
FORENSIC SCIENCE DEVELOPMENTS AND JUDICIAL
DECISION-MAKING IN THE ERA OF INNOCENCE: THE
INFLUENCE OF LEGAL PROCESS THEORY AND ITS
IMPLICATIONS

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INTRODUCTION

In the late 1950's, Professor Henry M. Hart Jr. and Professor Albert M. Sacks put forth the legal process theory and the principle of institutional settlement.¹ The principle of institutional settlement, proposes that when decisions are made by an institution that has been granted competence to make relevant decisions (such as a trial court or clemency board), and those decisions are "arrived at [as a] result of duly established procedures"² they "ought to be accepted as binding upon the whole society unless and until they [the procedures] are [duly] changed."³ The principle theorizes institutional decisions are legitimized by procedural consistency in the decision-making processes of that institution, rather than whether the institution's decisions are substantively accurate.

The American Innocence Movement, propelled by the discovery of DNA technology in the 1980s, however, has proven that "duly established procedures" utilized across the criminal justice system can (and do) generate substantively erroneous results.⁴ DNA technology has "shattered [a] perception of virtual infallibility"⁵ and exposed the reality that factual error in the criminal justice system is, as Findley puts it, "systemic, not just freakishly rare or merely episodic."⁶ Although, as of March 2016, 337 people in America have been exonerated through DNA testing⁷ and other evidence has provided relief to over 1200 individuals,⁸ the criminal justice system continues to take a conservative approach towards providing relief. This cautious approach is particularly apparent when concerns about the substantive accuracy of forensic science evidence used against a petitioner is questioned post-conviction. This is demonstrable upon examining the judicial interpretation of legal claims based on arguments that forensic science iden-

¹ William N. Eskridge, Jr. & Philip P. Frickey, *The Making of the Legal Process*, 107 HARV. L. REV. 2031, 2031 (1994).

² *Id.* at 2045.

³ *See id.*

⁴ *DNA Exonerations Nationwide*, INNOCENCE PROJECT (Mar. 17, 2016), <http://www.innocenceproject.org/free-innocent/improve-the-law/fact-sheets/dna-exonerations-nationwide>.

⁵ Keith A. Findley, *Innocence Found: The New Revolution in American Criminal Justice*, in *CONTROVERSIES IN INNOCENCE CASES IN AMERICA 4* (Sarah Lucy Cooper ed., 2014).

⁶ *Id.*

⁷ *See DNA Exonerations Nationwide*, INNOCENCE PROJECT (Mar. 17, 2016), <http://www.innocenceproject.org/free-innocent/improve-the-law/fact-sheets/dna-exonerations-nationwide>.

⁸ Univ. of Mich. Law School, *The First 1,600 Exonerations*, THE NAT'L REGISTRY OF EXONERATIONS, https://www.law.umich.edu/special/exoneration/Documents/1600_Exonerations.pdf (last visited Apr. 5, 2016).

tification evidence used against a petitioner is unreliable and/or access to DNA testing should be allowed.⁹

Petitioners pursue such claims through a variety of post-conviction relief mechanisms. These mechanisms include (1) appellate frameworks allowing challenges to the admissibility of allegedly unreliable forensic science identification evidence admitted at trial;¹⁰ (2) newly discovered evidence frameworks that provide relief in the event that “new” and diligently discovered evidence of “shifting scientific opinion” has “verdict changing capacity”;¹¹ and (3) appellate frameworks that facilitate claims for access to DNA testing in order to, *inter alia*, support a petition for clemency.¹² An examination of relevant case law, however, reveals that such claims are rarely successful.¹³

The courts’ conservative approach to these sorts of claims reveals a judicial fidelity to the legal process vision. In particular, the courts show a general willingness to (A) defer to the principle of institutional settlement i.e., preserve trial court decisions concerning forensic science evidence, jury verdicts about guilt and the applications of state post-conviction procedures; (B) protect ‘finality’ interests in order to foreclose claims for relief; (C) accept outcomes generated by rational procedures (despite such procedures arguably being ill-suited for making accurate assessments about scientific uncertainty); and (D) exalt form over substance when faced with scientific uncertainty.¹⁴ Collectively these themes can sideline notions of substantive accuracy.

This article confirms the existence of these legal process-centric themes and considers some potential implications of these approaches. Part I briefly sets out key tenets of the legal process vision and provides some background to the American Innocence Movement. Using examples from relevant case law, Part II examines the courts’ approaches thematically, demon-

⁹ See generally, Myrna S. Raeder, *Post Convictions Claims of Innocence*, 24 CRIM. JUST. (2009).

¹⁰ See Sarah Lucy Cooper, *The Collision of Law and Science: American Court Responses to Developments in Forensic Science*, 33 PACE L. REV. 234 (2013); see also *Unreliable or Improper Forensic Science*, INNOCENCE PROJECT <http://www.innocenceproject.org/understand/Unreliable-Limited-Science.php> (last visited Apr. 16, 2016).

