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C.S.I. Bulls#!t: The National Academy of Sciences, Melendendez-Diaz v. Massachusetts, and Future Challenges to Forensic Science and Forensic Evidence,

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C.S.I. BULLS#!T: THE NATIONAL ACADEMY OF SCIENCES,
MELLENDEZ-DIAZ V. MASSACHUSETTS, AND FUTURE CHALLENGES TO
FORENSIC SCIENCE AND FORENSIC EXPERTS

Joëlle Anne Moreno*

INTRODUCTION

Good law depends on good science. The February 18, 2009, National Academy of Sciences report, *Strengthening Forensic Science in the United States: A Path Forward* (“NAS Report”),¹ reveals that, for the most part, forensic science is bad science. The NAS Report also suggests that when confronted with forensic science, most courts make bad law.

The NAS Report is a wake-up call for courts, forensic scientists, law professors, and lawyers. For almost two decades, we have hoped (and more recently despaired) that *Daubert v. Merrell Dow Pharmaceuticals, Inc.*² could revolutionize the courts by ensuring that judges only open their courtroom gates to demonstrably valid science.³ The NAS Report provides new and detailed evidence that the so-called “*Daubert* Revolution” has failed to transform the practice of science-based law or (law-based) forensic science—especially in the criminal courts.

Bad science leads to bad law because legal decisions based on many forms of forensic evidence are suspect. Less obviously, bad law leads to bad science because courts grant an apparent (if unwarranted) imprimatur of legitimacy by relying on forensic evidence of indeterminate or inadequate validity. The NAS Report illuminates this symbiosis and enhances our understating of how underfunded, standardless, subjective forensic methods and lax judicial review of forensic evidence redound to both science and law.⁴

* © 2010 Joëlle Anne Moreno, Professor of Law, Associate Dean for Faculty Research & Development, Florida International University College of Law; with gratitude to my good friend Professor Daniel Medwed for his gracious invitation to contribute to this timely and interesting symposium, and with love to my guys Ken, Adam, and Nathan.

¹ NATIONAL RESEARCH COUNCIL, NATIONAL ACADEMY OF SCIENCES, *STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 1* (2009), available at http://ag.ca.gov/meetings/tf/pdf/2009_NAS_report.pdf [hereinafter “NAS REPORT”].

² 509 U.S. 579 (1993).

³ *Id.* at 589–91 (“The subject of an expert’s testimony must be scientific . . . knowledge. The adjective ‘scientific’ implies a grounding in the methods and procedures of science. Similarly, the word ‘knowledge’ connotes more than subjective belief or unsupported speculation.”) (internal quotations and citation omitted).

⁴ See NAS REPORT, *supra* note 1, at 109–10.

The NAS Report is not entirely bleak. Retrospectively, the drafters recognized that some forensic fields have advanced and that a few (e.g., nuclear DNA analysis) are demonstrably valid.⁵ Prospectively, the drafters purport to chart a path forward (presumably) to a better future.⁶ This path leads to the creation of a National Institute of Forensic Science (“NIFS”), which will develop and enforce standards, help fund and promote independent research, and engage in other projects designed to enhance scientific validity within the various forensic fields.⁷ However, this path forward may be more circuitous than even a careful read of the report might reveal. Although the time and expense required to create a new federal agency suggest that the NIFS may be a hard sell, to those familiar with both progress and problems within the forensic fields, the NAS Report contained few shocking revelations. However, the report itself has subsequently provoked some surprises. One of the most potentially significant and unexpected developments was that on June 25, 2009, the Supreme Court relied on the NAS Report in *Melendez-Diaz v. Massachusetts*.⁸

Melendez-Diaz is the most recent decision, since *Crawford v. Washington*,⁹ defining the scope of the Confrontation Clause. According to the *Melendez-Diaz* plurality, a defendant’s confrontation rights are violated when prosecutors introduce forensic lab reports without making the forensic analyst available for cross-examination.¹⁰ *Melendez-Diaz* was principally based on the plurality’s conclusion that the lab reports at issue were “testimonial statements” (under *Crawford*)¹¹ and Justice Thomas’s fifth-vote concurrence limiting the Court’s holding to his view that extrajudicial statements only implicate the Confrontation

⁵ NAS REPORT, *supra* note 1, at 128–33.

⁶ *Id.* at 14–33.

⁷ *Id.* at 19–22.

⁸ 129 S. Ct. 2527, 2536–38, 2555 (2009). Four days after *Melendez-Diaz* was decided, on June 29, 2009, the Supreme Court granted cert in *Briscoe v. Virginia*. 129 S. Ct. 2858 (2009) (mem). Because *Briscoe* involved the constitutionality of a state statute that provided criminal defendants with the right to subpoena the prosecution’s forensic analyst in lieu of confrontation, many commentators thought the question had been resolved by *Melendez-Diaz*. In fact, the unusual sequencing led to speculation about whether *Melendez-Diaz* would be overruled or limited and about the potentially pivotal role of Justice Sotomayor (who had been questioned about *Melendez-Diaz* during her confirmation hearings). The Court held oral argument on January 11, 2010, and then sixteen days later issued a unanimous, one-sentence per curiam opinion vacating the judgment of the Supreme Court of Virginia and remanding the case for further proceedings not inconsistent with *Melendez-Diaz*. *Briscoe v. Virginia*, 130 S. Ct. 1316 (2010) (per curiam).

⁹ 541 U.S. 36 (2004). In *Crawford*, the Supreme Court held that the admission of testimonial hearsay invokes the Confrontation Clause. *Id.* at 61–62, 68–69.

¹⁰ See *Melendez-Diaz*, 129 S. Ct. at 2531–32.

¹¹ *Id.* (characterizing the lab reports at issue in *Melendez-Diaz* as affidavits and noting that the Court’s decision in *Crawford* expressly included affidavits in the category of “testimonial statements” invoking the Confrontation Clause).

Clause if they have been adequately formalized.¹² However, this narrowing of the *Melendez-Diaz* holding does not derogate from the significance of Justice Scalia's rather remarkable opinion for four members of the Court. According to the plurality, because "[s]erious deficiencies have been found in the forensic evidence used in criminal trials," defendants need confrontation "to weed out not only the fraudulent analyst, but the incompetent one as well."¹³ The plurality's reliance on the NAS Report to support these conclusions was the first time that the Court used the Confrontation Clause to resolve *serious* problems within the forensic fields. In effect, *Melendez-Diaz* has constitutionalized traditional evidentiary concerns. This new development raises a variety of new and interesting legal questions.

Melendez-Diaz is also notable because the Court explicitly recognized the "serious deficiencies" that continue to plague forensic evidence. As the plurality noted, the NAS Report attributed these ongoing problems to the "wide variability across forensic science disciplines with regard to techniques, methodologies, reliability, types and numbers of potential errors, research, general acceptability, and published material."¹⁴ More specifically, Justice Scalia relied on the NAS Report to conclude that confrontation of forensic analysts must be guaranteed because "an analyst's lack of proper training or deficiency in judgment may be disclosed in cross-examination."¹⁵ Given the plurality's focus on the problems that arise when courts routinely rely on fraudulent or incompetent experts, it is more than passing strange that not one member of the Court mentioned *Daubert* or the Federal Rules of Evidence.

This omission ignores the fact that for the past seventeen years, federal courts and more than half of state courts have relied on *Daubert* and the evidentiary rules to screen juries from *seriously deficient* forensic (and other expert) evidence proffered by any party in the criminal and civil courts.¹⁶ The best explanation for

¹² *Id.* at 2543 (noting that, in his opinion, the Confrontation Clause is implicated in connection with extrajudicial statements only if they are contained in "formalized testimonial materials, such as affidavits, depositions, prior testimony, or confessions") (internal quotations and citations omitted).

¹³ *Id.* at 2537.

¹⁴ *Id.* at 2538 (quoting NAS REPORT, *supra* note 1, at 6–7).

¹⁵ *Id.* at 2536–37.

¹⁶ See, e.g., *Hodges v. Mack Truck, Inc.*, 474 F.3d 188, 195 (5th Cir. 2006) (stating judges have wide latitude in determining whether an expert and his testimony are reliable); *Wills v. Amerada Hess Corp.*, 379 F.3d 32 (2d Cir. 2004) (holding that a district court did not abuse its discretion by refusing to admit a forensic toxicologist's testimony in part because the expert's theory had not been tested or subjected to peer review); *Truck Ins. Exchange v. MagneTek, Inc.*, 360 F.3d 1206 (10th Cir. 2004) (allowing for the exclusion of an insurer's expert physics testimony regarding the cause of a fire in the insured's restaurant in-part because the testimony was not supported by scientific testing); *U.S. v. Harris*, 192 F.3d 580, 588 (6th Cir. 1999) (stating the Sixth Circuit always applies the *Daubert* test to evidence entered under Rule 702); *Chemipal Ltd. v. Slim-Fast Nutritional Foods Intern., Inc.*, 350 F. Supp. 2d 582 (D. Del. 2004) (refusing to admit damages expert testimony due to concerns about methodology and overall reliability); *U.S. v. Youngberg*,

the Supreme Court's recent failure to discuss evidentiary challenges to forensic science may be that *Melendez-Diaz* and *Daubert* reflect two different approaches to the same problem. The *Daubert* Court assumed that cross-examination was inadequate to the task of exposing and neutralizing specious expertise and that judges would be more accurate and consistent arbiters of scientific validity.¹⁷ After almost two decades of continued reliance on numerous forms of specious forensic evidence as documented in the NAS Report, *Melendez-Diaz* now suggests that confrontation can compensate for judges' failure to screen *seriously deficient* expert evidence.¹⁸ Apparently, the *Melendez-Diaz* plurality believed that confrontation will succeed where *Daubert* has failed because "the analyst who provides false results may, under oath in open court, reconsider his false testimony" and because "[c]onfrontation is designed to weed out not only the fraudulent analyst, but the incompetent one as well."¹⁹ Thus, at least for prosecution-sponsored expert evidence, *Melendez-Diaz* embraces the idea rejected by *Daubert*—that cross-examination will ensure that law does not rely on bad science.²⁰

There are good reasons to doubt that cross-examination is the right tool for this laudable purpose. In specific cases, defense counsel may prefer not to provide prosecution experts with the opportunity to flaunt their expertise. For example, in Professors Garrett and Neufeld's recent study of forensic science evidence proffered by prosecutors in 137 cases where defendants were subsequently exonerated using DNA, they found that "[d]efense counsel rarely made any objections to the invalid forensic science testimony in these trials and rarely effectively cross-examined forensic analysts who provided invalid science testimony."²¹ As a more general matter, *Melendez-Diaz* reinforces the idea (rejected in *Daubert*) that "[c]ross-examination is not merely accorded historic or structural importance in the adversary process; [but] it is also regarded as a panacea, a cure-all."²² However, as Professor Jules Epstein recently opined, in

43 M.J. 379, 384 (C.A.A.F. 1995) (using four factors from *Daubert* to evaluate expert testimony).

¹⁷ See *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 592 (1993) ("Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset . . . whether the expert is proposing to testify to . . . scientific knowledge . . ."). However, the *Daubert* Court did acknowledge that after the gatekeeper judge had evaluated the proffered evidence, litigants might use "traditional and appropriate means of attacking shaky but admissible evidence," which could include "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof." *Id.* at 596.

¹⁸ See *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527, 2536–38 (2009).

¹⁹ *Id.* at 2537.

²⁰ See *id.* at 2536–38.

²¹ Brandon L. Garrett & Peter Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1, 89 (2009).

²² Jules Epstein, *Cross Examination: Seemingly Ubiquitous, Purportedly Omnipotent, and "At Risk,"* 14 WIDENER L. REV. 427, 436 (2009).

many cases cross-examination of experts “actually impedes accurate fact-finding because leading questions are not always an appropriate or sufficient tool for truth finding . . . [and because] it lacks utility when confronting the honest-but-mistaken witness.”²³ Regardless of whether *Melendez-Diaz* has the effect of neutralizing some of the specious forensic evidence that sneaks in under the *Daubert* gate, the new extension of the Confrontation Clause to forensic analysts has implications for both the practice of criminal law and the interpretation of constitutional doctrine.

