

Handwriting Comparison Opinions Admissibility After the NAS Report

Introduction

In 2006, the US Congress commissioned the National Research Council of the National Academy of Sciences (NAS) to review the provision of forensic science services in the nation. NAS appointed a committee (the Committee on Identifying the Needs of the Forensic Science Community) of legal professionals, scientists, and members of the forensic science community to complete the commissioned study. Throughout 2007 and 2008, the Committee heard presentations on the state of forensic science from crime laboratory directors and personnel, attorneys, law enforcement officers, medical examiners, educators and academics, and representatives of professional organizations.

The report (hereinafter “NAS Report”) was published in February 2009 [1]. Several of the NAS Report’s findings and recommendations roiled the forensic science and legal communities and resulted in some frenzy over the perceived “deficiencies” in forensic science services. In addition to the noncontroversial recommendations of increased funding and standardization, the NAS Report included statements about various forensic science disciplines, suggesting that some current techniques and common expert opinions were inadequately grounded in science. In particular, the NAS Report found little support in science for “individualization” testimony offered in some forensic science disciplines, including handwriting comparisons:

With the exception of nuclear DNA analysis . . . no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source.[1, p. 7]

NAS Report Statements on Handwriting Comparison Analysis

In addition to the overall conclusion about “individualization” testimony, the NAS Report analyzed the strengths and weaknesses of several specific forensic science disciplines. While recognizing that some of the well-established evidence evaluations of crime laboratories are based on solid scientific principles and are supported by solid bases of theory and research, other techniques

“have been developed heuristically. That is, they are based on observation, experience, and reasoning without an underlying scientific theory, experiments designed to test the uncertainties and reliability of method, or sufficient data that are collected and analyzed scientifically” [1, p. 7].

After a brief description of the broad field of forensic document examination, the NAS Report focused on the narrower discipline of handwriting comparison analysis and concluded with the following blunt assessment:

The scientific basis for handwriting comparison needs to be strengthened. Recent studies have increased our understanding of the individuality and consistency of handwriting and computer studies and suggest that there may be a scientific basis for handwriting comparison . . . [T]he committee agrees that there may be some value in handwriting analysis. [1, pp. 166–167]

Faced with this less than enthusiastic endorsement of the value of handwriting comparison opinions, the forensic science and legal communities waited for the judicial response.

Response from the Courts

In the courts, the NAS Report immediately gained national attention through multiple citations in the US Supreme Court’s opinion in *Melendez-Diaz v. Massachusetts* [2], although the majority decision insisted that it was not relying on “the deficiencies of crime-lab analysts shown by this report to resolve the constitutional question presented in this case” [2, p. 2537 n. 6]. At the trial court level, the NAS Report was cited to support admissibility challenges to many areas of forensic science that had not previously been

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vigorously or consistently challenged. A judge on the District Court of Massachusetts took the unusual step of issuing a procedural order to address trace and pattern evidence in all criminal cases before the court, providing that in the wake of the NAS Report, admissibility “ought not to be presumed; that it has to be carefully examined in each case, and tested in light of the NAS concerns” and outlined procedures governing admissibility challenges [3].

There have been very few decisions involving the admissibility of handwriting comparison opinion expert testimony in light of the NAS Report. Unlike most areas of forensic science, handwriting comparison analysis is an area in which opinion testimony is not limited to the province of experts. Lay witnesses, provided they have sufficient familiarity with an individual’s handwriting, are often permitted to opine on authorship of a particular writing sample [4]. The ability of “nonexperts” to offer the same conclusions may be part of the reason that handwriting comparison analysis, unlike some equally long-used forensic science techniques such as fingerprint comparison analysis, has been subjected to more challenge over the years [5]. Parties also sometimes forego any opinion testimony and simply argue the similarities in writings to the trier of fact to establish authorship [6]. The options of introducing or arguing handwriting comparisons without expert testimony may decrease the use of expert testimony and any resulting admissibility challenges. Expert testimony on handwriting comparison, however, remains valuable and persuasive evidence that is used in a variety of cases [7]. Two cases – one from Minnesota and one from the District of Columbia – reflect the range of judicial responses to the NAS Report.