¹¹ See Sarah Lucy Cooper, *Judicial Responses to Shifting Scientific Opinion in Forensic Identification Evidence and Newly Discovered Evidence Claims in the United States: The Influence of Finality and Legal Process Theory*, 4 BRIT. J. AM. LEGAL STUD. 649 (2015); see also Daniel G. Orenstein, *Shaken to the Core: Emerging Scientific Opinion and Post-Conviction Relief in Cases of Shaken Baby Syndrome*, 42 ARIZ. ST. L.J. 1305 (2010-11).

¹² See Sarah Lucy Cooper, *Post-Conviction Access to DNA Testing and Clemency as a “Fail-Safe”: The Implications of Judicial Fidelity to the Legal Process Vision*, 64 DRAKE L. REV. 1 (2016).

¹³ See generally notes 10–12.

¹⁴ See generally Raeder, *supra* note 9.

strating how the courts exhibit loyalty to the legal process vision. It also considers the implications of this loyalty, including that it can result in both the extraction of science from its social context and an awkward approach towards discerning between credible and incredible forensic science evidence of individualization, as well as represent a failure, by the courts, to acknowledge the corrective justice function afforded to clemency by the common law. Part III concludes that these approaches to judicial decision-making ultimately fail to accept the way in which new and credible evidence – particularly forensic science evidence – can cast legitimate doubt on the verdict of a trial or, indeed, impact the proceedings of a clemency board, “quite apart from any procedural defect.”¹⁵ In light of the American Innocence Movement, the courts’ largely unreserved fidelity to the legal process vision, in the context explored, is troublesome, and warrants new approaches that are more sensitive to substantive accuracy.

I. KEY TENETS OF THE LEGAL PROCESS VISION AND THE RISE OF THE AMERICAN INNOCENCE MOVEMENT

Legal Process Theory was conceived by Professor Henry M. Hart Jr. and Professor Albert M. Sacks in the 1960s.¹⁶ At the center of that vision is the principle of institutional settlement, which theorizes that it is procedural regularity in the decision-making process of a competent institution that legitimizes the institution’s decisions.¹⁷ The theory is primarily concerned with appropriate institutions being granted competence to make relevant decisions, and such institutions yielding their decisions via rational procedures.¹⁸ Procedure is considered to be “critically important”¹⁹ because, *inter alia*, it provides an effective way of obtaining “good” decisions, facilitates the collaboration of institutions in an interconnected institutional system (like the criminal justice system), and enhances the legitimacy of the law by generating such qualities as consistency, stability and rationality.²⁰ Ultimately, legal process theory thinking aims to preserve a competent institu-

¹⁵ David Wolitz, *Innocence Commissions and the Future of Post-Conviction Review*, 52 ARIZ. L. REV. 1027, 1060 (2010).

¹⁶ See generally Eskridge & Frickey, *supra* note 1.

¹⁷ William N. Eskridge, Jr. & Gary Peller, *The New Public Law Movement: Moderation as a Postmodern Cultural Form*, 89 MICH. L. REV. 707, 722 (1991).

¹⁸ *Id.* at 770.

¹⁹ *Id.* at 721.

²⁰ *Id.* at 721–22.

tion's decisions that have been made through the application of rational procedures.²¹

The legal process vision is closely linked to the concept of finality. The doctrine of finality developed out of a taxonomy detailed by Professor Paul M. Bator in 1963.²² Bator argued that the finality of criminal judgments serves important interests that are harmed by expansions of post-conviction rights,²³ and proposed that because we can never be 100 percent certain that no error of law or fact was made during legal proceedings, “we must impose an end to litigation at some point or else the case could conceivably go on *ad infinitum*.”²⁴ As Popko summarizes,

Essentially, Bator argues we must acknowledge that human systems, because fallible humans design them, are themselves inherently fallible. Thus, we must “come to terms with the possibility of error inherent in any [human] process.” The best way to deal with this probability of human error, he continues, is to design our systems of justice with sufficient procedures and arrangements such that there exists an “acceptable probability that justice will be done, that the facts found will be ‘true’ and the law applied ‘correct.’”²⁵

Bator answered the question of why the criminal justice system needs finality by considering a series of “very real” consequences of endless litigation.²⁶ Decades later, the criminal justice system is familiar with the notion that finality is not a singular “consequence” but rather shorthand for a collection of interests assumed to be furthered by any restrictions on post-conviction review.²⁷ These interests include ensuring respect for criminal judgments, conserving state resources, furthering the efficiency and deterrent and educational functions of the criminal law, satisfying the human need for closure, incentivizing defense counsel to “get it right first time,” and preventing a flood of non-controversial claims from masking the fewer, credible ones.²⁸ Finality assumes that providing defendants broader post-

²¹ *Id.* at 722.

²² See Paul M. Bator, *Finality in Criminal Law and Federal Habeas Corpus for State Prisoners*, 76 HARV. L. REV. 441 (1963).