In practice, although *Melendez-Diaz* is just over a year old, the case has already begun to confound the lower courts. A narrow reading of *Melendez-Diaz* would bar admission only of out-of-court statements by unavailable, non-testifying, prosecution-sponsored forensic experts when these statements are deemed “testimonial” because they are embodied within an affidavit or a similarly formalized document.²⁴ However, *Melendez-Diaz* has proved almost impossible for the lower courts to decipher or apply. Over the past few months, state courts across the country have struggled to determine which lab reports (and other state records) are “testimonial statements” mandating confrontation.²⁵ In fact, the post-*Melendez-Diaz* cases are so disparate and bizarre that they include decisions based (in whole or part) on the following factors: (1) whether a lab analyst subjectively anticipated that his autopsy report would be used in court; (2) whether a state requires that forensic reports be certified or accompanied by some form of attestation; (3) whether prosecutors can avoid confrontation by having testifying analysts describe lab reports prepared by non-testifying analysts (if they do not introduce the report in evidence); (4) whether the test and report were contemporaneous; (5) whether *Melendez-Diaz* is understood to guarantee confrontation of testimonial statements relating to experts’ methods or conclusions; (6) whether expert reports were created as part of a standard lab protocol without any effort to incriminate the defendant; and (7) efforts to reconcile *Melendez-Diaz* with Federal Rule of Evidence 703 or its state corollaries (which have long allowed experts to testify to opinions based on inadmissible evidence including out-of-court statements by non-testifying witnesses).²⁶ Ambiguity is not the only problem with the post-*Melendez-Diaz* cases. If state legislators and administrative agencies seek to deprive future criminal defendants of confrontation opportunities, they can circumvent *Melendez-Diaz* by simply removing certification and attestation requirements from state records. This easy

²³ *Melendez-Diaz*, 129 S. Ct. at 437–38.

²⁴ *See id.* at 2531–32, 2542.

²⁵ *See, e.g.,* *United States v. Forstell*, 656 F. Supp. 2d 578, 580–82 (E.D. Va. 2009) (holding that certificates signed by radar lab technicians are not testimonial statements); *State v. Murphy*, No. CUM-09-240, 2010 WL 1076226, at *4–6 (D. Me. Mar. 25, 2010) (holding that a certificate from the secretary of state stating that the defendant’s drivers license had been suspended was not testimonial); *People v. Di Bari*, 26 Misc. 3d 1220(A), 2010 WL 432361, at *4 (N.Y. Just. Ct. Feb. 8, 2010) (declining to extend *Melendez-Diaz*).

²⁶ *See infra* Part VI.A (describing the effect of the *Melendez-Diaz* decision on challenges to forensic evidence and experts).

end run around the Sixth Amendment would have the paradoxical effect of making less reliable state records more readily admissible.

The doctrinal implications of *Melendez-Diaz* are equally complex. *Melendez-Diaz* seems to blend originalist and historical concerns about the Confrontation Clause with contemporary data about problems within the forensic community. Thus, it provokes, but does not resolve, questions that implicate numerous assumptions about the nature and purpose of confrontation, how the scope of the clause should be defined, and how expert evidence can and should be challenged. *Melendez-Diaz* itself offers little guidance. Although the *Melendez-Diaz* plurality acknowledged that “there are other ways—and in some cases better ways—to challenge or verify the results of a forensic test,”²⁷ in Justice Scalia’s view, any other way would not be a sufficient alternative, because “the Constitution guarantees one way: confrontation.”²⁸ Of course, this outcome was predetermined when the plurality deemed the certified lab report a “testimonial statement.”²⁹

This Article focuses on the NAS Report and the relationship between the concerns embodied within the report and the rapidly evolving confrontation doctrine. My thesis is that, taken together, these developments suggest that the “*Daubert* Revolution” has failed, at least in the criminal courts. Accordingly, the “path forward” charted by the NAS Report and the *Melendez-Diaz* Court does not lead to a *Daubert*-style solution involving better pretrial judicial screening or more conscientious application of evidentiary rules and standards. Instead, change should be sought in new directions, including coordinated efforts to standardize and improve the forensic fields and newly “constitutionalized” opportunities for criminal defendants to use cross-examination to expose specious and fraudulent forensic evidence.

This Article examines the practical and doctrinal implications of this new approach. Part I describes the origins of the NAS Report, including the creation of the committee and the congressional charge. Part II explores the NAS Report recommendations for the forensic fields and the recommendations for future criminal courts. Part III predicts the likely impact of these recommendations on both the forensic community and the courts. Part IV describes the *Melendez-Diaz* case and places the decision in its appropriate confrontation context. Part V explains how and why the *Melendez-Diaz* plurality’s reliance on the NAS Report reflects an effort to constitutionalize concerns about forensic evidence and experts. Finally, Part VI anticipates the future of *Melendez-Diaz* by exploring its impact on the lower courts and the likely implications of these new developments for the future of forensic science and law.

²⁷ See *Melendez-Diaz*, 129 S. Ct. at 2536.

²⁸ *Id.*

²⁹ *Id.* at 2532.

I. THE NATIONAL ACADEMY OF SCIENCES REPORT

A. *The Creation of the Forensic Science Committee*

The NAS Report is based on a study authorized by Congress in November 2005.³⁰ Four years ago, Congress charged the NAS with the creation of a new independent Forensic Science Committee (“FSC”) that would “assess the present and future resource needs of the forensic science community . . . [in order to] make recommendations for maximizing the use of forensic technologies and techniques to solve crimes, investigate deaths, and protect the public.”³¹ The FSC was co-chaired by Judge Harry T. Edwards of the United States Court of Appeals for the D.C. Circuit and Dr. Constantine Gatsonsis, a professor of biostatistics at Brown University.³² It was composed of forensic science practitioners, a variety of other scientists, and members of the legal community.³³ Over the past four years, the committee heard testimony from many members of the forensic science community, including analysts from the FBI, the United States Secret Service, the National Institute of Justice, and other forensic science professional associations and advocacy groups.³⁴ The committee also gathered evidence from judges, lawyers, and legal scholars.³⁵

The creation of the FSC reflected the most recent serious national effort to identify problems of validity and consistency across the range of forensic science fields and to shape the future of forensic evidence in our courts. Although the NAS Report may have the broadest scope and the longest view, this was not the first federally funded investigation into the forensic science community. For example, a decade earlier, the National Institute of Justice published a report entitled *Forensic Sciences: Review of Status and Needs*.³⁶ Although the scope and detail of the earlier report were not as extensive as the NAS Report, the earlier report raised similar concerns about the need for more funding, better research, and greater standardization and coordination among local, state, and federal crime laboratories.³⁷ The NAS has also generated previous reports on a variety of specific forensic questions including DNA analysis³⁸ and ballistics identification.³⁹

³⁰ NAS REPORT, *supra* note 1, at 1.

³¹ *Id.* at 1–2 (citing S. REP. NO. 109-88, at 46 (2005)).

³² *See id.* at v, xx.

³³ *See id.* at v–ix, xx.

³⁴ *See id.* at xi–xii, xix–xx, 1–2.

³⁵ *See id.* at v–ix, xx, 1–2.

³⁶ NATIONAL INSTITUTE OF JUSTICE, *FORENSIC SCIENCES: REVIEW OF STATUS AND NEEDS* (1999), available at <http://www.ncjrs.gov/pdffiles1/173412.pdf> [hereinafter NIJ REPORT].

³⁷ *See id.* at 3–4.

³⁸ NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *DNA TECHNOLOGY IN FORENSIC SCIENCE* (1992), available at http://www.nap.edu/catalog.php?record_id=1866; NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *THE EVALUATION*

B. The Congressional Charge

The congressional charge to the FSC echoed concerns raised within and outside the forensic fields. In sum Congress instructed the FSC to identify the resource needs of state and local crime labs, make recommendations to maximize the use of existing forensic technologies, make recommendations that will increase the number of qualified forensic scientists, and disseminate practice guidelines for collecting and analyzing forensic evidence.⁴⁰ Thus, the NAS Report was designed to provide current data on the general quality of forensic science and to generate specific recommendations that could be used to strengthen the forensic science community. The overarching goal was to improve the forensic science community's ability to contribute to a fair and effective criminal justice system.⁴¹

In response to specific concerns about the forensic science community, the FSC engaged in an ambitious effort to understand the spectrum of forensic fields and their operation at the federal, state, and local levels.⁴² This focus reflected the fact that much of the impetus for the NAS Report had come from individuals within the forensic science community (some of whom were likely motivated by the significant lack of funding, especially among state and local crime labs).⁴³ Over the past four years, the FSC explored a range of forensic fields including analysis of fingerprints, shoe prints, tire tracks, tool marks, firearms, hair, fiber, handwriting, paint, explosives, fire debris, bite marks, and bloodstains.⁴⁴ The scope of this inquiry required the FSC to gather information from a wide range of forensic science laboratories and service providers, including crime labs operated by the FBI, the Department of Homeland Security, the Bureau of Alcohol, Tobacco, Firearms and Explosives, the Department of Defense, the National Bioforensic Analysis Center, the National Counterproliferation Center, state and

OF FORENSIC DNA EVIDENCE (1996), available at http://www.nap.edu/catalog.php?record_id=5141.

³⁹ NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, FORENSIC ANALYSIS: WEIGHING BULLET LEAD EVIDENCE (2004), available at http://www.nap.edu/catalog.php?record_id=10924.

⁴⁰ See NAS REPORT, *supra* note 1, at 1–2 (citing S. REP. NO. 109-88, at 46 (2005)).

⁴¹ See *id.* at 4–5.

⁴² See *id.* at 5–6, 55–56.

⁴³ See National Research Council's Publication "Strengthening Forensic Science in the United States: A Path Forward": Hearing Before the H. Subcomm. on Crime, Terrorism, and Homeland Security of the H. Comm. on the Judiciary, 111th Cong. 16, 19–20 (2009) [hereinafter *Hearing Before the H. Subcomm. on Crime, Terrorism, and Homeland Security*] (statement of Peter M. Marone, Director, Virginia Department of Forensic Science) (describing how the NAS Report was motivated by concerns that came in part from state and local crime labs and the state and local medical examiner communities, which have not received adequate financial support).

⁴⁴ NAS REPORT, *supra* note 1, at 3. For the FSC's description of and analysis of various forensic fields, see *id.* at 127–182.

local crime labs, forensic science funding organizations, and forensic science professional associations.⁴⁵

C. Forensic Science in the Criminal Courts

In response to specific concerns about the admission and use of forensic science evidence in court, the FSC also examined both the extant and potential interplay between forensic science and law.⁴⁶ Although the FSC analysis of forensic science in litigation was limited to the federal criminal courts, this is an essential component of the NAS Report because, with the notable exception of DNA analysis, courts are the only real consumers of forensic evidence.

As part of the FSC exploration of the admission and use of forensic evidence in the criminal courts, the committee assessed the effectiveness of the Federal Rules of Evidence and the operation of *Daubert* challenges.⁴⁷ The NAS Report recommendations are discussed in detail below.⁴⁸ However, in essence the NAS Report concluded that there are vast systemic problems with the use of forensic science in criminal litigation because courts “continue to rely on forensic evidence without fully understanding and addressing the limitations of different forensic science disciplines.”⁴⁹ Moreover, according to the NAS Report, seventeen years after *Daubert* required that judges pre-screen challenged expertise to determine whether it is “scientific knowledge,”⁵⁰ there has been little improvement in the quality of forensic evidence.⁵¹ In the view of the FSC, this is because courts “have not with any consistency or clarity imposed standards ensuring the application of scientifically valid reasoning and reliable methodology in criminal cases involving *Daubert* questions.”⁵²

II. THE NAS REPORT: ANALYSIS AND RECOMMENDATIONS

A. Recommendations for the Forensic Science Community

The FSC explicitly acknowledged that the forensic science community suffers from systemic structural problems.⁵³ In fact, these problems are so pervasive that any accurate assessment of the forensic science community is impeded by its fragmented nature, which “makes it difficult to gather data on the entire universe

⁴⁵ See *id.* at 4, 57–77.

⁴⁶ See *id.* at 85–88.

⁴⁷ See *id.* at 90–98.

⁴⁸ See *infra* Part II.

⁴⁹ NAS REPORT, *supra* note 1, at 85.

⁵⁰ *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589–90 (1993).

⁵¹ NAS REPORT, *supra* note 1, at 106.

⁵² *Id.* at 11.

⁵³ *Id.* at 77–80.

of forensic service entities and activities.”⁵⁴ As the NAS Report revealed, the forensic science community is subdivided among a vast spectrum of distinct fields.⁵⁵ It is further fragmented by the fact that forensic techniques are practiced in autonomous laboratories that operate at the local, state, and federal levels.⁵⁶ Despite these impediments to a comprehensive understanding of the range of forensic fields, the FSC found that “the large amount of information provided to the committee by people engaged in the forensic science enterprise and by experts who have studied how well that enterprise functions *all points to a system that lacks coordination and that is underresourced in many ways.*”⁵⁷ Moreover, because most of the forensic scientific community lacks adequate funding and consistent professional standards, existing problems are further compounded by the fact that many forensic analyses are performed by “practitioners with different levels of education and training and different professional cultures and standards for performance.”⁵⁸

The FSC also recognized that most forensic fields suffer from endemic localized problems engendered by the nature of their common objective.⁵⁹ Forensic fields almost invariably engage in a process of “individualization.” The goal of individualization is to match evidence found at a crime scene or on a law enforcement database to a specific suspect.⁶⁰ Although the process may utilize a range of technologies, a vital component of most forensic individualization is the subjective analysis of the human interpreter.⁶¹ Recently, much has been written about both covert and overt bias among forensic scientists,⁶² including at least one essay complaining that this social science evidence was given short shrift by the FSC.⁶³ To be fair, the NAS Report attempted to address a wide range of specific lab analyst problems including human observer bias, lack of consistent education and training requirements, inconsistent terminology, and the lack of uniform lab accreditation and employee certification standards.⁶⁴

⁵⁴ *Id.* at 77.

