identification. But it omitted a crucial explanation - that examiners often decide to err on the side of caution before expressing an opinion of a match. See, e.g., testimony of John C. Otis, retired Maine state trooper ("the big thing

is not to make a bad match, not to say that a fingerprint is somebody when it is not"), Trial Tr. Feb. 3, 2001 at 154-55.<sup>9</sup>

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<sup>9</sup> Another of the examiners, Ralph T. Turbyfill of the Arkansas Crime Laboratory, explained how he was unable to make an identification because he was provided third or fourth generation computer generated evidence of such poor quality that an examination was not possible. Trial Tr. Feb. 3, 2001 at 210-12.

In Mitchell, after an exhaustive challenge to the fingerprint identification both before and during trial, the results were striking. Of the 12 experts called by the defendant at trial, all 12 positively identified one of the latent thumb prints as Mitchell's. Trial Tr. Feb. 3, 2001 at 143-213 and Feb. 4, 2001 at 2-98. By the time of the close of the evidence in Mitchell, 81 examiners had scrutinized the exemplars, and every single one had positively identified one of the latent thumb prints as being Mitchell's while 80 out of 81 positively identified the other latent thumb print as being Mitchell's.<sup>10</sup> Id.; Trial Tr. Feb. 2, 2001 at 79-81, and Feb. 4, 2001 at 135-37.

These results, combined with the known fact that in testing examiners have used the ACE-V method to make demonstrably correct identifications, are an ample basis for finding that an opinion expressed following the application of this method is "good grounds" for admissible expert testimony.

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<sup>10</sup> One latent print expert determined that there was insufficient data in one of the latent thumb prints for him to make a comparison. Trial Tr. Feb. 4, 2001 at 91-92.



This Court, reviewing the Mitchell results, stated that "they are (modestly) suggestive of a discernible level of practitioner error" (Op. 37). The government disagrees. But even if there is a discernible level of practitioner error, it is impermissible under Daubert and the Third Circuit interpretations to exclude opinions based on this method. To hold otherwise would be to declare that an expert's testing is admissible only where there is no discernible level of error, that is, when it is always correct. Such a rule is plainly erroneous under the liberal standard of Rule 702 and the case law, and would eliminate almost any expert opinion. It would vitiate the rule of Paoli II that a proponent of expert opinion need not prove its case twice, and would eliminate expert testimony in any case -- meaning almost every case -- where competing experts disagree.

In short, a finding of a "discernible" rate of error in an accepted and rigorously applied test cannot preclude the admission of the expert's opinion. Such an opinion remains reliable, within the meaning of Rule 702 and Daubert; it is admissible under the liberal provision of Rule 702 as helpful to the jury, and submitted for resolution by the jury through

cross-examination and the testimony of conflicting experts, or consideration of any other evidence. Even if a method of inquiry succeeded only 29 out of 34 times (which is not an accurate depiction of the survey), it cannot be said that a judicial system which accepts expert opinions based on, say, a psychologist's view regarding a patient's mental disease, will not accept an opinion based on a test with such a proven success rate (subject, of course, to attack by cross-examination and contrary opinion).<sup>11</sup>

In sum, there is no rate of practitioner error undermining the basic reliability of the fingerprint

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<sup>11</sup> Courts often permit opinion testimony in areas of inquiry in which the expert may make a mistake. See, e.g., Indianapolis Colts, Inc. v. Metropolitan Baltimore Football Club, 34 F.3d 410, 415-16 (7th Cir. 1994) (lack of perfection in expert's survey did not require exclusion -- "[t]rials would be very short if only perfect evidence were admissible").

identification method, and the evidence shows to the contrary a remarkably accurate method of identification.

D. The existence and maintenance of standards controlling the technique's operation.

The FBI witness testified to its laboratory's adherence to careful standards in the comparison of exemplars and rendering of opinions. This Court objected that different standards existing in different jurisdictions evince "that there is no one standard 'controlling the technique's operation,' Daubert, 509 U.S. at 594" (Op. 38). But the focus here must be on the FBI's technique, which does follow consistent standards.