²³ *Id.* at 446–47.

²⁴ Sigmund G. Popko, *Putting Finality in Perspective: Collateral Review of Criminal Judgments in the DNA Era*, 1 L. J. SOC. JUST. 75, 76 (2011).

²⁵ *Id.*

²⁶ *Id.* at 77.

²⁷ Andrew Chongseh Kim, *Beyond Finality: How Making Criminal Judgments Less Final Can Further the “Interests of Finality”*, UTAH L. REV. 561, 568 (2013).

²⁸ See Carrie Sperling, *When Finality and Innocence Collide*, in *CONTROVERSIES IN INNOCENCE CASES IN AMERICA* 139 (Sarah Lucy Cooper ed., 2014); Bator, *supra* note 22, at 451–53; Henry J. Friendly, *Is Innocence Irrelevant? Collateral Attack on Criminal Judgments*, 38 U. CHI. L. REV. 142, 146–49 (1970); Kim, *supra* note 27.

conviction rights harms these interests.²⁹ Consequently, when considering appeals, judges must balance society's interests in finality against the rights of defendants.³⁰ Of course, finality does serve the interests of defendants too, including their interests not to be subject to repetitive trials, to be able to move on in their lives, and not to be 'caught' by repetitive state attempts at trying a case (and its luck) that wear down the resources and stamina of the defendant.³¹

Legal process is the focal point of Bator's taxonomy.³² According to Bator, the efficacy of outcomes produced by the criminal justice system (such as jury verdicts, trial court decisions and clemency recommendations) require the application of a procedural model that provides "a reasoned and acceptable probability that justice will be done."³³ When faced with post-conviction challenges, therefore, process thinkers ask such questions as: did the processes of the trial court give the petitioner a full and fair opportunity to confront the case against him and present his own case? And, did the social actors within that process act in accordance with those procedures? If so, legal process dictates the outcome is legitimate (whether it is substantively accurate or not).³⁴ Legal process thinkers look for rational decision-making and procedural regularity.³⁵ Consequently, the process model simultaneously protects finality interests by restricting the means available to usurp a rationally processed conviction. This approach underpins post-conviction frameworks across America,³⁶ and courts "have fully embraced the concept of finality."³⁷

However, the efficacy of these process-centric approaches (as blanket approaches, that is) in the Era of Innocence is questionable. The discovery of DNA technology in the 1980s and the subsequent understanding that this forensic science discipline could, with unrivalled levels of scientific cer-

²⁹ Kim, *supra* note 27, at 572–73.

³⁰ Kim, *supra* note 27, at 612–13.

³¹ Laurie L. Levenson, *Searching for Injustice: The Challenge of Postconviction Discovery, Investigation, and Litigation*, 87 S. CAL. L. REV. 545, 552–53 (2014).

³² See Gabriel A. Carrera, *Section 1983 & The Age of Innocence: The Supreme Court Carves a Procedural Loophole for Post-Conviction DNA Testing in Skinner v. Switzer*, 61 AM. U. L. REV. 431, 440 (2011) (noting that Bator's taxonomy has been referred to as "Bator's Process View").

³³ Bator, *supra* note 22, at 448.

³⁴ Carrera, *supra* note 32.

³⁵ See Eskridge & Peller, *supra* note 17, at 709–10, 738.

³⁶ Sperling, *supra* note 28.

³⁷ Popko, *supra* note 24, at 77.

tainty and consistency, prove both innocence and guilt, kick-started significant changes in the American criminal justice system.³⁸

In 1992, Barry C. Scheck and Peter J. Neufeld formed The Innocence Project “to assist prisoners who could be proven innocent through DNA testing.”³⁹ By the end of 1993, 135 people had been exonerated, including 14 whose innocence had been conclusively proven by post-conviction DNA evidence.⁴⁰ Over the last two decades, the number of DNA exonerations has continued to grow, along with an increased understanding of the propensity of the criminal justice system to generate factual errors.⁴¹ The concept of “innocence” is now a burgeoning feature of legal, social and political discourse,⁴² with the Innocence Movement being described as “the most dramatic development in the criminal justice world since the Warren Court’s Due Process Revolution of the 1960s.”⁴³

As of March 2016, post-conviction DNA testing in America had exonerated 337 people, and the capacity of DNA technology to identify specific sources consistently, and with a high degree of certainty, has been rigorously tested.⁴⁴ DNA evidence has become a gold-standard, raising the bar for what is scientifically acceptable for engaging in “individualization” i.e., identifying a source to the exclusion of all others.⁴⁵ In particular, DNA technology has exposed the fallibility of numerous so-called ‘soft’ science forensic disciplines⁴⁶ – such as tool-mark, bite-mark and microscopic hair

³⁸ THE COMM. ON IDENTIFYING THE NEEDS OF THE FORENSIC SCI. CMTY. ET AL., STRENGTHENING THE FORENSIC SCIENCES IN THE UNITED STATES: A PATH FORWARD 40 (2009) [hereinafter NRC REPORT], available at <https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf>.