⁵⁵ *See id.* at 78.

⁵⁶ *See id.* at 77–78.

⁵⁷ *Id.* at 77 (emphasis added).

⁵⁸ *Id.* at 78.

⁵⁹ *See id.* at 87.

⁶⁰ *See id.*

⁶¹ *See id.*

⁶² *See, e.g.,* Craig M. Cooley, *Forensic Science and Capital Punishment Reform: An “Intellectually Honest” Assessment*, 17 GEO. MASON U. CIV. RTS. L.J. 299 (2007); Paul C. Giannelli, *Wrongful Convictions and Forensic Science: The Need to Regulate Crime Labs*, 86 N.C.L. REV. 163 (2007); D. Michael Risinger, Michael J. Saks, William C. Thompson, & Robert Rosenthal, *The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion*, 90 CALIF. L. REV. 1 (2002).

⁶³ D. Michael Risinger, *The NAS/NRC Report on Forensic Science: A Glass Nine-Tenths Full (This Is About the Other Tenth)*, 50 JURIMETRICS J. 21 (2009).

⁶⁴ *See* NAS REPORT, *supra* note 1, at 3, 21.

In light of the spectrum of forensic disciplines and the range of concerns, the NAS Report does not contain any one-size-fits-all forensic science community recommendations. To the extent there are any general findings, they are embodied within the FSC's conclusion that "forensic laboratories are underresourced and understaffed"⁶⁵ and "the knowledge base that underpins [forensic] analysis and interpretation of evidence—are not as strong as they could be"⁶⁶ in part because "[t]he forensic science system . . . has only thin ties to an academic research base that could support the forensic science disciplines and fill knowledge gaps."⁶⁷ More general conclusions are also contained within the finding that "[w]ith 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 or individual source."⁶⁸

The NAS Report includes thirteen specific recommendations responsive to the committee's congressional charge.⁶⁹ These begin with the threshold recommendation that Congress create and fund an independent federal National Institute of Forensic Science ["NIFS"].⁷⁰ The remaining twelve recommendations principally elaborate on how a new NIFS could transform the forensic science community.⁷¹ These recommendations are described in some detail in the report,⁷² but they can be summarized as follows: (1) establish standard terminology to be used within the forensic fields to report on and testify about forensic science investigations;⁷³ (2) fund peer-reviewed research to demonstrate the validity of forensic methods and develop and establish quantifiable measures of the validity of forensic analyses (including quantifiable measures of uncertainty in conclusions);⁷⁴ (3) maximize the independence of forensic laboratories and professionals from law enforcement and prosecutors' offices;⁷⁵ (4) "encourage research programs on human observer bias and sources of human error in forensic examinations";⁷⁶ (5) work with the National Institute of Standards and Technology to advance standards that would control "measurement, validation, reliability, information sharing, and proficiency testing in forensic science and to establish protocols for forensic examinations";⁷⁷ (6) ensure mandatory laboratory accreditation and mandatory

⁶⁵ *Id.* at 14.

⁶⁶ *Id.*

⁶⁷ *Id.* at 15.

⁶⁸ *Id.* at 7.

⁶⁹ *Id.* at 19–33.

⁷⁰ *Id.* at 19.

⁷¹ *Id.* at 22–33.

⁷² *Id.* at 19–33.

⁷³ *Id.* at 22.

⁷⁴ *Id.* at 22–23.

⁷⁵ *Id.* at 24.

⁷⁶ *Id.*

⁷⁷ *Id.* at 24–25.

individual certification of forensic science professionals;⁷⁸ (7) “establish routine quality assurance and quality control procedures”;⁷⁹ (8) “establish a national code of ethics for all forensic science disciplines”;⁸⁰ (9) improve and develop graduate education programs in multidisciplinary fields essential to the practice of forensic science;⁸¹ (10) improve the quality of medico-legal death investigations;⁸² (11) “launch a new broad-based effort to achieve nationwide fingerprint data interoperability”;⁸³ and (12) work with the Centers for Disease Control and Prevention, the FBI, forensic scientists, and crime scene investigators to ensure the capacity to manage and analyze evidence from future events that affect homeland security.⁸⁴ As discussed below, some insight into the viability of these recommendations might be gleaned from recent congressional hearings on the NAS Report.

B. Recommendations for the Criminal Courts

The FSC examined the interplay between forensic science and law by exploring the admission of forensic science evidence in criminal litigation.⁸⁵ According to the NAS Report, “[t]he law’s greatest dilemma in its heavy reliance on forensic evidence, however, concerns the question of whether—and to what extent—there is *science* in any given ‘forensic science’ discipline.”⁸⁶

1. The Failure of Daubert

The question of whether there is science in any scientific evidence has preoccupied evidence scholars (at least) since 1993, when the Supreme Court was galvanized into action in *Daubert v. Merrell Dow*.⁸⁷ I have written elsewhere about the myopic post-*Daubert* approach to the broad range of science and law questions,⁸⁸ but the NAS Report further supports the conclusion that a post-*Daubert* emphasis on “rules governing the admissibility of forensic evidence [and] the applicable standards governing appellate review of trial court decisions . . . is

⁷⁸ *Id.* at 25.

⁷⁹ *Id.* at 26.

⁸⁰ *Id.*

⁸¹ *Id.* at 27–28.

⁸² *Id.* at 29–30.

⁸³ *Id.* at 31.

⁸⁴ *Id.* at 33.

⁸⁵ *See id.* at 85–110.

⁸⁶ *Id.* at 9, 87.

⁸⁷ *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579, 585–89 (1992).

⁸⁸ *See, e.g.,* Joëlle Anne Moreno, *Eyes Wide Shut: Hidden Problems and Future Consequences of the Fact-Based Validity Standard*, 34 SETON HALL L. REV. 89, 90–91 (2003) (explaining that, under *Daubert*, judges may not defer to the scientific community but must instead decide for themselves whether evidence is scientifically reliable).

inadequate to the task of curing the documented ills of the forensic science disciplines.”⁸⁹ As the NAS Report recognized, almost two decades after *Daubert*, trial courts “continue to rely on forensic evidence without fully understanding and addressing the limitations of different forensic science disciplines.”⁹⁰ These systemic problems are compounded by appellate courts that “have not with any consistency or clarity imposed standards ensuring the application of scientifically valid reasoning and reliable methodology in criminal cases involving *Daubert* questions.”⁹¹

2. *Impediments to Doctrinal Analysis*

After acknowledging the failures of the existing legal regime to effectively root out specious forensic science, the NAS Report proposed that a better approach would start with

two very important questions that *should* underlie the law’s admission of and reliance upon forensic evidence in criminal trials: (1) the extent to which a particular forensic discipline is founded on a reliable scientific methodology that gives it the capacity to accurately analyze evidence and report findings and (2) the extent to which practitioners in a particular forensic discipline rely on human interpretation that could be tainted by error, the threat of bias, of the absence of sound operational procedures and robust performance standards.⁹²

However, discerning the validity of the range of forensic science methodologies and their reliance on subjective human interpretation is a difficult, complex, and time-consuming task. It is also a task that many members of both the forensic and legal communities (because of their traditional interdependence) may not be anxious to undertake.

Moreover, even if we assume that during the post-*Daubert* period the operation of the admissibility rules and standards has generally improved, these developments are extremely difficult to identify or measure. When expert evidence is challenged, trial courts frequently issue judgments on the admission of evidence without published opinions; especially in criminal cases and even in the federal courts, evidentiary rulings are only infrequently subject to appellate review.⁹³ Thus, as the NAS Report noted, “reported opinions do not offer in any way a complete sample of federal trial court dispositions of *Daubert*-type questions in

⁸⁹ NAS REPORT, *supra* note 1, at 85.

⁹⁰ *Id.* at 53, 85.

⁹¹ *Id.* at 96.

⁹² *Id.* at 87.

⁹³ See *id.* at 11–12, 110 (noting the “highly deferential nature of the appellate review afforded trial courts’ *Daubert* rulings”).

criminal cases.”⁹⁴ This may explain why there have been few efforts to quantify *Daubert*’s real impact on the criminal and civil courts.

3. *Two Models of Valid Forensic Science*

Perhaps in an effort to illustrate that scientists and courts sometimes get it right, the NAS Report also discussed two forensic fields where both the science and law are generally sound.⁹⁵ The report described the fact that, like most forensic evidence, nuclear DNA evidence is universally accepted for individualization purposes in U.S. courts.⁹⁶ However, unlike most forensic evidence, judges and jurors *should* rely on DNA evidence because this evidence is the product of the only forensic method that “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.”⁹⁷ The second forensic field identified with approval by the FSC, drug identification, poses fewer problems because the analysts’ goal is not individualization. Forensic drug identification generally relies on widely accepted principles and technologies of chemical analysis, and the analyst’s goal is limited to determining the chemical composition of the recovered substance.⁹⁸ Thus, forensic substance identification evidence is also routinely and appropriately admitted in the criminal courts.⁹⁹ Judicial decisions admitting nuclear DNA analyses and drug identification evidence reflect examples of accurate determinations by the courts that certain forms of forensic evidence are based on valid forensic science methodologies.¹⁰⁰

⁹⁴ *Id.* at 11, 97.

⁹⁵ *Id.* at 99–102.

⁹⁶ *Id.* at 99–100.

⁹⁷ *Id.* at 7. Nuclear DNA evidence is touted throughout the NAS Report as the proverbial “gold standard” of forensic evidence. However, it is worth noting that an August 18, 2009 article in *The New York Times* described how Israeli scientists have proved that it is possible to fabricate DNA evidence. Andrew Pollack, *Scientists Show That It’s Possible to Create Fake DNA Evidence*, N.Y. TIMES, Aug. 18, 2009, at D3. Dr. Dan Frumkin and his team report that they were able to fabricate both blood and saliva samples that contained non-donor DNA. *Id.* Perhaps even more troubling, they claim that, without access to biological source material, they could build a sample of DNA to match a DNA database profile. *Id.* However, this is very new research and, as the article indicates, Dr. Frumkin is a founder of Nucleix, a for-profit Israeli company that has developed a test designed to distinguish fake DNA that Nucleix plans to market to forensics laboratories throughout the world. *Id.*

⁹⁸ See NAS REPORT, *supra* note 1, at 134.

⁹⁹ See *id.* at 101–02.

¹⁰⁰ See *id.* at 7, 102.

4. *Avoiding the Vicious Circle*

The NAS Report recognized that the legal system creates bad incentives for the forensic community and vice-versa.¹⁰¹ Despite the evidentiary rules and *Daubert*, judges consistently fail to prevent “forensic science methodolog[ies] [from being] condoned by the courts *before* the techniques have been properly studied and their accuracy verified.”¹⁰² For example, even when defendants raise *Daubert* objections, forensic evidence is routinely admitted without serious judicial scrutiny, and this evidence includes “even the most vulnerable forensic sciences—hair microscopy, bite marks, and handwriting.”¹⁰³ These problems are further compounded when judges admit this evidence “[by] citing earlier decisions rather than facts established at a hearing.”¹⁰⁴ In most forensic fields, there is “no evident reason why [rigorous, systematic] research would be infeasible”,¹⁰⁵ but it is simply not being done. In fact, many judges “appear to be loath to insist on such [rigorous, systematic] research as a condition of admitting forensic science evidence in criminal cases, perhaps because to do so would likely ‘demand more by way of validation [than] disciplines can presently offer.’”¹⁰⁶ These problems will likely multiply in the future as the courts continue to rely on an ever-expanding range of forensic evidence.

5. *The Future of Forensic Evidence in the Criminal Courts*

Although the bulk of the NAS Report recommendations focused on improving the practice of forensic science, not the practice of law, law and forensic science are increasingly interdependent.

Forensic science is crucial to the criminal justice system from start to finish. During an investigation, forensic science evidence is a vital exculpatory tool, often excluding potential suspects and narrowing the focus of investigations for the police. Forensic evidence may provide important clues to places, objects or people that can lead police to an arrest before another crime has been committed by a particular individual, thus harnessing the power of crime prevention. In a post-mortem context, forensic examinations are imperative for suspicious

¹⁰¹ See *id.* at 16–17 (asserting that the forensic science field needs strong governance to encourage jurisdictions to adopt best practices and discourage bad practices).