Minnesota. In 2010, the case of *State v. Hull* [8] presented the Minnesota Supreme Court with the issue of the admission of handwriting comparison expert testimony. At trial, the defendant objected to the admission of expert testimony that the defendant was “probably the author” of several documents, including a handwritten page detailing the plan to kill the victim and checks written on the victim’s accounts [8, pp. 102–103]. The trial court conducted an admissibility hearing, but restricted the scope of the hearing to “whether the laboratory conducting the tests in the individual case complied with appropriate standards and controls” – the second prong of the *Frye–Mack* test [9] that governs admissibility of

scientific expert testimony in Minnesota [8, p. 103]. The defendant objected on appeal that the trial court erred in refusing to address the first prong of the *Frye–Mack* test concerning scientific reliability of handwriting comparison analysis and argued that the general acceptance of handwriting comparison in the scientific community had not been addressed in Minnesota [8, pp. 103–104]. The majority limited any reference to the NAS Report to a footnote, mentioning the issuance of the “relevant report” and its conclusion that “[i]n a number of forensic science disciplines, forensic science professionals have yet to establish either the validity of their approach or the accuracy of their conclusions, and the courts have been utterly ineffective in addressing this problem” [8, p. 104, n. 4]. Without conceding the irony, the majority of the court then declined to address the issue, holding that any error in admission of the testimony was harmless in light of the overwhelming evidence of the defendant’s guilt [8, p. 104].

In a concurring opinion, Justice Meyer found that the trial court erred in limiting the scope of the admissibility hearing, and that, based on the record in the case, the scientific reliability of handwriting comparison (and fingerprinting analysis) had not been established [8, p. 109]. Justice Meyer noted that Hull had presented testimony from an expert who stated that “no study has yet established that examiners can accurately match a piece of writing to its author, and that, in the expert’s opinion, handwriting analysis methodology is too subjective to produce reliable results” [8, p. 109]. After referencing the NAS Report, Justice Meyer deemed the report to “state in no uncertain terms that the state and federal courts’ longstanding acceptance of traditional forensic science expert opinions is simply not supported by good science” [8, p. 110]. Justice Meyer then set the stage for possible future challenges in Minnesota, concluding that “in order to present expert conclusions based on [handwriting comparison] methods to a jury, a proponent of the evidence must first meet its burden under the first prong of *Frye–Mack* to show that its forensic evidence methods produce accurate and reliable results” [8, p. 110].

District of Columbia. In 2012, the District of Columbia Court of Appeals squarely addressed the question left unanswered by the Minnesota Supreme Court. In *Pettus v. United States* [10], the defendant challenged the trial court’s admission of expert

opinion testimony that he was the author of a note found at the murder scene [10, p. 216]. On the basis of the government's concession that "whether handwriting identification meets *Frye's* general acceptance standard" was an open question, the court proceeded to "establish the law of the jurisdiction for future cases' involving the admissibility of handwriting identification" [10, p. 217]. The court noted the following two legal principles guiding its determination of the issue:

[T]he relevant 'community' for purposes of assessing *Frye* admissibility includes not just forensic scientists (including handwriting experts) but also others 'whose scientific background and training are sufficient to allow them to comprehend and understand the process and form a judgment about it.'

[T]he standard of proof for admissibility is a preponderance of the evidence, not more, in part because the party opposing the evidence shown to have met the standard 'may challenge the weight the jury ought to give it.' [10, p. 218]

The court then provided a very detailed summary of the evidence presented by the government experts concerning the analytical "ACE-V" method [11] and ASTM standards [12] used in handwriting comparison and studies supporting the performance of expert examiners [13]. The court treated the testimony of the defense expert, who provided testimony very similar in substance to the opinions recited in Justice Meyer's concurrence in *State v. Hull*, less deferentially [14]. Relying on the record presented to the trial judge, the appellate court concluded that the testimony of the lone defense expert, "a nonscientist," was insufficient to rebut the government's evidence at the hearing that "demonstrated by a preponderance of the evidence that handwriting comparison leading to conclusions of (or against) identification rests on a methodology 'sufficiently established to have gained general acceptance in the particular field in which it belongs'" [15].