³⁹ *Our Work*, INNOCENCE PROJECT, <http://www.innocenceproject.org/free-innocent> (last visited Apr. 5, 2016).

⁴⁰ See Univ. of Mich. Law School, *supra* note 8.

⁴¹ Richard A. Leo & Jon B. Gould, *Studying Wrongful Convictions: Learning from Social Science*, 7 OHIO ST. J. CRIM. L. 7, 9, 13 (2009).

⁴² See *Improve the Law: Policy*, INNOCENCE PROJECT, <http://www.innocenceproject.org/free-innocent/improve-the-law/legislative-reform> (last visited Apr. 5, 2016); see also Keith A. Findley, *Defining Innocence*, 74 ALBANY L. REV. 1157, 1157–1158 (2011); see also CONTROVERSIES IN INNOCENCE CASES IN AMERICA (Sarah Lucy Cooper ed., 2014).

⁴³ Findley, *supra* note 5, at 1.

⁴⁴ INNOCENCE PROJECT, *supra* note 7; NRC REPORT, *supra* note 38, at 7.

⁴⁵ Cooper, *supra* note 10, at 235-236; NRC REPORT, *supra* note 38, at 7.

⁴⁶ It is worth noting that the labeling of these disciplines as ‘soft’ sciences is not an official label, although I use the label in this article to reflect the approach of many courts to name them as such. Traditional soft sciences include disciplines such as psychology and anthropology, and traditional hard sciences include disciplines such as chemistry and physics. The disciplines given as examples at this footnote do not fall neatly into either category. DNA analysis, of course, would be a ‘hard science’, however. See Sarah Lucy Cooper, *Forensic Identification Evidence: Tensions Between Law and Science*, J. PHIL. SCI. & L. 1 (2016) available at <http://jpsl.org/files/7814/6014/5245/ForensicScienceIdentification.pdf> (“Alongside the application of traditional hard and soft science disciplines to aid the solving of crime are a vast array of forensic science identification techniques . . . These disciplines do

analysis – with forty-seven percent of the wrongful convictions that led to the known 337 DNA exonerations being attributed, in some way, to unreliable and/or improper forensic evidence.⁴⁷

This revelation, in particular, has presented the criminal justice system with a complex challenge due to the long established role of forensic science identification evidence in the criminal justice process. Throughout the 20th and 21st centuries, American courts have embraced the notion that a plethora of ‘soft’ forensic science disciplines can engage in individualization.⁴⁸ For instance, courts have routinely accepted that fingerprints can uniquely identify the perpetrator of a crime, suspect notes can be “matched” to a suspect’s handwriting, bite-marks on a victim can be “matched” to a suspect’s teeth, ammunition from a suspect’s gun can be “matched” to suspect ammunition, and a suspect’s vehicle tires, shoes and hairs can be “matched” to prints and hairs left at a crime scene respectively.⁴⁹ In short, the hard science of DNA analysis has undermined the ‘soft’ science staples of the criminal justice system – calling into question decades of convictions in its wake.

This observation was formally recognized in 2009 when the National Academy of Sciences (NAS) produced a landmark report—*Strengthening Forensic Science in the United States: A Path Forward* (2009 NRC Report).⁵⁰ This report acknowledged how the forensic science identification methods routinely serviced the criminal justice process in terms of crime-solving,⁵¹ but also how they may be responsible for some known wrongful convictions.⁵² Most significantly, the report made the unprecedented conclusion that “with the exception of DNA analysis . . . no forensic method has been rigorously shown to have the capacity to consistently, and with a

not fall neatly into either category.” *Id.* at 2.

⁴⁷ *The Causes of Wrongful Conviction*, INNOCENCE PROJECT, <http://www.innocenceproject.org/causes-wrongful-conviction> (last visited Apr. 5, 2016).

⁴⁸ See Jane Campbell Moriarty & Michael J. Saks, *Forensic Science: Grand Goals, Tragic Flaws, and Judicial Gatekeeping*, 44 JUDGES J. 16, 29 (2005) (considering the role of judges in admitting forensic evidence).

⁴⁹ See generally Cooper, *supra* note 10 (considering how American courts have responded to developments in forensic science by focusing on fingerprint identification, firearms identification, bite mark identification, and arson investigations).

⁵⁰ Simon A. Cole & Gary Edmond, *Science Without Precedent: The Impact of the National Research Council Report on the Admissibility and use of Forensic Science Evidence in the United States*, 4 BRIT. J. AM. LEGAL STUD. 585, 587 (2015). “*Strengthening* changed the nature of the controversy because it could reasonably be represented as a quasi-official utterance of the American scientific establishment in a way that complemented, or perhaps eclipsed, the conclusions of both individual scientists and self-organized collectives who had been raising their own concerns.” *Id.* at 588.

⁵¹ NRC REPORT, *supra* note 38, at 86.