¹⁰² See *id.* at 109 (emphasis added).

¹⁰³ *Id.* at 107 (quoting P.J. Neufeld, *The (Near) Irrelevance of Daubert to Criminal Justice and Some Suggestions for Reform*, 95 AM. J. PUB. HEALTH S107, S109, S110 (2005)).

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 109 (quoting J. Griffin and D.J. LaMagna, *Daubert Challenges to Forensic Evidence: Ballistics Next on the Firing Line*, THE CHAMPION, Sept.–Oct. 2002, at 21).

¹⁰⁶ *Id.*

deaths and are vital to determining a cause of death. . . . After an arrest, forensic evidence often expedites dispositions of cases and, frequently, when confronted with the results of forensic analyses, defendants choose to accept a plea rather than assume the risk of going to trial. At trial, forensic evidence and the expert testimony proffered by forensic scientists can be key to securing a conviction or appropriate sentence.¹⁰⁷

As discussed above, the NAS Report proposes long-term, systemic, transformative recommendations for the forensic community designed to ensure that future “forensic science experts will be better able to analyze evidence and coherently report their findings in court.”¹⁰⁸ The report was released in early 2009, in response to significant concerns from within and outside the forensic fields. Although the NAS Report recommended a path forward to a future of science-based forensic evidence, implementing these recommendations will require substantial administrative coordination and a significant allocation of funds. Over the past few months, Congress has begun to consider the costs and benefits of the NAS Report recommendations.

III. PREDICTING THE IMPACT OF THE NAS REPORT

It is far too early to accurately assess the impact of the NAS Report on the forensic community. However, in the wake of its release, a number of congressional committees have held public hearings to consider how the federal government should respond to the report’s recommendation. These hearings may provide some insight into the likely congressional response to the NAS Report. They may also reveal nascent congressional reaction to the proposal to create a new NIFS, which is a predicate to most of the other recommendations. As discussed in more detail below, the initial congressional response revealed little beyond an attempt to understand the details of the NAS Report.¹⁰⁹ More recent hearings have also included testimony supporting responsive federal action.¹¹⁰ However, more recent hearings have also begun to incorporate more skeptical

¹⁰⁷ *Hearing Before the H. Subcomm. on Crime, Terrorism, and Homeland Security*, *supra* note 43, at 10 (statement of Kenneth E. Melson, Act. Dir., Bureau of Alcohol, Tobacco, Firearms, and Explosives).

¹⁰⁸ NAS Report, *supra* note 1, at 13.

¹⁰⁹ *See Strengthening Forensic Science in the United States: The Role of the National Institute of Standards and Technology: Hearing Before the Subcomm. on Technology and Innovation of the H. Comm. on Science and Technology*, 111th Cong. 3 (2009) [hereinafter *Hearing Before the Subcomm. on Technology and Innovation*]; *The Need to Strengthen Forensic Science in the United States: The National Academy of Sciences’ Report on a Path Forward: Hearing Before the S. Comm. on the Judiciary*, 111th Cong. 1 (2009) [hereinafter *Hearing Before the S. Comm. on the Judiciary*].

¹¹⁰ *Hearing Before the H. Subcomm. on Crime, Terrorism, and Homeland Security*, *supra* note 43, at 7.

testimony suggesting that the NAS Report concerns are exaggerated, arguing that the creation of an NIFS is unnecessary or inappropriate, and revealing sensitivity to any Congressional response that might be viewed as undermining the legitimacy of the criminal justice system.¹¹¹ Because the NAS Report recommendations are structured so that most of the changes would be implemented through a new federally funded oversight agency,¹¹² a threshold question for Congress is whether federal funds will be allocated to create an NIFS.

*A. Predicting the Impact on the Forensic Science Community:
The Initial Congressional Response*

1. Senate Judiciary Committee

Immediately after the NAS Report was released, the Senate Judiciary Committee met to consider its findings.¹¹³ At this hearing, the committee's chairman, Senator Patrick Leahy, opined that the problems identified in the report were very serious because they "go to the heart of our criminal justice system."¹¹⁴ Apparently, many of the NAS Report conclusions were unfamiliar to the committee members and to the public. For example, Senator Leahy noted that the NAS Report dispelled prevalent misconceptions regarding forensic science because it illuminated the fact that forensic methods bear little resemblance to "television shows like 'CSI,' [because] forensic scientists too rarely get to review crime scene evidence in sleek, ultra-modern, state-of-the-art laboratories."¹¹⁵

2. House Committee on Science and Technology

That same month, the House Committee on Science and Technology held hearings on the NAS Report.¹¹⁶ The committee heard testimony from Professor Peter Neufeld, who is the co-director of the Innocence Project.¹¹⁷ Professor Neufeld reminded the committee that the criminal justice system relies heavily on a wide range of forensic evidence.¹¹⁸ According to the Bureau of Justice Statistics 2005 Census, non-DNA forensic lab analysis requests constitute 97 percent of the workload in publicly funded forensic crime laboratories.¹¹⁹

Professor Neufeld emphasized the link between bad forensic evidence and wrongful convictions. According to Professor Neufeld,

¹¹¹ See discussion Part III.B.

¹¹² NAS REPORT, *supra* note 1, at 19–20.

¹¹³ *Hearing Before the S. Comm. on the Judiciary*, *supra* note 109, at 1.

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Hearing Before the Subcomm. on Technology and Innovation*, *supra* note 109.

¹¹⁷ *Id.* at 32–39.

¹¹⁸ *Id.* at 34.

¹¹⁹ *Id.*

[U]nvalidated and improper forensics contributed to approximately 50% of wrongful convictions overturned by DNA testing. . . . [And] we have had wrongful convictions based on unvalidated or misapplied serological analysis, microscopic hair comparisons, bite mark comparisons, shoe print comparisons, fingerprint comparisons, forensic geology (soil comparison), fiber comparison, voice comparison, and fingernail comparison¹²⁰

Professor Neufeld specifically endorsed the NAS Report conclusion that the problems of jury exposure to and reliance upon bad forensic evidence cannot improve without better national standardization, coordination, and centralization.¹²¹ According to Professor Neufeld, a new NIFS would create opportunities to “conduct research into the scientific validity and reliability of forensic disciplines and set standards for their use in the courtroom.”¹²² Thus, the NIFS would ensure a future where we “don’t have 50 states operating under 50 [different] definitions of ‘science.’”¹²³ In Professor Neufeld’s view, these developments are essential because “forensic science in America needs one standard of science so we can have one standard for justice.”¹²⁴

B. Recent Congressional Response

In mid-May 2009, the House Judiciary Committee Subcommittee on Crime, Terrorism, and Homeland Security held its own hearings on the NAS Report. More recently, on September 9, 2009, the Senate Judiciary Committee held a second round of hearings. These more recent hearing explored the NAS Report in greater detail and revealed nascent skepticism about its findings and recommendations.

1. House Judiciary Committee’s Subcommittee on Crime, Terrorism, and Homeland Security Responds

(a) Daubert and the Federal Rules of Evidence Are Inadequate

According to the chairman, Representative Robert Scott, the NAS Report confirmed that the current post-*Daubert* legal regime of judicial gatekeeping has not worked.¹²⁵ In his view, “[W]e have decided that the judge would be inadequate

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² *Id.* at 38.

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ *Hearing Before the H. Subcomm. on Crime, Terrorism, and Homeland Security*, *supra* note 43, at 10.

as a gatekeeper to decide what kind of scientific evidence comes in and comes out.”¹²⁶

(b) Distinguishing Among the Forensic Fields

The committee heard testimony from Pete Marone, the Director of the Commonwealth of Virginia’s Department of Forensic Science. According to Mr. Marone, the NAS Report confirmed that

[t]he disciplines based on biological or chemical analysis, such as toxicology, drug analysis, and some trace evidence sub-disciplines such as explosives, fire debris, polymers to include paint and fiber analysis, are generally well-validated and should not be included in the same category as the experience-based disciplines, such as fingerprints, firearms and toolmarks, and other pattern-recognition types of analysis.¹²⁷

Mr. Marone focused on the need for more and better independent research within the forensic fields.¹²⁸ According to Mr. Marone, “We need studies, for instance, that look at large populations of fingerprints and toolmarks so as to quantify how many sources might share similar features . . . [i]n addition to investigating the limits of the techniques themselves[, and] research is also needed on the issues of context effect and examiner bias.”¹²⁹ Thus, most of Mr. Marone’s testimony, based on his professional experience directing Virginia’s state crime lab system, was consistent with the conclusions and recommendations contained within the NAS Report.

(c) Caution and Skepticism

The committee also heard testimony from Kenneth Melson, acting director of the Bureau of Alcohol, Tobacco, Firearms and Explosives.¹³⁰ Mr. Melson was more cautious than Mr. Marone. His testimony clarified that the NAS Report “does not, and was never intended to, comprehensively assess the forensic sciences themselves . . . [or] undermine the use of forensic science generally—or any specific discipline—in the courtroom.”¹³¹ According to Mr. Melson, “the report highlights the lack of research and other scientific validation methods within several disciplines.”¹³² However, Mr. Melson’s principal concern seemed to be the

¹²⁶ *Id.* at 62.

¹²⁷ *Id.* at 21.

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ *Id.* at 5–15.

¹³¹ *Id.* at 9.

¹³² *Id.* at 13.

risk that the NAS Report's conclusions had been, and would continue to be, overstated.¹³³ In fact, Mr. Melson testified that "the report does not take the position that any of the forensic disciplines is scientifically invalid. . . . [Yet it] has been taken by the public and the defense bar as labeling forensics not 'real' science."¹³⁴

Mr. Melson also appeared to oppose the creation of a National Institute of Forensic Science with federal oversight authority. In his view, an NIFS is not necessary, because solutions are already being generated from within the forensic community.¹³⁵ According to Mr. Melson, these include the following programs: (1) the National Institute of Justice and the National Institute on Standards and Technology joint Expert Working Group on Human Factors in Latent Print Analysis; (2) nine FBI-sponsored Scientific Working Groups composed of state and federal experts in nine different forensic fields; and (3) National Institute of Justice efforts to facilitate and encourage forensic lab accreditation and analyst certification.¹³⁶ Given the time and expense associated with the creation of a new centralized federal agency, Mr. Melson's alternative approach of allowing the forensic community to fix itself via a variety of different initiatives and programs may have congressional appeal.

2. Senate Judiciary Committee

During the second Senate Judiciary Committee hearing on the NAS Report, held on September 9, 2009, the committee heard testimony from Barry Matson, the Deputy Director of the Alabama District Attorneys Association.¹³⁷ Mr. Matson disagreed with the recommendation that the federal government create an NIFS for a variety of reasons.¹³⁸ Like Mr. Melson, Mr. Matson stated that an NIFS is unnecessary.¹³⁹ However, Mr. Matson went further, suggesting that the creation of an NIFS would reflect a blatant effort to politicize science.¹⁴⁰ In Mr. Matson's view, "[f]orensic sciences is [sic] the search for truth and if you're going to have an agency with a new director appointed every four years and different ideologies

¹³³ See *id.* at 13–15.

¹³⁴ *Id.* at 13.

¹³⁵ *Id.* at 12–13.

¹³⁶ *Id.* at 11–12.

¹³⁷ *National Academy of Sciences Report: Strengthening Forensic Science in the United States: A Path Forward: Hearing Before the S. Comm. on the Judiciary*, 111th Cong. (2009) (statement of Barry D. Matson, Deputy Director, Alabama District Attorneys Association).

¹³⁸ See *id.* ("[T]here are institutions available that are already meeting many of the challenges mentioned in the NAS report."); Mary Orndorff, *Congress Looks at Court Evidence Standards: Sessions Disputes Need for New Agency*, 122 THE BIRMINGHAM NEWS 4 (Sept. 10, 2009).

¹³⁹ Orndorff, *supra* note 138.