This Court further criticized the fingerprint identification method under the standards prong, stating that the fact that fingerprint evaluators make a subjective determination means that they are not following standards in the application of the test. That conclusion is erroneous, and vitiates the very nature of expert opinion testimony.

Relying on the experts' testimony that the final evaluation is subjective, this Court concluded: "With such a high degree of subjectivity, it is difficult to see how

fingerprint identification -- the matching of a latent print to a known fingerprint -- is controlled by any clearly describable set of standards to which most examiners subscribe" (Op. 39). Accordingly, the Court limited the experts to stating what is "descriptive, not judgmental" (Op. 44).

The Court has excerpted quotations from the government's experts in Mitchell in which they agree that their ultimate opinion as to identity is "subjective," and appears to read their use of that word as being synonymous with "impressionistic" or "speculative." Given the context of the testimony, that is not at all what those witnesses were saying, and is not at all the nature of their expertise. To the contrary, what those witnesses are saying is that their opinion is one based on scientifically established truths, on careful, principled evaluation of the evidence, on comparison of a quantity of characteristics which has been known to allow an assured identification, and is one with which any competent examiner would almost certainly agree. Virtually all expert testimony is ultimately "subjective." Were it not subjective,

it would not be an "opinion." Were expert opinions not almost always subjective, qualified experts would never disagree.<sup>12</sup>

The government respectfully submits that the Court's rejection of subjective opinion as unreliable is incorrect under Rule 702, and would amount to wholesale rejection of virtually all of the expert opinions which that rule embraces.

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<sup>12</sup> It is of course not at all unusual to have two psychologists, both qualified under Rule 702, testifying to entirely different opinions about a diagnosis of a person's mental health, or two radiologists examining the same x-ray film and giving entirely different opinions.

The ACE-V method unquestionably uses a describable set of standards.<sup>13</sup> The examiner painstakingly searches the latent print for its characteristics and then compares those characteristics to the known exemplars seeking to find dissimilarities and similarities, which have been identified as useful in evaluating fingerprints. An FBI examiner performing this task has been exhaustively trained and tested on his or her ability to do this in a scientific manner which is known to yield identifications where possible. At the conclusion of the process, the examiner is called upon, based upon his or her examination and all of the years of training and experience, to express an opinion as to identity, exclusion or not having sufficient information to either identify or exclude.<sup>14</sup>

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<sup>13</sup> Regardless of whether an expert's knowledge is characterized as "scientific, technical or other specialized knowledge," or whether, as with the fingerprint identification testimony offered here, it is an amalgam of all three, its admissibility depends on its reliability. Its admissibility does not depend on whether or not it meets any single definition of "scientific."

<sup>14</sup> These basic propositions were never undercut by the defense experts. Prof. James E. Starrs premised his critique of fingerprint identification on the discredited proposition that fingerprints are not unique. "You are assuming in the

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conclusion that they are unique, and if they are unique, it clearly impacts my testimony, but I'm not willing to accept that assumption without scientific proof." 12 D.T. at 179-80.

Dr. David Stoney testified that fingerprint identification testimony is not "scientific" but never stated that the identification process was unreliable. In fact, he appears to conclude the opposite. Stoney testified that he believes that there are no set number of Galton points that are necessary to make a positive identification, id. at 91, and that at some point the variation becomes so great that an expert has the ability to say that a certain person was the source of a specific print, id. at 242. Dr. Stoney himself has testified as an expert fingerprint identification expert and has made absolute identifications from fingerprints, i.e., "this fingerprint came from that individual," in court. Id. at 55.