⁵² NRC REPORT, *supra* note 38, at 4.

high degree of certainty, demonstrate a connection between evidence and a specific individual or source.”⁵³ This conclusion casts all the aforementioned ‘soft’ forensic science “matches” in a sharp, critical light, and soon after the report was published, the United States Supreme Court acknowledged that many forensic sciences are subject to “serious deficiencies.”⁵⁴

An increased awareness of the fallibilities of many ‘soft’ forensic science disciplines has led petitioners, convicted in whole or part by such evidence, to pursue post-conviction challenges to the relevant evidence used against them.⁵⁵ Petitioners have done this through various appellate mechanisms. These mechanisms include procedures that allow (1) challenges to the admissibility of such evidence; (2) claims that the indeterminacy surrounding these disciplines qualifies as newly discovered evidence; and (3) claims for access to DNA testing on evidence existing in their case that might, *inter alia*, assist a petition for clemency.⁵⁶

An examination of relevant case law, however, reveals that such challenges are rarely successful.⁵⁷ It also presents a generally robust judicial fidelity to the legal process vision. Part II examines the influence of legal process theory in this context, extracting general themes from the judiciary’s decision-making and highlighting possible implications of this legal process-centric rationale.

II. THE INFLUENCE OF LEGAL PROCESS THEORY: GENERAL THEMES AND IMPLICATIONS

The courts’ approaches to the aforementioned post-conviction challenges related to soft science identification evidence and access to DNA testing, demonstrate four general themes in judicial decision-making. These themes showcase an allegiance, by the courts, to the legal process vision. These themes are: (A) a deference to the principle of institutional settlement (B) the protection of ‘finality’ interests; (C) an acceptance of outcomes generated by rational procedures (despite such procedures being ill-suited for making accurate assessments about scientific uncertainty); and (D) an exaltation of form over substance when faced with indeterminacy. Using exam-

⁵³ NRC REPORT, *supra* note 38, at 7.

⁵⁴ *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 319 (2009).

⁵⁵ *See Cole & Edmond*, *supra* note 50, at 592.

⁵⁶ *See generally* notes 10–12.

⁵⁷ *See generally* notes 10–12; *see also* Jules Epstein, *Preferring the “Wise Man” to Science: The Failure of Courts and Non-Litigation Mechanisms to Demand Validity in Forensic Matching Testimony*, 20 WIDENER L. REV. 81, 101 (2014).

ples from relevant case law, Part II explores these themes and highlights relevant implications.

A. DEFERENCE TO THE PRINCIPLE OF INSTITUTIONAL SETTLEMENT

The principle of institutional settlement theorizes that procedural regularity in the decision-making processes of a competent institution legitimizes the institution's decisions,⁵⁸ and thereby ultimately aims to preserve a competent institution's rational decisions as generated by rational procedures.

Fidelity to this principle is evident in cases where courts have rejected claims for access to DNA testing that could support, *inter alia*, a petition for clemency. This approach has gained momentum by way of the seminal case in this domain: *District Attorney's Office of the Third Judicial District v. Osborne*.⁵⁹ In *Osborne*, the Supreme Court of the United States declined to "constitutionalize the issue [of access to DNA testing]."⁶⁰ The majority found there was no freestanding due process right to DNA testing; and instead found, "a qualified, derivative"⁶¹ procedural due process right to DNA testing based on "a liberty interest in demonstrating...innocence with new evidence under state law."⁶² The Court bluntly rejected the argument that Osborne had a due process right to DNA testing derived from the liberty interest he had in the context of clemency,⁶³ and applied precedent from a previous decision stating that, "noncapital defendants do not have a liberty interest in traditional state executive clemency, to which no particular claimant is *entitled* as a matter of state law."⁶⁴ Under the Court's decision, Osborne was precluded from challenging the constitutionality of any procedures available to vindicate an interest in state clemency.⁶⁵

The principle of institutional settlement drove the majority decision. This is shown in a number of ways. First, the fact that Alaska provided an adequate statute for obtaining post-conviction access to DNA evidence, which Osborne had neglected to utilize, meant he could not challenge the process as applied to him.⁶⁶ This feature of the decision is indicative of the majority

⁵⁸ See HENRY M HART, JR. & ALBERT M. SACKS, *THE LEGAL PROCESS: BASIC PROBLEMS IN THE MAKING AND APPLICATION OF LAW* 4 (1994).

⁵⁹ *Dist. Attorney's Office for the Third Judicial Dist. v. Osborne*, 557 U.S. 52 (2009).

⁶⁰ *Id.* at 56.

⁶¹ Brandon L. Garrett, *DNA and Due Process*, 78 *FORDHAM L. REV.* 2919, 2921 (2010).

⁶² *Osborne*, 557 U.S. at 68.

⁶³ *Id.* at 67.

⁶⁴ *Id.* at 67–68 (applying *Connecticut Bd. of Pardons v. Dumschat*, 452 U.S. 458 (1981)).