¹⁴⁰ *Id.*

coming in and new national bureaucracies, it's not what we need."¹⁴¹ Of course, Mr. Matson's testimony ignored the wide range of federal agencies, from the EPA to the FDA, that routinely evaluate scientific information. Mr. Matson's testimony received support from his home state senator, Jeff Sessions.¹⁴² Senator Sessions, a former prosecutor, acknowledged that the NAS Report could create uncertainty about evidence long-relied upon by police, prosecutors, judges, and juries.¹⁴³ For example, without addressing any of the specific concerns raised in the NAS Report (which included a section on fingerprints and a discussion of the Brandon Mayfield Madrid-train bombing debacle),¹⁴⁴ Senator Sessions said simply, "I don't accept the idea that they seem to suggest that fingerprints are not proven technology."¹⁴⁵

Finally, Senator Leahy noticed the relationship between the NAS Report and the Supreme Court's recent *Melendez-Diaz v. Massachusetts*¹⁴⁶ decision. According to Senator Leahy, after *Melendez-Diaz*, cross-examination of prosecutors' expert witnesses should play a much more important role in routing out the type of specious forensic science evidence identified in the NAS Report because government-sponsored experts will now be forced to explain and defend their conclusions.¹⁴⁷ Senator Leahy suggested that *Melendez-Diaz* and the NAS Report together will enhance the quality of forensic evidence proffered by prosecutors in the nation's criminal courts.¹⁴⁸ According to Senator Leahy, the *Melendez-Diaz* decision "stems from a recognition that forensic findings may not always be as reliable as we would hope or they might appear."¹⁴⁹ As the congressional hearings continue, additional information regarding the political and economic viability of the NAS Report recommendations will be revealed.

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *See id.*

¹⁴⁴ NAS REPORT, *supra* note 1, at 46.

¹⁴⁵ Orndorff, *supra* note 138.

¹⁴⁶ 129 S. Ct. 2527 (2009).

¹⁴⁷ *National Academy of Sciences Report: Strengthening Forensic Science in the United States: A Path Forward: Hearing Before the Senate Judiciary Comm.*, 111th Cong. (2009) (statement of Sen. Patrick Leahy, Chairman, Sen. Judiciary Comm.) (noting that the Supreme Court held in *Melendez-Diaz* "that forensic examiners must present evidence in court and be subject to cross examination, rather than simply submitting reports of their findings. This Supreme Court holding stems from a recognition that forensic findings may not always be as reliable as we would hope, or they might appear").

¹⁴⁸ *Id.* ("The report issued by the National Academy of Sciences earlier this year is detailed and far-reaching, and can provide a foundation for building broad consensus for change.").

¹⁴⁹ *Id.*

C. Predicting the Impact of the NAS Report on the Criminal Courts

Judges, prosecutors, defense counsel and legal commentators have just begun to speculate about the impact of the NAS Report on the courts. One of the first, Professor Edward J. Imwinkelried, has reflected upon the fact that in the past,

[the] NAS' issuance of reports has sometimes persuaded courts to change their stance on the admissibility of specific types of scientific evidence. . . . When a scientific organization as large and highly respected as the NAS raises questions about the reliability of an expert technique, that development arguably proves the existence of a major controversy that is the antithesis of the general acceptance required by [*United States v. Frye*].¹⁵⁰

Professor Imwinkelried may be correct that the NAS Report could have a more powerful effect in states still governed by *Frye*, because it may be used to effectively demonstrate a lack of "general acceptance." However, there is reason to believe that the NAS Report could have a similar impact in the federal courts and *Daubert* jurisdictions because (even under *Daubert*) judges continue to rely on "general acceptance" as an important admissibility criterion.¹⁵¹

Some commentators have also speculated that the NAS Report may prove useful to lawyers. Professor Imwinkelried has opined that the report's specific findings may generate better opportunities for lawyers to challenge individualization testimony based on matching fingerprints, toolmarks, firearms, hairs/fibers, handwriting, or bitemarks.¹⁵² Professor Jules Epstein has suggested that in *Daubert* jurisdictions, litigants might use the NAS Report to ask courts to revisit earlier decisions admitting evidence.¹⁵³ If these evidence scholars are

¹⁵⁰ Edward J. Imwinkelried, *Questioning Forensic Evidence: A Recently Released Expert Scientific Report Raises Several Issues*, NAT'L L.J., May 4, 2009, at 12. In *Frye v. United States*, the D.C. Circuit held that for a scientific method to be admissible, it must have general acceptance in its field. 293 F. 1013, 1014 (D.C. Cir. 1923). This standard was followed until the Supreme Court decided *Daubert* in 1993. *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 585–89 (1993).

¹⁵¹ See Sophia Gatowski et al., *Asking the Gatekeepers: A National Survey of Judges on Judging Expert Evidence in a Post-Daubert World*, 25 LAW & HUM. BEHAV. 433, 447 (2001) ("[T]he vast majority of judges . . . , regardless of operating admissibility standard, indicated that general acceptance was a useful criterion for determining the merits of the proffered scientific evidence"); see also *id.* at 437 (citing *Daubert*, 509 U.S. at 594) (noting that "[t]he [*Daubert*] Court recognized . . . the 'general acceptance' of the proposed testimony of the scientific community" as one of the "guidelines" for consideration).

¹⁵² See Imwinkelried, *supra* note 150, at 11–12 (noting that opponents of expert testimony could make a *Daubert* objection based on the NAS Report).

¹⁵³ Jules Epstein, *The NAS Report: An Evidence Professor's Perspective*, IT'S EVIDENT, July 20, 2009, at 1 ("Because the *Daubert* inquiry is fundamentally one of

correct that future lawyers (and especially future defense counsel) will begin to rely on the specific conclusions of the NAS Report to challenge “individualization”/source attribution evidence involving ballistics or fingerprint evidence, they are probably also correct that the data contained in the report could make these challenges more persuasive.

Finally, some commentators have speculated that the NAS Report might spark systemic change in states that still rely on *Frye*.¹⁵⁴ These predictions assume that the NAS Report will be viewed as revealing such serious problems within the forensic community that it would provoke *Frye* jurisdictions to convert to a *Daubert* standard.¹⁵⁵ This, in turn, could result in greater scrutiny of the “traditional methodologies that *Frye* jurisdictions routinely admit as generally accepted.”¹⁵⁶

These are all optimistic predictions. Clearly, the NAS Report has the capacity to illuminate specific problems for judges, lawyers, and jurors who must decide whether to admit and how to use different forms of forensic evidence. However, the more general impact of the NAS Report will be determined by the eventual congressional response and the overall reaction from the courts. So far, the most important response to the NAS Report from the courts came from the Supreme Court at the very end of the 2008–09 term.

IV. THE NAS REPORT IN THE SUPREME COURT: *MELENDEZ-DIAZ V. MASSACHUSETTS*

On June 25, 2009, the Supreme Court decided *Melendez-Diaz v. Massachusetts*.¹⁵⁷ *Melendez-Diaz* is the most recent decision defining the scope of the Confrontation Clause. As discussed in more detail below,¹⁵⁸ the *Melendez-Diaz* plurality concluded that a state statute designed to admit certified forensic reports was an impermissible end run around the Confrontation Clause.¹⁵⁹ Rather

evidentiary reliability, there is no bar to asking a court to revisit prior decisions of admissibility.”).

¹⁵⁴ See Imwinkelried, *supra* note 150, at 12 (“One question is whether the [NAS] report should prompt additional *Frye* jurisdictions to rethink their standard for admitting scientific testimony.”).

¹⁵⁵ See *id.* at 11 (noting that the NAS Report “could play a major role in shaping the future treatment of expert evidence”).

¹⁵⁶ See *id.* (“Many of the techniques discussed in the NAS report are traditional methodologies that *Frye* jurisdictions routinely admit as generally accepted. The argument could be made that the NAS report is potent evidence that the *Frye* test is ineffective in separating the wheat from the chaff.”).

¹⁵⁷ 129 S. Ct. 2527 (2009).

¹⁵⁸ See *infra* Part IV.B.

¹⁵⁹ *Melendez-Diaz*, 129 S. Ct. at 2532 (quoting *Crawford v. Washington*, 541 U.S. 36, 54 (2004)) (“In short, under our decision in *Crawford* the analysts’ affidavits were testimonial statements, and the analysts were ‘witnesses’ for purposes of the Sixth

surprisingly for a committed originalist, Justice Scalia found significant support for his confrontation analysis in the just-released NAS Report conclusion that “[t]he forensic science system . . . has *serious* problems.”¹⁶⁰ This linkage enabled the Court to craft new constitutional solutions to old evidentiary problems.

Melendez-Diaz is not a simple case, and any analysis of its implications for the future of forensic science in the criminal courts is complicated by its constitutional context. Legal history scholars far better suited to the task have explored the history of the Confrontation Clause at length in a wide range of books and articles. However, to understand *Melendez-Diaz* it is important to start with the fact that, although the Sixth Amendment was incorporated to the states almost fifty years ago in *Pointer v. Texas*,¹⁶¹ the Supreme Court’s confrontation doctrine was revitalized and transformed just five years ago in *Crawford v. Washington*.¹⁶²

A. Understanding *Melendez-Diaz* in Context: *Crawford v. Washington*

1. Rejecting *Ohio v. Roberts*

In 2005, *Crawford* significantly expanded the criminal defendant’s Sixth Amendment right “to be confronted with the witnesses against him; [and] to have compulsory process for obtaining witnesses in his favor”¹⁶³ For the past quarter-century, conflicts between the Confrontation Clause and the Federal Rules of Evidence had been resolved under the rule of *Ohio v. Roberts*.¹⁶⁴ In *Ohio v. Roberts* the Supreme Court held that the Confrontation Clause restricts otherwise admissible hearsay in two ways. First, it requires that the prosecution produce the “witness against” the defendant or demonstrate her unavailability.¹⁶⁵ Second, if the witness is unavailable, “the [Confrontation] Clause countenances only hearsay marked with such trustworthiness that ‘there is no material departure from the reason of the general rule.’”¹⁶⁶ Prosecutors could satisfy the “indicia of reliability”¹⁶⁷ requirement either (1) by convincing the court that the proffered out-

Amendment. Absent a showing that the analysts were unavailable to testify at trial *and* that petitioner had a prior opportunity to cross-examine them, petitioner was entitled to ‘be confronted with’ the analysts at trial.”).

¹⁶⁰ *Melendez-Diaz*, 129 S. Ct. at 2537 (quoting NAS Report, *supra* note 1, at xx) (emphasis omitted).

¹⁶¹ *Pointer v. Texas*, 380 U.S. 400, 403 (1965) (“We hold today that the Sixth Amendment’s right of an accused to confront the witnesses against him is likewise a fundamental right and is made obligatory on the States by the Fourteenth Amendment.”).

¹⁶² 541 U.S. 36, 54 (2004).

¹⁶³ U.S. CONST. amend. VI.

¹⁶⁴ 448 U.S. 56 (1980).

¹⁶⁵ *Id.* at 65.

¹⁶⁶ *Id.* (quoting *Snyder v. Massachusetts*, 291 U.S. 97, 107 (1934)).

¹⁶⁷ *Roberts*, 448 U.S. at 65–66.

of-court statement fit within a “firmly rooted hearsay exception”¹⁶⁸ or (2) by demonstrating that the statement had “particularized guarantees of trustworthiness.”¹⁶⁹ Thus, under *Ohio v. Roberts*, confrontation analysis was inextricably intertwined with the Rules of Evidence, and a defendant’s confrontation rights could expand and contract based on judicial determinations of evidentiary reliability.

The *Crawford* Court took a dim view of *Ohio v. Roberts*.¹⁷⁰ The Sixth Amendment guarantees the criminal defendant the right of confrontation; yet *Ohio v. Roberts* enabled judges to continue to substitute their own ad hoc determinations of reliability for the “crucible of cross-examination.”¹⁷¹ This sidestepping of the Confrontation Clause bore the full brunt of Justice Scalia’s estimable ire. Writing for the *Crawford* majority in a case that involved admission of a witness statement to the police that had been deemed admissible as a statement against interest by the trial court,¹⁷² he opined that the *Ohio v. Roberts* practice of “[a]dmitting statements deemed reliable by a judge is fundamentally at odds with the right of confrontation”¹⁷³ and that “[d]ispensing with confrontation because testimony is obviously reliable is akin to dispensing with jury trial because a defendant is obviously guilty.”¹⁷⁴ Although much has been written elsewhere about *Crawford*,¹⁷⁵ one aspect of Justice Scalia’s *Crawford* analysis is especially important to an accurate understanding of the Court’s decision five years later in *Melendez-Diaz*.

¹⁶⁸ *Id.* at 66.

¹⁶⁹ *Id.*

¹⁷⁰ *Crawford v. Washington*, 541 U.S. 36, 54–59 (2004). The *Crawford* Court further stated, “[T]he [*Ohio v. Roberts*] framework is so unpredictable that it fails to provide meaningful protection from even core confrontation violations.” *Id.* at 63.

¹⁷¹ *Id.* at 61–63.

¹⁷² *Id.* at 63, 65–66.

¹⁷³ *Id.* at 61.

¹⁷⁴ *Id.* at 62. The Court further noted, “The unpardonable vice of the *Roberts* test, however, is not its unpredictability, but its demonstrated capacity to admit core testimonial statements that the Confrontation Clause plainly meant to exclude.” *Id.* at 63.