This is the quintessential type of opinion evidence for which Rule 702 is designed. To say that an expert cannot express a subjective opinion which rests on his or her expertise and training would be to write Rule 702 out of the Federal Rules of Evidence. To the contrary, the rule provides that an expert may testify "in the form of an opinion or otherwise," recognizing that an expert's subjective view based on training superior to that of the jurors may be helpful to the jury in the performance of its task. The Advisory Committee note to the adoption of Rule 702 explicitly authorized such opinion testimony:

The rule accordingly recognizes that an expert on the stand may give a dissertation or exposition of scientific or other principles relevant to the case, leaving the trier of fact to apply them to the facts. Since much of the criticism of expert testimony has centered upon the hypothetical question, it seems wise to recognize that opinions are not indispensable and to encourage the use of expert testimony in non-opinion form when counsel believes the trier can itself draw the requisite inference. The use of opinions is not abolished by the rule, however. It will continue to be permissible for the experts to take the further step of suggesting the inference which should be drawn from applying the specialized knowledge to the facts.

If experts were limited only to providing testimony regarding which there is empirical proof, there would be no



need for expert opinions at all. By the same notion, if the reliability of an expert's opinion rested on his or her demonstrable accuracy, without any reference to his or her subjective judgment, there could never be a case in which competing experts were allowed to opine.

This is not the law. If, as the Third Circuit held in Velasquez, the standards of handwriting analysis are sufficiently reliable to permit the admissibility of opinions based on that analysis, surely an opinion based on fingerprint comparison is authorized by Rule 702. Fingerprint analysis, in contrast to most of the disciplines regarding which experts testify in federal court, is subject to controlled testing and the application of specific standards. Handwriting, for example, is known not to be permanent; surely a fingerprint analysis resting on comparison of traits known to be unique and permanent is a valid basis for the expression of an opinion.

In the courts, experts are routinely allowed to give their subjective viewpoint on matters which, in contrast to fingerprint assessment, can never be empirically tested. As noted above, the Third Circuit has repeatedly directed that

physicians' diagnoses be admitted, even while recognizing that the subjective assessment of one person's illness can never be objectively tested or peer reviewed. Other courts have welcomed the opinions of everyone from astronomers to zoologists.

The Advisory Committee Notes refer to the example of a narcotics agent explaining coded conversations of particular drug dealers, stating:

For example, when a law enforcement agent testifies regarding the use of code words in a drug transaction, the principle used by the agent is that participants in such transactions regularly use code words to conceal the nature of their activities. The method used by the agent is the application of extensive experience to analyze the meaning of the conversations. So long as the principles and methods are reliable and applied reliably to the facts of the case, this type of testimony should be admitted.

Similarly, a psychiatrist may testify to a person's mental state, even though none presumes to know for a fact the workings of the human mind. A valuation specialist will offer his or her opinion regarding a property's value, while all must concede that there is no absolute value which may be discerned or declared.

As the district court stated in Havvard, the error rate of the subjective evaluation of fingerprints "is certainly far lower than the error rate for other types of opinions that courts routinely allow, such as opinions about the diagnosis of a disease, the cause of an accident or disease, whether a fire was accidental or deliberate in origin, or whether a particular industrial facility was the likely source of a contaminant in groundwater. As these examples indicate, the fact that some professional judgment and experience is required also does not mean that expert testimony is inadmissible. It is instead the hallmark of expert testimony, so long as it can otherwise meet the standards of reliability set forth in Daubert and Kumho Tire." United States v. Havvard, 117 F. Supp.2d 848, 854-55 (S.D. Ind. 2000), aff'd, 260 F.3d 597 (7th Cir. 2001).<sup>15</sup>

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<sup>15</sup> With regard to ACE-V, the Court seems to be laboring under the mistaken belief that the methodology is not scientific. Comparative analysis has always been part of scientific method. Inductive reasoning is the cornerstone of the scientific method. By making specific observations and measurements, general conclusions or theories are developed. The process of inductive logic is not new to science; it was described by the 19th century philosopher John Stuart Mill. Typically a hypothesis is formulated, and then analyses are carried out to attempt to refute the hypothesis. If data are

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found to refute the hypothesis, then the hypothesis is rejected. If the collected data do not enable the hypothesis to be refuted, then the hypothesis becomes more grounded and eventually becomes a theory or a generalization.