⁶⁵ *Id.* at 68.

⁶⁶ *Dist. Attorney's Office for the Third Judicial Dist. v. Osborne*, 557 U.S. 52, 70–71 (2009).

analyzing Osborne's claim as an issue of institutional settlement. As one scholar explains:

The existence of Alaska procedures to obtain post conviction DNA testing formed the opinion's "starting point in analyzing Osborne's constitutional claims." After finding "nothing inadequate" about Alaska's procedures, the Court deliberately echoed Wilkinson in declining to "short-circuit" state legislative activity. In the end, the majority did not find DNA's accuracy relevant to a debate it sees as fundamentally about the morality of federal courts overriding state processes.⁶⁷

Second, the *Osborne* majority believed there was a "dilemma [about] how to harness DNA's power to prove innocence without unnecessarily overthrowing the established system of criminal justice,"⁶⁸ which was underpinned by "traditional notions of finality."⁶⁹ Concerns about undermining the principle of institutional settlement are reflected in the Court's desire to maintain the trial as the "main event in which the issue of guilt or innocence can be fairly resolved."⁷⁰ By couching the issue in these terms "the Court implied that DNA's truth-telling power must somehow be constrained to fit into our existing system as opposed to allowing the system to change in response to the unique power of DNA evidence."⁷¹ In other words, a constitutional right to DNA testing does not fit the legal process vision because it undermines the efficacy of the criminal justice system, despite the application of its thousands of procedures and measures.

Third, the Supreme Court observed the institutional competence of the political branches of state governments to determine how the law should address new technological developments: "[t]he elected governments of the States are actively confronting the challenges DNA technology poses to our criminal justice systems and our traditional notions of finality, as well as the opportunities it affords."⁷² The Court worried that to constitutionalize this area suddenly would short-circuit "a prompt and considered legislative response"⁷³ i.e., shirk the principle of institutional settlement.

⁶⁷ Colin Starger, *The DNA of an Argument: A Case Study in Legal Logos*, 99 NW. J. CRIM. L. & CRIMINOLOGY 1045, 1099-1100 (2009) (citations omitted).

⁶⁸ *Osborne*, 557 U.S. at 62.

⁶⁹ *Id.* at 72.

⁷⁰ *Murray v. Carrier*, 477 U.S. 478, 506 (1986) (Stevens, J., concurring) (internal quotation marks omitted).

⁷¹ Jason Kreag, *Letting Innocence Suffer: The Need for Defense Access to the Law Enforcement DNA Database*, 36 CARDOZO L. REV. 805, 846 (2015).

⁷² *Osborne*, 557 U.S. at 72-73.

⁷³ *Id.* at 71.

Osborne's legal process-centric precedent has led to the systemic rejection of similar challenges by the lower courts,⁷⁴ with numerous courts actively applying the principle of institutional settlement to rationalize their decisions. For example, in *Vaughn v. Office of the Judge for the Third Circuit Court*, the petitioner made a variety of due process claims, including that that he had been prevented from proving his actual innocence and furthering a clemency application by being denied access to DNA evidence.⁷⁵ The U.S. District Court determined, however, that his clemency claim was barred.⁷⁶ All that remained for Vaughn was the possibility of an attack on the fairness and/or application of the state's DNA testing statute, which he had failed to make.⁷⁷ The court found "that pleading failure cannot be cured because the Michigan statute reasonably balances the competing interests of the convicted person's right to pursue DNA evidence and testing with the state's right to maintain an orderly criminal justice system."⁷⁸ In other words, even without close examination, the state regime preserved the traditional notions of justice at the center of the majority's concern in *Osborne*.

Similarly, in *Gary v. Humphrey*, Gary motioned for DNA testing after being denied clemency by the state parole board.⁷⁹ The motion was granted for certain evidence (with the court concluding that such testing may be relevant to a state clemency application), and compensation for Gary's counsel and for a DNA expert was approved.⁸⁰ Based upon the DNA test results, Gary pursued a second state clemency hearing simultaneously with an extraordinary motion for new trial in state court.⁸¹ Gary's counsel submitted vouchers for services related to the second clemency proceeding and new trial motion.⁸² The court approved compensation for services connected with the clemency proceeding, but denied compensation for services

⁷⁴ See *supra* note 12.

⁷⁵ *Vaughn v. Office of the Judge for the Third Circuit Court*, No. 14-CV-10458, 2015 WL 404254, at *1 (E.D. Mich. Jan. 29, 2015).

⁷⁶ *Id.* at *3. This was by way of *Heck v. Humphrey* 512 U.S. 477 (1994), a decision by the Supreme Court that determined that a state prisoner cannot make a cognizable claim under § 1983 for an alleged unconstitutional conviction, or for harm caused by actions whose unlawfulness would render a conviction or sentence invalid, unless he first shows that his conviction or sentence had been reversed on direct appeal, expunged by executive order, declared invalid by a state tribunal authorized to make such determination or called into question by a federal court's issuance of a writ of habeas corpus. *Id.*

⁷⁷ *Id.* at *7.

