

Forensic Science Exposed as Non-Science: National Academy of Sciences Issues Critical Report
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As many of you are probably already aware, the National Academy of Sciences (NAS) issued a 250 page report last week regarding the state of forensic science in this country. To put it mildly, the report is extremely critical of the various forensic identification fields, with the exception of DNA.

This report is a big deal for all criminal defense practitioners. The NAS is the preeminent scientific organization in this country and it was commissioned by Congress to study the forensic sciences and issue the instant report. Congress decided to do this after a number of high profile forensic blunders, like the FBI fingerprint misidentification in the Brandon Mayfield, Madrid train bombing case. See *United States v. Mayfield*, 504 F.Supp.2d 1023 (D. Or. 2007). Over the past two years, NAS has done a comprehensive and exhaustive study of the forensic sciences. To put this report in some perspective, just a few years ago the NAS was asked to do a study of bullet lead analysis, a technique that the FBI had employed in thousands of criminal trials. The NAS issued a very critical report, and as a result the FBI stopped conducting bullet lead analysis. While I do not expect the FBI, or any other law enforcement agency, to stop performing fingerprint analysis, tool mark comparisons or any of the other forensic identification techniques discussed in the instant NAS report, the point is that what the NAS says matters; it is in essence "the relevant scientific community."

So what does the NAS say? Essentially, the NAS has concluded that "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." NAS Report at S-5. As the NAS recognizes "there is a notable dearth of peer-reviewed published studies establishing the scientific bases and validity of many forensic methods," Id. at 5-6, and the report goes on to make clear that these deficient methods include fingerprints, toolmarks, handwriting and most of the other forensic identification techniques we encounter.

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While the NAS does not come out and directly state that courts should preclude the government from offering forensic identification evidence until the necessary studies are conducted, it comes fairly close. For example, the NAS report “concludes that every effort must be made to limit the risk of having the reliability of certain forensic methodologies judicially certified before the techniques have been properly studied and their accuracy verified.” Id. at 3-1. And the NAS is plainly critical of courts that have allowed forensic evidence to be admitted without a proper showing of reliability by the government: “Much forensic evidence -- including, for example, bite marks and firearm and toolmark identifications -- is introduced in criminal trials without any meaningful scientific validation, determination of error rates, or reliability testing to explain the limits of the discipline.” Id. at 3-18; see also Id. at 3-14 (“Over the years the courts have admitted fingerprint evidence, even though the evidence has made its way into the court room without empirical validation of the underlying theory and/or its particular application.”) The NAS also references with seeming approval the recent decision in Maryland v. Rose, K06-0546 (Balt. County Cir. Ct. Oct. 19, 2007), in which the Court effectively ended a capital prosecution by granting the defendant’s Frye motion to preclude the state’s fingerprint examiner from testifying: “The opinion went into considerable detail about the lack of error rates, lack of research and potential bias . . . concerns [that] can be raised with respect to other forensic techniques that lack scientific validation and careful reliability testing.” NAS Report at 3-16-17.

On the basis of these findings, the NAS has made some very significant recommendations, the boldest of which is that the forensic sciences be made entirely independent of law enforcement:

"To improve the scientific bases of forensic science examinations and to maximize independence from or autonomy within the law enforcement community, Congress should authorize . . . funds for allocation to state and local jurisdictions for the purpose of removing all public forensic laboratories and facilities from the administrative control of law enforcement agencies or prosecutor's offices."

Id. at s-17.

The NAS also recommends the creation of a new federal agency, the "National Institute of Forensic Science." One of the principal missions of this new agency would be to promote and fund the scientific research that the NAS has found to be woefully lacking with respect to all of the various forensic identification fields.

The question for us is how to make best use of this report. It plainly provides us with substantial new ammunition for challenging the reliability of the government's experts, both in terms of pre-trial Daubert and Frye motions, and at trial if the expert is ultimately permitted to testify. What the report means is that it is not simply we and our experts saying that the reliability of these techniques is unknown and that basic scientific validation studies must be conducted; it is the National Academy of Sciences in its report to Congress. Again, the NAS constitutes the relevant scientific community and that community has now made clear that the

reliability of these techniques has not been established.

The report also provides strong support for seeking to limit the testimony of the government's experts if they are allowed to testify. The NAS is plainly critical of forensic experts testifying to "absolute" identifications as they presently do: "Claims of 'absolute' and 'positive' identification should be replaced by more modest claims about the meaning and significance of a 'match'." Id. at 5-12 (quoting J.L. Mnookin, The Validity of Latent Fingerprint Identification: Confessions of a Fingerprint Moderate, 7 Law, Probability and Risk 127 (2008)). The NAS also cites to United States v. Glynn, 578 F.Supp.2d 569 (S.D.N.Y.), in which the district court ruled that the government's firearms examiner could only opine that the match he was testifying to was "more likely than not," and that the examiner's testimony could not, in and of itself, satisfy the "beyond a reasonable doubt" standard. Id. at 3-18 n.82.

The best way to present the NAS report to either a judge or a jury would be through an expert. The expert can explain the significance of the report, and the report would be one of the bases for the expert's opinion that the reliability of the particular technique has yet to be established.