A subjective component to the application of a theory has always been part of the scientific method. P.D. Leedy, Practical Research, Planning and Design 8 (6th ed. 1997). Prof. Leedy cites "data interpretation" as part of the scientific method, along with data collection and analysis; he writes that since interpretation is subjective, the interpretation "depends entirely on the logical mind, inductive reasoning skill, and objectivity of the researcher." Id.

Thus, this Court's view that an expert, because his or her viewpoint is subjective even while based on considerable study and expertise, is limited only to that which is "descriptive, not judgmental," cannot be reconciled with the very purpose of Rule 702 that an expert be permitted to give his or her considered judgment to assist the jury. See Kumho Tire, 526 U.S. at 156 ("no one denies that an expert might draw a conclusion from a set of observations based on extensive and specialized experience").

The logical extension of the Court's ruling would thus be the elimination of virtually every type of expert testimony we have enumerated above, and many others that are not included in our illustrations.<sup>16</sup> Such a radical departure from the well-settled jurisprudence of expert testimony cannot be justified. To the contrary, where a fingerprint examiner, following the FBI's careful standards which meet the Daubert

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<sup>16</sup> See Kumho Tire, 526 U.S. at 149 (stating that "there are many kinds of experts, and many different kinds of expertise", and approvingly citing the government's amicus brief listing experts in drug terms, handwriting analysis, criminal modus operandi, land valuation, agricultural practices, railroad procedures, attorney fee valuation, and other matters).

reliability requirement, reaches an opinion, that opinion is expressly admissible under Rule 702.

The dispositive question under Rule 702 is whether an opinion would be helpful to the trier of fact. The original Advisory Committee Notes stated:

Whether the situation is a proper one for the use of expert testimony is to be determined on the basis of assisting the trier. "There is no more certain test for determining when experts may be used than the common sense inquiry whether the untrained layman would be qualified to determine intelligently and to the best possible degree the particular issue without enlightenment from those having a specialized understanding of the subject involved in the dispute." Ladd, *Expert Testimony*, 5 Vand.L.Rev. 414, 418 (1952). When opinions are excluded, it is because they are unhelpful and therefore superfluous and a waste of time. 7 Wigmore § 1918.

The opinions of the FBI fingerprint examiners rest on a clear methodology, and would obviously be helpful to a jury which is completely untrained in comparing fingerprint characteristics which are not visible to the naked eye. These opinions are admissible under Rule 702.

E. Whether the method is generally accepted.

As stated above, fingerprint opinion evidence is one of the classic examples of generally accepted disciplines. The Third Circuit itself so recognized in the Downing opinion,

stating that fingerprint evidence was admissible under the Frye test which looked to general acceptance alone. In the landmark Downing decision, which foresaw and influenced the Supreme Court's decision in Daubert, the Court opined that any widely accepted method which met the Frye standard would easily, on that basis alone, pass muster under Rule 702: "The district court in assessing reliability may examine a variety of factors in addition to scientific acceptance. In many cases, however, the acceptance factor may well be decisive, or nearly so. Thus, we expect that a technique that satisfies the Frye test usually will be found to be reliable as well. On the other hand, a known technique which has been able to attract only minimal support within the community is likely to be found unreliable." 753 F.2d at 1238. See also Daubert, 509 U.S. at 594 (agreeing with these views).

It cannot be disputed that the FBI's fingerprint identification method is the preeminent, reliable method for identification. It is universally accepted, not only in judicial fora, but throughout non-litigative applications of fingerprint identification. It has been used to make accurate identifications on tens of thousands of occasions. With

respect to judicial matters alone, it is notable that this evidence has been admitted with daily regularity and yet there are few demonstrations (and none in any FBI case) that an identification sworn to as accurate was in fact erroneous. As Judge Yohn observed, "there have been thousands and thousands of cases where fingerprint analysis has been used. The conclusion in those cases can, in fact, be tested and disputed by defense experts in every case where it has been presented.