⁷⁸ *Id.* at *9.

⁷⁹ *Gary v. Humphrey*, No. 4:97-CV-181 (CDL), 2011 WL 205772, at *1 (M.D. Ga. Jan. 21, 2011).

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

related solely to the new trial. Gary appealed that decision to a U.S. District Court, which denied his appeal.⁸³

Although the District Court's decision, by implication, agrees that a clemency hearing (particularly one including potential exculpatory DNA evidence) is sufficiently important to warrant state funded counsel, it also continues the cautious, process-sensitive trend demonstrated by the other courts. This is because the court made a point in its judgment to narrow the decision under a specially labeled "Future Guidance" section.⁸⁴ In that section, the court first stated it was not convinced that providing counsel to pursue DNA testing subsequent to the final dismissal of a federal habeas petition, even if it is to be used in support of clemency relief, was mandatory under federal law.⁸⁵ Second, it underscored that its decision to fund counsel did "not include a legal right to DNA testing to be used to support a clemency petition."⁸⁶ In other words, it was not at odds with the *Osborne* decision. Third, the court was careful to acknowledge the principle of institutional settlement. It did so both by affirming that the right to DNA testing was a "limited right under Georgia law"⁸⁷ and by underscoring that its decision did not undermine that regime, as,

While the results [of the DNA testing] may also be used in a second clemency hearing, there is no statutory right to obtain those results for use in a clemency hearing, nor is there any statutory right to use them once they are obtained. The fact that they may be available for such future use in the clemency hearing is completely fortuitous.⁸⁸

The courts' approach in this context has a number of implications. First, it undermines the corrective justice function of clemency. In *Herrera v. Collins*,⁸⁹ the Court stated clemency is the "fail-safe"⁹⁰ of the criminal justice system and the traditional remedy for miscarriages of justice.⁹¹ In *Herrera*, and in subsequent decisions, the Supreme Court has placed great weight and faith in the clemency process⁹² to remedy innocence claims,⁹³

⁸³ Gary v. Humphrey, No. 4:97-CV-181 (CDL), 2011 WL 205772, at *1 (M.D. Ga. Jan. 21, 2011).

⁸⁴ *Id.* at *7.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ Gary v. Humphrey, No. 4:97-CV-181 (CDL), 2011 WL 205772, at *1 (M.D. Ga. Jan. 21, 2011).

⁸⁹ *Herrera v. Collins*, 506 U.S. 390 (1993).

⁹⁰ *Id.* at 415.

⁹¹ *Id.* at 411-12.

⁹² Ryan Dietrich, *A Unilateral Hope: Reliance on the Clemency Process as a Trigger for a Right of Access to State-Held DNA Evidence*, 62 MD. L. REV. 1028, 1044 (2003).

⁹³ *Id.* SCOTUS consistently affirmed the importance of the clemency process in ensuring the integrity of the criminal justice system. Moreover, numerous courts have rationalized their decisions not to grant

so much so that Professor Austin Sarat now considers gubernatorial clemency to be “the court of last resort” for innocents.⁹⁴ As a consequence, a right to a meaningful clemency process should be recognized, and part of this substance should be the opportunity to present exculpatory DNA evidence, if it exists. As one scholar comments,

In relying on the clemency process to fulfill an articulated and unique position in the criminal justice system, it is imperative that the Court uphold and maintain the integrity of the process. Therefore, the Court must ensure that prisoners have the tools necessary to present a meaningful petition to the clemency authority. Part of this meaningful ability to access the clemency process should be the ability to access state-held evidence for the purposes of modern DNA testing.⁹⁵

Moreover, such provision would encourage executives with decision-making powers to be both more accurate and confident in making pro-clemency decisions. A shift towards tough-on-crime politics has effectively blinded the system to innocence claims, by fueling antipathetic executive attitudes towards clemency and encouraging narrow interpretations of what can be done using the clemency power.⁹⁶ Thus, if a petitioner can access and test DNA evidence, and the results of such testing are exculpatory in some credible way, designing the constitutional framework to ensure that such evidence is presented to the executive is imperative. In other words, the constitutional framework should mandate state procedures that require, when available, that DNA evidence be presented in clemency proceedings.

“actual innocence” claims on the basis that a clemency process existed in the relevant jurisdictions. *Id.* at n.143 (“(See *Royal v. Taylor*, 188 F.3d 239, 243 (4th Cir. 1999) (stating that because Virginia has a clemency process available to the prisoner, “we cannot grant [the prisoner] the requested habeas relief based simply on his assertion of actual innocence due to newly discovered evidence”); *Lucas v. Johnson*, 132 F.3d 1069, 1074–76 (5th Cir. 1998) (interpreting the *Herrera* language to automatically preclude the existence of an actual innocence claim whenever the executive clemency process is available); *Herrera*, 506 U.S. at 428 (Scalia, J., concurring) (refusing to create a free-standing claim of actual innocence based partly on the notion that “it is improbable that evidence of innocence as convincing as today’s opinion requires would fail to produce an executive pardon”).”