¹⁷⁵ See, e.g., *State v. Henderson*, 160 P.3d 776, 783–84 (Kan. 2007) (holding child victim’s statements inadmissible under Confrontation Clause after *Crawford*); *State v. Mason*, 162 P.3d 396, 400–04 (Wash. 2007) (holding Confrontation Clause error harmless); Miguel A. Méndez, *Crawford v. Washington: A Critique*, 57 STAN. L. REV. 569 (discussing the abandonment of the two-part test and assessing how effectively the new *Crawford* standard would safeguard criminal defendants’ right to test the reliability of witnesses in the presence of the jury); Won Shin, *Crawford v. Washington: Confrontation Clause Forbids Admission of Testimonial Out-of-Court Statements Without Prior Opportunity to Cross-Examine*, 40 HARV. C.R.-C.L. L. REV. 223 (discussing the constitutional contours of evidence law in light of the *Crawford* decision).

2. Redefining the Confrontation Inquiry: The Testimonial Statement

The *Crawford* Court relied on the text and history of the Sixth Amendment to create a more vigorous confrontation standard.¹⁷⁶ Justice Scalia began with a textualist analysis that initially appeared designed to address the question of who might be a “witness[] against” the accused.¹⁷⁷ The majority cited to the 1828 edition of Webster’s American Dictionary of the English Language, which defined a “witness[]’ against the accused”¹⁷⁸ as one who “bear[s] testimony”¹⁷⁹ and defined “testimony” as “a solemn declaration or affirmation made for the purpose of establishing or proving some fact.”¹⁸⁰

Justice Scalia also examined the history of the Confrontation Clause.¹⁸¹ Following a lengthy disquisition of the treason trial of Sir Walter Raleigh along with other historical materials, the Court concluded that “the principal evil at which the Confrontation Clause was directed was the civil-law mode of criminal procedure, and particularly its use of *ex parte* examinations as evidence against the accused.”¹⁸² According to the majority, the text and history together led to the inference that “the Framers would not have allowed the admission of *testimonial statements* of a witness who did not appear at trial unless he was unavailable to testify, and the defendant had had a prior opportunity for cross-examination.”¹⁸³

Thus, *Crawford* replaced the *Ohio v. Roberts* reliability focus with an entirely different inquiry. The *Crawford* Court concluded that “[t]he constitutional text, like the history underlying the common-law right of confrontation, thus reflects an especially acute concern with a specific type of out-of-court statement.”¹⁸⁴ Future courts attempting to understand the scope of a criminal defendant’s confrontation right would now need to start by distinguishing testimonial statements from non-testimonial statements.

Despite the importance of this new task, the *Crawford* Court declined the opportunity to define testimonial statements.¹⁸⁵ Instead, Justice Scalia noted that, “[w]hatever else the term covers, it applies at a minimum to prior testimony at a preliminary hearing, before a grand jury, or at a former trial; and to police interrogations.”¹⁸⁶ *Crawford* also contained dicta that (rather confusingly)

¹⁷⁶ *Crawford v. Washington*, 541 U.S. 36, 49–56 (2004).

¹⁷⁷ *Id.* at 42–44.

¹⁷⁸ *Id.* at 51.

¹⁷⁹ *Id.*

¹⁸⁰ *Id.*

¹⁸¹ *Id.* at 42–49.

¹⁸² *Id.* at 50.

¹⁸³ *Id.* at 53–54 (emphasis added).

¹⁸⁴ *Id.* at 51.

¹⁸⁵ *Id.* at 68 (“We leave for another day any effort to spell out a comprehensive definition of ‘testimonial.’”).

¹⁸⁶ *Id.*

identified, but did not endorse, various possible alternative definitions.¹⁸⁷ The narrowest definition would limit the right to confrontation to statements “contained in formalized testimonial materials, such as affidavits, depositions, prior testimony, or confessions.”¹⁸⁸ Both before and after *Crawford*, this definition would be a consistent favorite of Justice Thomas, and five years later he would rely on it to provide his critical fifth-vote concurrence in *Melendez-Diaz*.¹⁸⁹ The two other alternatives construed testimonial statements more broadly. Under the second definition, testimonial statements might also include the functional equivalent of *ex parte* in-court testimony such as “affidavits, custodial examinations, prior testimony that the defendant was unable to cross-examine, or similar pretrial statements that declarants would reasonably expect to be used prosecutorially.”¹⁹⁰ Finally, under the third possible definition, judges might inquire into whether statements “were made under circumstances which would lead an objective witness reasonably to believe that the statement would be available for use at a later trial.”¹⁹¹ This final definition provoked Professor Ronald J. Allen to predict that *Crawford* would create a “spectacle of deciding what is testimonial by the oxymoronic standard of what, objectively speaking, the primary purpose of a government/citizen interaction might be”¹⁹² and that “the *Crawford* regime will be subject to just as much, if not more, ambiguity as what it replaced.”¹⁹³

B. *The Melendez-Diaz v. Massachusetts Decision*

1. *The Facts*

The *Melendez-Diaz* case arose out of a Boston police investigation based on an informant’s tip that Kmart employee Thomas Wright was engaged in suspicious activity.¹⁹⁴ According to the tipster, Mr. Wright regularly received phone calls at work that were followed immediately by the arrival of a blue sedan.¹⁹⁵ Mr. Wright would enter the sedan and then return to work a short time later.¹⁹⁶ The Boston police set up surveillance outside the Kmart, and following a search of Mr. Wright, found four clear plastic bags of white powder resembling cocaine.¹⁹⁷ Luis

¹⁸⁷ See *id.* at 51–52.

¹⁸⁸ *Id.*

¹⁸⁹ *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527, 2543 (2009).

¹⁹⁰ *Crawford*, 541 U.S. at 51.

¹⁹¹ *Id.* at 52.

¹⁹² Ronald J. Allen, *From the Enlightenment to Crawford to Holmes*, 39 SETON HALL L. REV. 1, 14 (2009).

¹⁹³ *Id.*

¹⁹⁴ *Melendez-Diaz*, 129 S. Ct. at 2530.

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ *Id.*

Melendez-Diaz was one of two suspects arrested in the blue sedan.¹⁹⁸ The three men were taken into custody.¹⁹⁹ After they arrived at the police station, the officers discovered that an additional nineteen bags of white powder had been hidden in the back seat of the patrol car.²⁰⁰

Melendez-Diaz was charged with distributing and trafficking in cocaine.²⁰¹ At his trial, the Commonwealth submitted three “certificates of analysis.”²⁰² These certificates reported the amount of white powder seized from the defendant and detailed how the powder “[had] been ‘examined with the following results: The substance was found to contain: Cocaine.’”²⁰³ As required by state law, the three certificates had been sworn to before a notary public.²⁰⁴ The Massachusetts statutory design was quite clear. Certificates containing sworn statements describing the results of laboratory substance analyses provided *prima facie* evidence of the composition, quality, and weight of the tested substance.²⁰⁵ Thus, the Commonwealth could, but need not, provide live trial testimony from the lab analyst. At trial, the defendant objected to admission of the certificates as a violation of his confrontation rights as construed by the Supreme Court in *Crawford*.²⁰⁶ The defendant’s request was denied by the trial court, and the decision to admit the certificates was affirmed by the Massachusetts Appellate Court.²⁰⁷ The United States Supreme Court granted certiorari on March 17, 2008.²⁰⁸ In the wake of *Crawford*, there was substantial disagreement among the states regarding whether forensic lab reports were testimonial statements. Professor Jennifer Mnookin has explored the post-*Crawford* cases on expert evidence and confrontation.²⁰⁹ Her research, which was published three years after *Crawford*, revealed that courts across the country were using a range of criteria and reaching

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² *Id.* at 2531.

²⁰³ *Id.*

²⁰⁴ *Id.* (citing MASS. ANN. LAWS ch. 111, § 13 (LexisNexis 2009)).

²⁰⁵ *Melendez-Diaz*, 129 S. Ct. at 2532 (“[U]nder Massachusetts law the *sole purpose* of the affidavits was to provide ‘prima facie evidence of the composition, quality, and the net weight’ of the analyzed substance[.]” (quoting MASS. ANN. LAWS ch. 111, § 13)).

²⁰⁶ *See id.* at 2531.

²⁰⁷ *Id.*

²⁰⁸ *Melendez-Diaz v. Massachusetts*, 128 S. Ct. 1647 (2008).

²⁰⁹ *See* Jennifer L. Mnookin, *Expert Evidence and the Confrontation Clause After Crawford v. Washington*, 15 J.L. & POL’Y 791, 795–96 (2007) (“This article focuses on one domain within the post-*Crawford* universe that has received rather little academic scrutiny: the intersection of expert evidence with the Confrontation Clause.” (citation omitted)).

inconsistent results.²¹⁰ Presumably, the Supreme Court granted cert in *Melendez-Diaz* to resolve these ongoing problems. However, as the post-*Melendez-Diaz* cases reveal, *Melendez-Diaz* has not resulted in a more consistent or systematic approach and may actually have added to the confusion.

2. *The Post-Crawford Question: Are Forensic Lab Reports Testimonial Statements?*

When *Melendez-Diaz* reached the Court in 2009, Justice Scalia wrote for an eclectic plurality that included Justices Stevens, Souter, and Ginsburg.²¹¹ Although the *Melendez-Diaz* plurality characterized the case as an easy question that required nothing more than a “straightforward application of our holding in *Crawford*,”²¹² the simplicity of the question is belied by both Justice Thomas’s razor thin concurrence and Justice Kennedy’s broad and vigorous dissent.

(a) *Justice Scalia’s Plurality Opinion*

In the first few pages of the plurality opinion, Justice Scalia concluded that the certified lab certificates at issue were testimonial statements because: (1) they were affidavits,²¹³ (2) they were “made under circumstances which would lead an objective witness reasonably to believe that the statement would be available for use at a later trial,”²¹⁴ and (3) because “[w]e can safely assume that the analysts were aware of the affidavits’ evidentiary purpose.”²¹⁵ Ultimately the first rationale is the most important because it provides the only point of agreement with Justice Thomas, who added the fifth vote. Thus, the holding of *Melendez-Diaz* is rooted in a two-part analysis that starts from the assumption that certified lab reports are akin to affidavits and proceeds to the conclusion that, after *Crawford*, the Confrontation Clause precludes prosecutors from admitting affidavits and other similarly formalized statements because they are testimonial statements.²¹⁶

The *Melendez-Diaz* Court overstates the *Crawford* holding. As discussed above, the only statements that the *Crawford* Court defined as testimonial were “prior testimony at a preliminary hearing, before a grand jury, or at a former trial; and police interrogations,”²¹⁷ a list that clearly does *not* include affidavits. Although Justices Scalia and Thomas were correct that the *Crawford* Court twice

²¹⁰ Cf. *id.* at 796 (“[A] great many lower court opinions have wrestled with the potential Confrontation Clause implications of expert evidence Most of these courts have endeavored to find ways around *Crawford*’s dictates . . .”).

²¹¹ *Melendez-Diaz*, 129 S. Ct. at 2530.

²¹² *See id.* at 2533.

²¹³ *See id.* at 2531 (citing *Crawford v. Washington*, 541 U.S. 36, 51 (2004)).

²¹⁴ *Melendez-Diaz*, 129 S. Ct. at 2531 (quoting *Crawford*, 541 U.S. at 52).

²¹⁵ *Melendez-Diaz*, 129 S. Ct. at 2532.

²¹⁶ *Id.* at 2542.

²¹⁷ *Crawford v. Washington*, 541 U.S. 36, 68 (2004); *see supra* Part IV.A.

mentioned “affidavits”; these references were embodied within a discussion of various possible alternative definitions of testimonial statements not specifically embraced by the Court.²¹⁸ Thus, the *Melendez-Diaz* Court did not simply apply *Crawford*, as the plurality claimed, but expanded the definition of testimonial statements to include documents akin to affidavits.