And although we don't have any numbers, presumably it has been tested by defense counsel who would be derelict in their duty if they did not at least attempt to raise questions in this regard in many thousands of cases." United States v. Ramsey, No. 01-5-4, Tr. Sept. 21, 2001 at 7.

This Court discounted this widespread acceptance, citing a phrase in Kumho Tire that general acceptance does not "help show that an expert's testimony is reliable where the discipline itself lacks reliability." However, the full quotation is as follows: "Nor, on the other hand, does the presence of Daubert's general acceptance factor help show that an expert's testimony is reliable where the discipline itself lacks reliability, as, for example, do theories grounded in



any so-called generally accepted principles of astrology or necromancy." 526 U.S. at 151. It hardly bears mentioning that fingerprint identification, which has successfully been relied upon worldwide for decades in matters of the highest importance, shares absolutely nothing in common with the "fields" of astrology (divination of the supposed influences of the stars and planets on human affairs) and necromancy (conjuring the spirits of the dead in order to predict the future).

The record demonstrates that the fingerprint method is sufficiently reliable to allow its introduction in court, subject to rigorous cross-examination and any showing the opposing party wishes to make, through expert testimony or otherwise, challenging the identification.

F. The relationship of the technique to methods which have been established to be reliable.

As stated above, the FBI's method is the preeminent and most widely used method of fingerprint comparison and has been established as reliable on countless occasions.

G. The qualifications of the expert witness testifying based on the methodology.

The Court appeared to dismiss the training and certification of FBI examiners, stating, "while some FBI fingerprint examiners are certified by the International Association for Identification (IAI), [FBI specialist Meagher] is not certified by the IAI, but by the FBI" (Op. 40).

It is erroneous, under the liberal standard of admissibility in Rule 702, to dismiss a proffered expert simply by giving preference to one witness' training over another's. That simply inserts this Court's preference for one expert over another, which is impermissible. For example, in Paoli II, 35 F.3d at 753-54, the Third Circuit held that a district court abused its discretion in finding that a plaintiff's expert regarding disease causation was not a qualified expert because she was not practicing internal medicine, was not board certified, did not have the qualifications of other experts, and made basic medical errors in aspects of her testimony. The appellate court found that the doctor's expertise gained through years of research met the liberal admissibility standard of Rule 702.

Indeed, no reasonable observer could question the rigor of the FBI's certification standards for fingerprint

examiners. It is in fact more rigorous than IAI's program.

Trial Tr. Feb. 2, 2000 at 40-42 and 194-95. The FBI describes its process today<sup>17</sup> as follows:

The FBI LPU latent print examiner trainees must have at least a bachelors degree in or related to the physical sciences. The training program is for two years consisting of 6 blocks of instruction. These are 1) latent print development techniques, 2) formal classroom instruction on fingerprint classification, examination methodology (ACE-V), practical exercises and skills assessment testing, 3) case examination policies, procedures and protocols, 4) mentoring, 5) oral board examinations, and 6) moot court exercises. After successful completion of the training program, a certification examination must be passed.

The most important block of instruction involves the examination methodology in which the student must perform analyses and comparisons of a wide range of differing quality of fingerprints and palm prints. The course material is designed to start with fingerprints having both high quality and quantity of detail to progressively having less quality and quantity of detail. During classroom instructional period, each trainee will perform approximately 250,000 comparisons. These comparisons will be performed over a three to four month period. There are skills assessment tests conducted periodically to measure the trainee's success. A passing score is 85%

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<sup>17</sup> The standards have evolved over time. There are FBI certified examiners who at the time of their certification were not required to have a college degree. Meagher described his own certification in 1978. 8 D.T. at 62.

or higher, however, one erroneous identification constitutes failure. If a failure occurs, a test can only be taken over one time, but the test will have different prints than the first. If a second failure occurs, removal from the training program is considered.