The appellate court also addressed whether the NAS Report, published after the trial court's ruling, constituted "a fundamental re-evaluation by the science community of forensic pattern-matching disciplines such as handwriting analysis" [10, pp. 225–226]. The defendant and the Public Defender Service, which submitted an amicus brief on appeal and "chiefly represented" the defendant on the admissibility issue at oral argument, contended that

the NAS Report amounted to a "repudiation" of the "supposed science underlying all forensic analysis based on pattern-matching" [10, p. 226]. Unlike Justice Meyer in *State v. Hull* [8, p. 110], the District of Columbia court found the NAS Report "much more nuanced than that" [10, p. 227]. The court rejected the defense contention and held that the NAS Report neither represented a different scientific consensus as to handwriting comparison nor implied that handwriting comparison "is based on no 'reliable methodology for making the inquiry'" [16]. The court concluded, however, by reiterating one of the legal principles with which it began its analysis:

[I]t is important – and is reflected in the preponderance of the evidence standard – that appellant was not denied a second opportunity to challenge [the handwriting expert's] opinion, this time before the jury. . . [T]he Supreme Court has reminded us that '[v]igorous 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.' [17]

Conclusion

The NAS Report has not had a profound effect on the admission of handwriting comparison expert testimony. One explanation is that the courts have not had sufficient time to respond, and consistent with the concurring opinion in *Minnesota*, the reliability questions still need to be addressed by the trial courts. According to that view, handwriting comparison expert opinion admission litigation is merely lagging behind other fields, possibly because lay witness opinion testimony is sometimes an available alternative. Another explanation is that the post-*Daubert* litigation challenges to handwriting comparison analysis already prompted the attacks that questioned the lack of empirical validation discussed in the NAS Report [18]. In this second view, handwriting comparison litigation is further along than the other fields, having already produced in the early-2000s the three-way split of authority on admission that other fields are now encountering [19, pp. 89–90]. The three-way split has the majority of courts admitting the expert testimony without limitation [20], a few courts excluding expert testimony [21], and a third group of courts permitting the expert testimony but barring individualizing conclusions of authorship [22]. As

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with all fields of forensic science, the legal landscape of handwriting comparison opinion testimony continues to evolve, and legal professionals continue to bridge the learning gap on scientific evidence to understand the capabilities and limitations of the field. As the legal professionals better understand the forensic science fields, they will improve their presentations of scientific evidence, whether in an admissibility hearing or at trial.