(b) Justice Thomas’s Concurring Opinion

Justice Thomas concurred that certified lab reports are testimonial statements, but on narrower grounds.²¹⁹ In a very short concurring opinion that highlighted the consistency of his own confrontation analysis, Justice Thomas quoted his 1992 concurrence in *White v. Illinois*²²⁰ to support his position that “the Confrontation Clause is implicated by extrajudicial statements only insofar as they are contained in formalized testimonial materials, such as affidavits, depositions, prior testimony, or confessions.”²²¹ According to Justice Thomas, the certified lab reports “at issue in this case ‘are quite plainly affidavits’ As such, they ‘fall within the core class of statements’ governed by the Confrontation Clause.”²²²

(c) Justice Kennedy’s Dissenting Opinion

Justice Kennedy (joined by Chief Justice Roberts and Justices Breyer and Alito) drafted a lengthy and vigorous dissent. According to the dissenters, *Melendez-Diaz* “sweeps away an accepted rule governing the admission of scientific evidence . . . [that] has been established for at least 90 years . . . based on two recent opinions that say nothing about forensic analysts”²²³ Echoing concerns raised by the Commonwealth, Justice Kennedy articulated a range of practice problems that will inevitably inure to the detriment of the criminal justice system.²²⁴ The dissenters were deeply troubled by the new obstacles that state and federal prosecutors would now confront whenever they seek to introduce forensic evidence.²²⁵ According to Justice Kennedy, by mandating that every criminal defendant has a right to cross-examination of forensic lab analysts, the Court “threatens to disrupt forensic investigations across the country and to put prosecutions nationwide at risk of dismissal based on erratic, all-too-frequent

²¹⁸ *Melendez-Diaz*, 129 S. Ct. at 2532 (“There is little doubt that the documents at issue in this case fall within the ‘core class of testimonial statements’ thus described. Our description of that category mentions affidavits twice.”).

²¹⁹ See *id.* at 2543 (Thomas, J., concurring).

²²⁰ 502 U.S. 346, 365 (Thomas, J., concurring).

²²¹ *Melendez-Diaz*, 129 S. Ct. at 2543 (citing *White*, 502 U.S. at 365 (Thomas, J., concurring)).

²²² *Id.*

²²³ *Id.* (Kennedy, J., dissenting).

²²⁴ *Id.* at 2543–51.

²²⁵ *Id.* at 2543–46, 2556.

instances when a particular laboratory technician, now invested by the Court's new constitutional designation as the analyst, simply does not or cannot appear."²²⁶ The dissenters even predicted that the effect of *Melendez-Diaz* will be that, "in many cases . . . the prosecution cannot meet its burden of proof, and the guilty defendant [will] go[] free on a technicality that, because it results in an acquittal, cannot be reviewed on appeal."²²⁷ Ultimately, in Justice Kennedy's view, "[g]uilty defendants will go free, on the most technical grounds, as a direct result of [this] decision, [which] add[s] nothing to the truth-finding process."²²⁸

Finally, the dissenters attacked the plurality on originalist and historical grounds. According to Justice Kennedy, "[a]ll of the problems with [this] decision . . . would be of no moment if the Constitution did, in fact, require the Court to rule as it does today. But the Constitution does not."²²⁹ Thus, the dissenters' most "immediate systemic concern is that the Court makes no attempt to acknowledge the real differences between laboratory analysts who perform scientific tests and other, more conventional witnesses—'witnesses' being the word the Framers used in the Confrontation Clause."²³⁰ The plurality's jumbling together of expert and non-expert witnesses for confrontation purposes is, in the dissenters' view, attributable to

[t]he Court's fundamental mistake[, which] is to read the Confrontation Clause as referring to a kind of out-of-court statement—namely a testimonial statement—that must be excluded from evidence. The Clause does not refer to kinds of statements. Nor does the Clause contain the word 'testimonial.' The text, instead, refers to kinds of persons, namely, to 'witnesses against' the defendant.²³¹

Although little has been written about *Melendez-Diaz* so far, one astute commentator has summarized this originalism debate as follows:

Justices Scalia, Thomas, and Kennedy strive to determine the original meaning of the Confrontation Clause, more specifically the word "witnesses," but arrive at differing conclusions. Scalia's version of originalism in *Melendez-Diaz* is bolder than the others. In his determination to get it right and avoid confusion, however, he downplays contrary historical evidence, serious practical concerns, and the amount of existing authority his rule will overrun. Thomas's variety of originalism sticks closer to the historical record . . . Kennedy's brand of

²²⁶ *Id.* at 2549.

²²⁷ *Id.* at 2550.

²²⁸ *Id.*

²²⁹ *Id.*

²³⁰ *Id.* at 2543.

²³¹ *Id.* at 2550.

originalism is humbler Kennedy does not want to throw originalism overboard, but he does not want to go overboard with originalism either.²³²

Finally, the dissenters assert that not only does the plurality misread the text, but “[n]o historical evidence supports the Court’s conclusion that the Confrontation Clause was understood to extend beyond conventional witnesses to include analysts who conduct scientific tests far removed from the crime and the defendant. Indeed, what little evidence there is contradicts this interpretation.”²³³

V. *MELLENDEZ-DIAZ* AND THE NAS REPORT: CONSTITUTIONALIZING EVIDENTIARY CONCERNS

Melendez-Diaz redefined the scope of the Confrontation Clause to accommodate a new problem provoked by *Crawford*—whether out-of-court forensic expert statements proffered by the prosecution raise confrontation concerns.²³⁴ The *Melendez-Diaz* plurality held that a defendant’s confrontation rights *are* violated when prosecutors introduce forensic lab reports without making the analyst available for cross-examination.²³⁵ It is too early to tell whether *Melendez-Diaz* will be understood as limited to the type of explicitly formalized statements envisioned by Justice Thomas. However *Melendez-Diaz* is understood and applied by future courts, the decision reflects a significant development in our overall understanding of problems of forensic validity in the criminal courts and a new constitutionalized solution designed to address the “[s]erious deficiencies [that] have been found in the forensic evidence used in criminal trials.”²³⁶

The NAS Report figured prominently in the *Melendez-Diaz* plurality opinion. Justice Scalia described the report as “a recent study conducted under the auspices of the National Academy of Sciences”²³⁷ that effectively revealed that “[t]he majority of [laboratories producing forensic evidence] are administered by law enforcement agencies, such as police departments, where the laboratory administrator reports to the head of the agency.”²³⁸ According to the plurality, the NAS Report concluded that administrative ties create evidentiary problems “[b]ecause forensic scientists often are driven in their work by a need to answer a particular question related to the issues of a particular case, [and] they sometimes

²³² Mark Chenoweth, *Using Its Sixth Sense: The Roberts Court Revamps the Rights of the Accused*, CATO SUP. CT. REV. 223, 257–58 (2009).

²³³ *Melendez Diaz*, 129 S. Ct at 2552 (Kennedy, J., dissenting).

²³⁴ *See id.* at 2530 (majority opinion).

²³⁵ *Id.* at 2536.

²³⁶ *Id.* at 2537.

²³⁷ *Id.* at 2536.

²³⁸ *Id.* (quoting NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 6-1 (Prepublication Copy Feb. 2009) [hereinafter PREPUBLICATION NAS REPORT]).

face pressure to sacrifice appropriate methodology for the sake of expediency.”²³⁹ Justice Scalia also referred to the NAS Report finding that “[t]he forensic science system, encompassing both research and practice, has serious problems that can only be addressed by a national commitment to overhaul the current structure that supports the forensic science community in this country.”²⁴⁰ In the plurality’s view, this new data has established that it is now far from “evident that what respondent calls ‘neutral scientific testing’ is as neutral or as reliable as respondent suggests.”²⁴¹

The plurality also used the NAS Report to illustrate how cross-examination of forensic experts could effectively expose specious and fraudulent evidence.²⁴² The right to confront and cross-examine would enable defendants to uncover and discredit the forensic analyst who had “sacrifice[d] appropriate methodology for the sake of expediency.”²⁴³ The plurality confidently predicted that as defendants begin to avail themselves of their new constitutionally guaranteed confrontation rights, “the analyst who provides false results may, under oath in open court, reconsider his false testimony.”²⁴⁴ In Justice Scalia’s view, successful case-specific confrontation may even begin to resolve some of the systemic problems within the forensic science fields identified in the NAS Report because “the prospect of confrontation will deter fraudulent analysis in the first place.”²⁴⁵ Ever mindful of the “serious deficiencies” of much forensic evidence, the *Melendez-Diaz* plurality provided criminal defendants with the new tool of guaranteed cross-examination “to weed out not only the fraudulent analyst, but the incompetent one as well.”²⁴⁶

The *Melendez-Diaz* plurality’s lengthy disquisition of the NAS Report was especially notable because it was neither necessary nor apt—given the facts of the case. It was not necessary if, as the plurality acknowledged, *Melendez-Diaz* required nothing more than a straightforward application of *Crawford*.²⁴⁷ If the analysis was that simple, the plurality’s lengthy and detailed detour into the sorry state of the forensic sciences and elaborate speculations about the revelatory effect of future cross-examinations were entirely unnecessary. Moreover, this detour was inapt because the facts of *Melendez-Diaz* suggest that the defendant would have gained little or nothing had he been afforded an opportunity to cross examine the Commonwealth’s expert at trial. The forensic analyst who prepared this lab report simply ran a chemical analysis of the white powder that had been recovered by the police from the defendant and, based solely on this chemical analysis, determined

²³⁹ *Id.* (quoting PREPUBLICATION NAS REPORT, *supra* note 238, at S-17).

²⁴⁰ *Id.* at 2537 (quoting PREPUBLICATION NAS REPORT, *supra* note 238, at P-1).

²⁴¹ *Id.* at 2536.

²⁴² *See id.* at 2536–37.

²⁴³ *See id.* (quoting PREPUBLICATION NAS REPORT, *supra* note 238, at S-17).

²⁴⁴ *Id.* at 2537 (citing *Coy v. Iowa*, 487 U.S. 1012, 1019 (1988)).

²⁴⁵ *See id.*

²⁴⁶ *See id.*

²⁴⁷ *See id.* at 2542–43.

that the evidence was cocaine.²⁴⁸ As the NAS Report repeatedly acknowledged, chemical substance analysis and nuclear DNA testing are the two most consistently valid forensic fields.²⁴⁹

Although the *Melendez-Diaz* plurality cites extensively from the NAS Report, in a footnote, Justice Scalia explained that “[w]e discuss the report *only* to refute the suggestion that this category of evidence is uniquely reliable and that cross-examination of the analysts would be an empty formalism.”²⁵⁰ However, the text of the plurality’s opinion belies this disavowal. First, if the Sixth Amendment clearly mandates confrontation, it cannot matter whether cross-examination is likely to be effective or fruitless; these practice considerations are irrelevant. Second, if the plurality is really only concerned with the rare case where experts claim that their conclusions are “uniquely reliable,”²⁵¹ there would be no need to engage in such a lengthy discussion of the pervasive research and practice problems currently plaguing all of the forensic science fields. Finally, Justice Scalia’s odd and unlikely claim that the need for confrontation would be just as great “if all analysts always possessed the scientific acumen of Mme. Curie and the veracity of Mother Theresa,” further undermines the plurality’s effort to disavow the significance of the NAS Report.²⁵²

VI. THE POST-*MELENDEZ-DIAZ* CASES: FUTURE CHALLENGES TO FORENSIC EVIDENCE AND EXPERTS

A. *Briscoe v. Virginia*

The petition for writ of certiorari to the Supreme Court in *Briscoe v. Virginia*, was filed in May 2008.²⁵³ *Melendez-Diaz* was decided on June 25, 2009,²⁵⁴ and four days later, the Court granted cert in *Briscoe*. The Virginia statute at issue in *Briscoe* provided that certificates of analysis that report the results of crime lab analyses are “admissible in evidence as evidence of the facts therein stated and the results of the analysis or examination referred to therein.”²⁵⁵ Under the challenged state statute, the defendant had “the right to call the person performing such analysis or examination or involved in the chain of custody as a witness therein, and examine him in the same manner as if he had been called as an adverse witness. Such witness shall be summoned and appear at the cost of the

²⁴⁸ *Id.* at 2530–31.

²⁴⁹ See NAS REPORT, *supra* note 1, at 7, 40–41, 47, 87, 100–02, 128, 130, 135.

²⁵⁰ *Melendez-Diaz*, 129 S. Ct. at 2537 n.6 (emphasis added).

²⁵¹ *Id.*

²⁵² *Id.*

²⁵³ Petition for a Writ of Certiorari, *Briscoe v. Virginia*, 130 S. Ct. 1316 (2010) (No. 07-11191).

²⁵⁴ *Melendez-Diaz*, 129 S. Ct. at 2527.

²⁵⁵ VA. CODE ANN. §19.2-187 (2009).