The second most important block of instruction is the mentoring phase. Once a trainee successfully completes the classroom phase they are assigned to a mentor, a senior latent print examiner. The mentoring phase includes training cases in which the student must conduct an entire examination under the guidance of the mentor. The trainee then progresses on to assisting the senior latent print examiner in working cases assigned to the mentor. The emphasis of this training phase is on the trainees' ability to completely and accurately apply the ACE-V methodology and adhere to all case examination procedures and protocols.

The certification examination consists of two parts, a written examination and a comparison examination. Each test is performed on different days and the comparison examination requires two days. Each test requires a score of 85% or higher to pass, but one erroneous identification on the comparison examination constitutes failure. If a failure occurs, the trainee is required to perform at least an additional 30 days of training before retaking the examination.

It is thus apparent, as the government will demonstrate, that an FBI examiner cannot be certified unless he or she has shown, on repeated occasions, virtually unerring accuracy in the analysis of fingerprint exemplars. Further, the government will offer evidence that, upon certification, the FBI continues to annually test the proficiency of its

certified examiners, and these results also demonstrate the complete reliability of their work.<sup>18</sup>

H. The non-judicial uses to which the method has been put.

The fingerprint identification method at issue is universally accepted, not only in judicial fora, but throughout non-litigative applications of fingerprint identification. Outside the courtroom the ACE-V method is used every day by law enforcement agencies who identify arrested persons by comparing their new fingerprints to fingerprints on file. It has proven so reliable that law enforcement agencies, who would know better than anyone else

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<sup>18</sup> The FBI laboratory itself is certified by the American Society of Crime Laboratory Directors - Laboratory Accreditation Board (ASCLD-LAB). That organization is an independent external inspection team that studies every aspect of a crime lab's operations and is the sole body that accredits labs when the lab meets its demanding standards. It is the only body that accredits forensic labs in the United States.

if using this technique resulted in misidentification, continue to use it confidently, throughout the investigation of criminal offenses. Dr. Bruce Budowle gave other examples of non-judicial use of fingerprints, such as smart cards, identity computer locks, paternity testing laboratory identification, drivers' licenses, and other identity cards in the United States and outside of the United States. 9 D.T. at 138-140.

The method has proven to be so reliable that following disasters, the government sends fingerprint experts to analyze both known and latent prints to identify disaster victims. Most recently, in a matter in which the significance and sensitivity of the task and the mandate for accuracy cannot be overstated, fingerprint experts have spent weeks in New York City mortuaries aiding in the identification of the thousands of victims of the World Trade Center tragedy.<sup>19</sup>

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<sup>19</sup> A description of such an effort appears at <http://www.wscc.cc.tn.us/foundation/publicinfo/hubweb/hub11-01/spotlight.htm>.

Similarly, the use of fingerprint identification for security purposes is in the news constantly, particularly in these troubled times. See, e.g., "Rings of Steel," The Independent (London), 2002 WL 2867256 (Jan. 15, 2002)

Fingerprint identification has proven so reliable that if a fingerprint expert makes a wrong identification it is front page news. Neither party has been able to locate many examples.<sup>20</sup>

I. Summary.

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(describing how access to the highest security areas at the 2002 Winter Olympics will be controlled with "biometric scanners that will match unique body markers, such as fingerprints"); "Surprise and Gratitude at Golden Globe Awards," New York Times, Jan. 21, 2002, page E3 ("The ceremonies were held behind a larger than normal security cordon. Press and production credentials were not given out until fingerprinting and identification checks were completed").

<sup>20</sup> See, e.g., Defense Exhibit 11, citing the rare case of a man who was freed from prison following a state court conviction after *FBI fingerprint experts* reviewed the work of county fingerprint examiners and found that the county examiners had made an inaccurate identification.