References

- [1] Committee on Identifying the Needs of the Forensic Science Community, National Research Council of the National Academies (2009). *Strengthening Forensic Science in the United States: A Path Forward*, The National Academies Press, Washington, DC.
- [2] 557 U.S. 305, 129 S.Ct. 2527 (2009).
- [3] Procedural Order: Trace Evidence at 3, No. 1:08CR10104-NG (D. Mass. Mar. 8, 2010). *See also* Gertner, N. (2011). Commentary on The Need for a Research Culture in the Forensic Sciences, *UCLA L. Rev.* **58**, 789–793 (by the judge issuing the procedural order).
- [4] In *Smith v. Clarke*, the court rejected the defendant’s habeas claim based on the lay witness testimony as to the authorship of certain letters: “It has long been established in Virginia that ‘a [lay] witness is competent to testify to the genuineness of a controverted signature if he has proper knowledge of the party’s handwriting.’” *Smith v. Clarke*, 2013 U.S. Dist. LEXIS 72739, *29 (E.D. Va. 2013)(*citing* *Pepper v. Barnett*, 63 Va. 405, 407 (1872)).
- [5] See Mnookin, J.L. (2001). Comment: scripting expertise: the history of handwriting identification evidence and the judicial construction of reliability, *Virginia Law Review* **87**, 1723–1845.
- [6] *See* *United States v. Wein*, 2012 U.S. Dist. LEXIS 69968 (E.D. Va. 2012)(the government argued that the handwriting on a change of address form tied to a fraudulent scheme was remarkably similar to the handwriting on another change of address form the defendant later submitted to the postal service for his own law firm).
- [7] *See* *State v. McGuire*, 419 N.J. Super. 88, 141, 16 A.3d 411, 441 (Super. Ct. N.J. 2011)(the expert handwriting comparison testimony was admitted without challenge, but lay witness testimony on handwriting authorship was challenged and excluded at trial).
- [8] *State v. Hull*, 788 N.W.2d 91 (Minn. 2010).
- [9] The *Frye–Mack* test has two prongs: (1) “whether experts in the field widely share the view that the results of scientific testing are scientifically reliable,” *State v. Roman Nose*, 649 N.W.2d 815, 819 (Minn. 2002); and (2) “whether the laboratory conducting the tests in the individual case complied with appropriate standards and controls.” *State v. Schwartz*, 447 N.W.2d, 428 (Minn. 1989). The first prong states the “general acceptance test” of *Frye v. United States*, 54 App. D.C. 46, 47, 293 F. 1013, 1014 (1923).
- [10] *Pettus v. United States*, 37 A.3d 213 (D.C. App. 2012).
- [11] ACE-V stands for “Analysis, Comparison, Evaluation, and Verification” and refers to a comparative analytical procedure used for both fingerprint and handwriting comparison analysis. *Pettus*, 37 A.3d at 219–220. *See* NAS Report at pp. 137–140 (discussing ACE-V methodology as used in fingerprint comparison analysis); *see also* Scientific Working Group on Friction Ridge Analysis, Study and Technology, “Document #10: Standards for Examining Friction Ridge Impressions and Resulting Conclusions (Latent/Tenprint), Ver. 2.0,” (issued March 13, 2012), at www.swgfast.org.
- [12] ASTM refers to the “American Standards for Testing and Materials” organization (now known as ASTM International) which develops and publishes voluntary consensus standards for various industries and services, including forensic science services. *See* www.astm.org.
- [13] 37 A.3d at 218–222. The government’s main witness on ACE-V methodology and applicable ASTM standards was Diana Harrison, the FBI supervisory document analyst, who was a certified forensic document examiner with ten years of analytical experience. In addition to published performance studies, the government called Dr. Sargur N. Srihari, a professor of computer science and energy at the State University of New York and director of the Center for Excellence for Document Analysis and Recognition, to testify concerning supporting research studies.
- [14] The defense called Mark Denbeaux, an evidence professor at Seton Hall University Law School. In contrast to the government’s certified document examiner and computer scientist who gained expertise through analytical laboratory experience and conducting research, the court noted that “Professor Denbeaux’s expertise had been acquired from (1) reading forensic document publications, (2) interviewing document examiners and studying their reports, (3) visiting forensic document laboratories, and (4) reading transcripts of document examiners’ testimony.” 37 A.3d at 222. The court went on to note that “Denbeaux had no formal training (and had taken no classes) in handwriting comparison, had no experience in research methodology, was not a statistician, and had not trained in computer science; and he was not a member of ASTM International, which accepts some attorneys as members and which he described as a ‘highly respected’ organization.” *Id.* at n. 22.
- [15] 37 A.3d at 225 (quoting *Jones v. United States*, 27 A.3d 1130, 1136 (D.C. 2011)).
- [16] 37 A.3d at 226, 228. The court recognized that the ACE-V methodology described by Diane Harrison “still leaves considerable room for the examiner’s subjective judgment as to significance,” but found that subjectivity is “very different from saying that the process employed

- is no more than a skeletal ACE-V set of steps” as argued by the Public Defender Service. 37 A.3d at 227–228.
- [17] 37 A.3d at 228. The trial judge had expressed a similar view: “In consultation with its own experts the defense has fully investigated the points of weakness of the FBI laboratory’s approach to handwriting analysis, including its general methodology and the methodology as applied to the case. If defense counsel exposes those weaknesses to the jury with the same thoroughness and clarity with which it exposed them at the Frye hearing, then in my view there is no reason for any concern that the jury in this case will give undue weight to the FBI document examiner’s testimony”. 37 A.3d at 229.
- [18] The first significant post-*Daubert* challenge to the admissibility of forensic science evidence involved handwriting comparison opinion testimony. In *United States v. Starzeczyzel*, 880 F. Suppl. 1027 (S.D. N.Y. 1995), the court concluded that “forensic document examination, despite the existence of a certification program, professional journals and other trappings of science, cannot, after *Daubert*, be regarded as ‘scientific . . . knowledge.’” 880 F. Suppl. At 1038. *See also* Giannelli, P.C. (2011) *Daubert* and Forensic Science: The Pitfalls of Law Enforcement Control of Scientific Research, *U. Ill. L. Rev.* **53**, 65–88.
- [19] Federal Judicial Center (2011). *Reference Manual on Scientific Evidence*, 3rd Ed Edition, The National Academies Press, Washington D.C.
- [20] *United States v. Prime*, 363 F.3d 1028, 1033 (9th Cir. 2004).
- [21] *United States v. Lewis*, 220 F. Suppl. 2d 548 (S.D. W.Va. 2002).
- [22] *United States v. Oskowitz*, 294 F. Suppl. 2d 379, 384 (E.D. NY 2003); *United States v. Hidalgo*, 220 F. Suppl. 2d 961, 967 (D. Ariz. 2002).

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