Commonwealth.”²⁵⁶ However, if the defendant failed to request the subpoena, she lost the right to confront and cross-examine the analyst, and the lab report was admitted.²⁵⁷

The question for the *Briscoe* Court, had been defined by Professor Richard D. Friedman in his petition to the Court as follows: “[i]f a state allows a prosecutor to introduce a certificate of a forensic laboratory analysis, without presenting the testimony of the analyst who prepared the certificate, does the state avoid violating the Confrontation Clause of the Sixth Amendment by providing that the accused has a right to call the analyst as his own witness?”²⁵⁸ The question presented by *Briscoe* seemed to have been resolved by *Melendez-Diaz*. In fact, Justice Scalia had explicitly rejected the Commonwealth’s substantially identical claim in *Melendez-Diaz* that there had been “no Confrontation Clause violation in this case because petitioner had the ability to subpoena the analysts.”²⁵⁹ According to the *Melendez-Diaz* plurality, the opportunity for the defendant to subpoena the crime lab analyst “whether pursuant to state law or the Compulsory Process Clause—is no substitute for the right of confrontation . . . [because u]nlike the Confrontation Clause, those provisions are of no use to the defendant when the witness is unavailable or simply refuses to appear.”²⁶⁰ However, the Court’s decision granting certiorari in *Briscoe* raised the possibility that a state statute guaranteeing a defendant the right to subpoena the prosecution’s forensic analyst provided a constitutionally acceptable substitute for confrontation. The Court held arguments in *Briscoe* on January 11, 2010,²⁶¹ and approximately two weeks later issued a unanimous, one-sentence per curiam opinion vacating the judgment of the Supreme Court of Virginia and remanding the case for “further proceedings not inconsistent with the opinion in *Melendez-Diaz*”²⁶²

Over the past year, as the Supreme Court was deciding how to proceed in *Briscoe*, state courts across the country have been struggling to decipher and apply *Melendez-Diaz* in a range of criminal cases involving prosecution-proffered forensic lab reports and other state records.²⁶³ Although the *Melendez-Diaz* plurality may have intended to clarify some of the post-*Crawford* confusion on the nature of testimonial statements, a review of some of the new post-*Melendez-Diaz* cases reveals that the confrontation doctrine developing in our state criminal courts is utterly inconsistent. In fact, these new cases are so disparate and bizarre that decisions interpreting the scope of the Confrontation Clause have been based on factors that include:

²⁵⁶ *Id.* § 19.2-187.1.

²⁵⁷ Petition for Writ of Certiorari, *supra* note 253, at 3–4.

²⁵⁸ *Id.* (question presented).

²⁵⁹ *Melendez-Diaz*, 129 S. Ct. at 2540.

²⁶⁰ *Id.*

²⁶¹ Transcript of Oral Argument at 1, *Briscoe v. Virginia*, 130 S. Ct. 1316 (No. 07-11191).

²⁶² *Briscoe*, 130 S. Ct. at 1316.

²⁶³ Petition for Writ of Certiorari at 5–10, *Briscoe*, 130 S. Ct. 1316 (No. 07-11191).

- (1) whether a lab analyst subjectively anticipated that his autopsy report would be used in court;²⁶⁴
- (2) whether a state requires that forensic reports be certified or accompanied by some other form of attestation;²⁶⁵
- (3) whether prosecutors can evade confrontation by asking testifying analysts to describe lab reports prepared by non-testifying analysts (if they do not seek to introduce the non-testifying analyst's report in evidence);²⁶⁶
- (4) whether the test and report were contemporaneous;²⁶⁷

²⁶⁴ See *People v. Dungo*, 98 Cal. Rptr. 3d 702, 710–11 (Cal. Ct. App. 2009) (concluding that an autopsy was a testimonial statement because “the report was prepared during the midst of a homicide, a circumstance of which he was no doubt aware given that a homicide detective . . . was present at the autopsy”).

²⁶⁵ See, e.g., *id.* at 711 (finding that, “[a]s with the certificates at issue in *Melendez-Diaz*, the autopsy report constitutes a ‘solemn declaration or affirmation made for the purpose of establishing or proving some fact’”); *Tabaka v. District of Columbia*, 976 A.2d 173, 175–76 (D.C. 2009) (finding a record of the District of Columbia Motor Vehicle Department that had been certified was a testimonial statement under *Melendez-Diaz*); *Grant v. Commonwealth*, 682 S.E.2d 84, 89 (Va. Ct. App. 2009) (concluding that certificates attesting to the results of breath tests that, prior to *Melendez-Diaz*, were frequently admitted in DWI cases were now testimonial statements because “the attestation clause included in the certificate is testimonial in nature and its admission, over the objection of [the defendant], constitutes a violation of the Confrontation Clause”).

²⁶⁶ In *Dungo*, Dr. George Bolduc performed the autopsy and wrote the autopsy report. 98 Cal. Rptr. 3d at 704. Dr. Robert Lawrence, who was not present at the autopsy, testified at trial based on Dr. Bolduc's report. *Id.* The *Dungo* Court held that, despite the fact that the prosecutor never sought to admit the autopsy report prepared by Dr. Bolduc, if Dr. Lawrence's opinions were based on the autopsy report prepared by Dr. Bolduc, the Confrontation Clause required that the defendant have an opportunity to cross-examine Dr. Bolduc. *Id.* at 705. The court reached a different conclusion in *People v. Navarro*, which involved facts very similar to *Melendez-Diaz*. *People v. Navarro*, No. B211266, 2009 WL 2992543, at *3 (Cal. Ct. App. Sep. 21, 2009). The evidence at issue was the forensic analysis of a substance deemed by the analyst to be methamphetamine. *Id.* at *1. In *Navarro*, the state did not seek to admit the lab report, but relied on the forensic lab analyst's trial testimony, which was based on a lab test performed by a non-testifying analyst. *Id.* Although the *Navarro* court concluded that admission of the analyst's testimony was harmless error, the court opined on the scope of the Confrontation Clause post-*Melendez-Diaz*, noting that Justice Thomas had limited the scope of the right to formal testimonial materials and that four dissenting justices described the vast difference between witnesses against the accused and “laboratory analysts [who] are not ‘witnesses against’ the defendant as those words have been understood at the framing.” *Id.* at *3 n.4.

²⁶⁷ In *People v. Gutierrez*, the court made a distinction between contemporaneous and near-contemporaneous lab reports. 99 Cal. Rptr. 3d 369, 376–77 (Cal. Ct. App. 2009). According to the *Gutierrez* court, if reports are prepared “at the time the tests and examinations were conducted, not ‘almost a week after the test were performed,’” the lab reports are non-testimonial. *Id.* at 377.

- (5) whether *Melendez-Diaz* is understood to guarantee confrontation of testimonial statements relating to experts' methods or conclusions;²⁶⁸
- (6) whether expert reports were created as part of a standard lab protocol without any effort to incriminate the defendant;²⁶⁹ and
- (7) efforts to reconcile *Melendez-Diaz* with Federal Rule of Evidence 703 (or a state corollary), which has long allowed experts to testify based on inadmissible evidence including out-of-court statements by non-testifying witnesses.²⁷⁰

²⁶⁸ In *Hamilton v. Texas*, the prosecutor's expert, Garon Foster, was a forensic scientist supervisor from the county criminal investigations lab. 300 S.W.3d 14, 19 (Tex. App. 2009). Foster testified to opinions that were based on DNA tests performed by Erica Graham (an analyst who worked in his lab) that revealed that the defendant could not be excluded as the donor of spermatozoa found on the victim. *Id.* The *Hamilton* court drew a bright line between the methods and conclusions of scientific inquiry by holding that Foster did not violate the Confrontation Clause when he testified about "the procedures and protocols employed by Graham to produce the DNA profiles Foster used to reach his opinion" if he refrained from mentioning Foster's conclusions. *Id.* at 21. Thus, the only portion of Foster's testimony that raised confrontation concerns was the description of Graham's findings. *Id.* at 22.

²⁶⁹ In *People v. Navarro*, the court found that the Sixth Amendment was not violated because "the report was generated as part of a 'standardized scientific protocol' and was made as part of the scope of employment, not as an effort to incriminate the defendant." *Navarro*, 2009 WL 2992543, at *2.

²⁷⁰ Federal Rule of Evidence 703 states:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.

FED. R. EVID. 703; *see also* *People v. Rutterschmidt*, 98 Cal. Rptr. 3d 390, 412 (Cal. Ct. App. 2009) ("It is well established in this state that expert testimony may 'be premised on material that is not admitted in evidence so long as it is material of a type that is reasonably relied upon by experts in a particular field in forming their opinions.'") (quoting *People v. Gardeley*, 927 P.2d 713, 721 (Cal. 1996)); *People v. Johnson*, 915 N.E.2d 845, 850 (Ill. App. Ct. 2009) (finding that DNA analyst could testify based on a DNA test that she did not perform without violating defendant's Confrontation Clause rights because this testimony was consistent with well-established rules "that an expert may testify about the findings and conclusions of a nontestifying expert that he used in forming his opinions") (quoting *People v. Williams*, 895 N.E.2d 961, 969 (Ill. App. Ct. 2008)).

These new cases demonstrate the prescience of Professor Allen's prediction that "the *Crawford* regime will be subject to just as much, if not more, ambiguity as what it replaces."²⁷¹

However, ambiguity is not the only problem with the post-*Melendez-Diaz* cases. If state legislators and administrative agencies want to deprive future criminal defendants of confrontation opportunities, they can circumvent *Melendez-Diaz* by simply removing certification and attestation requirements from state records. This would effectively transform these documents from testimonial statements to non-testimonial statements because they would no longer be akin to affidavits. This easy end run around the Sixth Amendment would have the paradoxical effect of making state records both less reliable and more readily admissible.

If this confusion among the state courts persists, and if states find new legislative or administrative routes around *Melendez-Diaz*, the Supreme Court may reconsider its recent decision not to provide additional clarification. As courts continue to wrestle with *Melendez-Diaz*, the following questions relating to the appropriate interplay between confrontation and evidentiary challenges to expert evidence are likely to arise. First, is the opportunity to confront experts satisfied if the defendant has an opportunity to cross-examine the prosecutor's expert during a *Daubert* hearing? Second, will the *Melendez-Diaz* emphasis on cross-examination as an effective tool for exposing specious or fraudulent expertise affect how judges understand and apply the evidence rules and/or *Daubert*? Third, how will courts reconcile the fact that *Melendez-Diaz* (but not *Daubert* or any federal or state evidentiary rules) creates new opportunities for criminal defendants to test the validity of forensic evidence unavailable to all other parties? Fourth, does *Melendez-Diaz* affect the admission of evidence under Federal Rule of Evidence 703 and its state corollaries, which have long allowed experts to explain the bases for their opinions? Fifth, if *Melendez-Diaz* has already been extended to include testimonial statements by experts in non-forensic fields, what constitutional criteria define the scope and limits of testimonial statements contained within federal, state, or local records? These are just a few of the many questions likely to arise in our courts in the very near future.

CONCLUSION

On February 18, 2009, the NAS Report revealed systemic problems across the range of forensic fields and proposed specific recommendations for the forensic communities and the courts. According to the NAS Report, the Federal Rules of Evidence and *Daubert* have failed to prevent our criminal courts from "continu[ing] to rely on forensic evidence without fully understanding and addressing the limitations of different forensic science disciplines."²⁷² Four months

²⁷¹ Allen, *supra* note 192, at 14.

²⁷² NAS REPORT, *supra* note 1, at 53.

later, the Supreme Court expanded the criminal defendant's right to confrontation, citing the "[s]erious deficiencies [that] have been found in the forensic evidence used in criminal trials."²⁷³ Together, the NAS Report and *Melendez-Diaz* raise important questions about how future courts should test the validity of proffered forensic evidence. For decades, and especially since *Daubert* was decided in 1993, these have traditionally been viewed as evidence questions and addressed with evidentiary rules and standards. However, the NAS Report and *Melendez-Diaz* offer new and different solutions. The NAS Report recommendations begin with an ambitious plan to centralize and coordinate the fields and to improve funding and support for legitimate forensic research.²⁷⁴ These extrajudicial approaches require a substantial national commitment of time and money and the creation of new programs designed to improve oversight, increase standardization, and enhance interdisciplinary coordination. *Melendez-Diaz* opts for a more immediate constitutional solution designed to neutralize the impact of some forensic evidence by guaranteeing defendants the right to cross-examine prosecutors' experts.²⁷⁵ This recent expansion of the Confrontation Clause purports to provide defendants with the power to expose the forensic analyst who "sacrifice[d] appropriate methodology for the sake of expediency"²⁷⁶ and "the analyst who provides false results [and] may, under oath in open court, reconsider his false testimony."²⁷⁷

Together, the NAS Report and *Melendez-Diaz* chart a new path forward that does not end at the *Daubert* destination of more accurate judicial screening. Instead, this path begins with constitutionally guaranteed confrontation of prosecutors' forensic experts in court and ends with the hope that by implementing some or all of the NAS Report extrajudicial recommendations (maybe) there will finally be some *science* in the forensic sciences.

²⁷³ *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527, 2537 (2009).

²⁷⁴ NAS REPORT, *supra* note 1, at 77–83.

²⁷⁵ *Melendez-Diaz*, 129 S. Ct. at 2550.

²⁷⁶ NAS REPORT, *supra* note 1, at 24.

²⁷⁷ *Melendez-Diaz*, 129 S. Ct. at 2537.