For all of these reasons, the FBI's method easily satisfies the Daubert factors. Every other court to face this issue has agreed, with many declining even to hold a hearing on the matter, and one noting that "latent print identification is the very archetype of reliable expert testimony under those standards." United States v. Havvard, 117 F. Supp.2d 848, 854 (S.D. Ind. 2000), aff'd, 260 F.3d 597 (7th Cir. 2001). See also United States v. Rogers, 2001 WL 1635494, at \*2 (4th Cir. Dec. 20, 2001) (unpub. mem. op.) ("virtually every circuit and district court, both before and after Daubert, have a longstanding tradition of allowing fingerprint examiners to state their opinion and conclusions, subject to rigorous cross examination. Many courts have even refused to hold an evidentiary hearing for such an inquiry, finding such testimony scientifically reliable."); United States v. Sherwood, 98 F.3d 402, 408 (9th Cir. 1996); United States v. Reaux, 2001 WL 883221 (E.D. La. July 31, 2001); United States v. Joseph, 2001 WL 515213 (E.D.La. May 14, 2001); United States v. Martinez-Cintrón, 136 F. Supp.2d 17 (D.P.R. 2001); United States v. Cooper, 91 F. Supp.2d 79, 82-83 (D.D.C. 2000). In addition, both Judges Yohn and Joyner



of this Court permitted expert fingerprint identification opinions based on the same record presented to this Court.

Given the liberal standard for admissibility of expert opinions under Rule 702, the government respectfully submits that, on this overwhelming record, it would be an abuse of discretion for this Court to exclude the opinion testimony of FBI fingerprint examiners. The record demonstrates that the examiners employ a method long accepted in both judicial and non-judicial fora; undergo rigorous, years-long training; and in regular controlled testing repeatedly demonstrate their virtually unfailing proficiency.

A judicial system which accepts expert opinion under Rule 702 on the valuation of property or the diagnosis of a person's mental condition must also accept as meeting the threshold reliability requirement the thoroughly tested and proven methods used in this case. The FBI's methodology is "good grounds" for an expert's opinion.

### Conclusion

"[E]xperts who apply reliable scientific expertise to juridically pertinent aspects of the human mind and body

should generally, absent explicable reasons to the contrary, be welcomed by federal courts, not turned away." United States v. Mathis, 264 F.3d 321, 340 (3d Cir. 2001). For nearly 100 years, courts have accordingly, with unanimity, welcomed the opinions of fingerprint examiners, who rest their views on empirical methods which are constantly refined and tested. This Court's opinion represents a solitary break with these decades of precedent.

The ACE-V method presents a most "reliable" basis for an expert's opinion, as that term is used in Daubert and its progeny. That would be so even if the method enjoyed less success and acceptance than it enjoys; it is certainly the case given how universally accepted the technique is and how little error has been demonstrated through tens of thousands of cases and hundreds of millions of comparisons.

Exclusion of the expert opinions in this case would offend the liberal standard of admissibility of Rule 702. As the Advisory Committee stated in 2000, in adopting the most recent amendment:

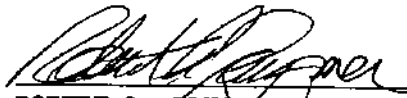
A review of the caselaw after Daubert shows that the rejection of expert testimony is the exception rather than the rule. Daubert did not work a "seachange over

federal evidence law," and "the trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system." United States v. 14.38 Acres of Land Situated in Leflore County, Mississippi, 80 F.3d 1074, 1078 (5th Cir. 1996). As the Court in Daubert stated: "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." 509 U.S. at 595.


The evidence offered here is not shaky; it rests on the scientific truths of uniqueness and permanence of friction ridges and their arrangements and on a solid foundation of empirical research and extensive experience. The opinion testimony should be admitted.

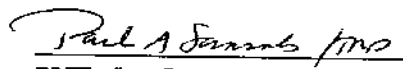
Respectfully submitted,

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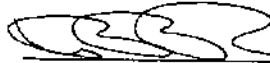
CERTIFICATE OF SERVICE

I hereby certify that I have caused to be served a true and correct copy of the attached Memorandum of Law in Support of Government's Motion for Reconsideration of the Court's Exclusion of Fingerprint Opinion Testimony by first class mail, postage prepaid, on:

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