⁹⁴ Austin Sarat, *Memorializing Miscarriages of Justice: Clemency Petitions in the Killing State*, 42 LAW & SOC’Y REV. 183, 185 (2008).

⁹⁵ Dietrich, *supra* note 92, at 1045. Notably the principle of institutional settlement has driven rejections to due process challenges to administrative board decisions in the context of clemency too. See *Corliss v. Pennsylvania Board of Pardons and Parole*, No. 4:CV-05-1817, 2006 WL 2927270 (M.D. Pa. Oct. 11, 2006). In that case, Corliss challenged the Board’s decision to deny him parole, alleging that in the light of exculpatory DNA evidence, the refusal violated his Eighth and Fourteenth Amendment rights. The court rejected his claim, stating that Corliss presented no basis to his conclusion that DNA evidence proved his innocence. The fact that the relevant evidence had been properly rejected by his trial court as inconclusive meant Corliss’ claim lacked merit. *Id.*

⁹⁶ See generally, Sarah Lucy Cooper & Daniel Gough, *The Controversy of Clemency and Innocence in America*, 51 CAL. W. L. REV. 55 (2014).

Although this would naturally undermine prior juror verdicts and trial court decisions, it would be a regime that ultimately favored and delivered the closest approximation of substantive accuracy that science can currently offer. It would also allow the executive to underpin his or her decision by way of this evidence, which is, at present, the most reliable individualization evidence science can offer.⁹⁷ A decision to grant clemency in such circumstances would not be ‘soft’ on crime, but simply a decision rooted in what is scientifically most accurate. As the dissent in *Osborne* pointed out, DNA is “uniquely precise”⁹⁸ and unrivaled in its ability to ascertain the “truth.”⁹⁹ Decisions underpinned by scientific evidence in this way would serve to strengthen the efficacy of the criminal justice system, not undermine it, as decisions that are likely more accurate are naturally more-legitimate in the context of criminal process. Moreover, these decisions would be the product of a rationalized procedure designed at state level, thereby satisfying the principle of institutional settlement. As Dietrich explains, “The Supreme Court has recognized that unless a state provides an additional remedy, clemency is the sole remedy for the constitutionally convicted yet innocent prisoner. Therefore, certain safeguards must exist to ensure that an actually innocent prisoner has the ability to properly communicate his innocence to the appropriate authority.”¹⁰⁰

Second, the courts’ legal process-centric approach demonstrates an awkward approach to discerning between credible and less credible individualization evidence. At the time *Osborne* was decided, the capabilities of DNA were making waves throughout the criminal justice system, not only with regards to the access and testing of DNA evidence, but also with regard to how it exposed the frailties of other forensic methods employed widely in the criminal justice system.¹⁰¹

In February 2009 (three months before the *Osborne* decision) the National Academy of Sciences had published the NRC Report,¹⁰² which had made the unprecedented conclusion that DNA was the only forensic method that had been rigorously shown to have the capacity to consistently, and with a high degree of certainty, engage in individualization.¹⁰³ The message was simple: “In a number of forensic science disciplines, forensic

⁹⁷ NRC REPORT, *supra* note 38, at 7.

⁹⁸ Dist. Attorney’s Office for the Third Judicial Dist. v. *Osborne*, 557 U.S. 52, 87–88 (2009).

⁹⁹ *Id.*

¹⁰⁰ Dietrich, *supra* note 92, at 1052.

¹⁰¹ Jacqueline McMurtrie, *Swirls and Whorls: Litigating Post Conviction Claims of Fingerprint Misidentification After the NAS Report*, 2010 UTAH L. REV. 267 (2010).

¹⁰² *Id.*

¹⁰³ NRC REPORT, *supra* note 38, at 7.

science professionals have yet to establish either the validity of their approach or the accuracy of their conclusions, and the courts have been utterly ineffective in addressing this problem.”¹⁰⁴

However, generally, the NRC Report (and other catalogued criticism of forensic identification evidence) has had limited impact in practice.¹⁰⁵ In particular, it has failed to turn the heads of the judiciary when it comes to the admissibility of forensic identification evidence. Despite the NRC Report’s findings, trial judges continue to admit, often unreservedly, forensic identification evidence that engages with individualization.¹⁰⁶

These courts also apply the principle of institutional settlement to rationalize their decisions, as they routinely defer to trial court applications of *Daubert*.¹⁰⁷ They also interpret the *Daubert* factors inconsistently, and reject the idea that the NRC Report, in particular, has any significant impact on the admissibility of such evidence.¹⁰⁸ This routine approach has generated a body precedent that is seemingly impenetrable. Moreover, it reflects fidelity to the legal process vision because “horizontal precedent is generally consistent with legal process theories...”¹⁰⁹ A commitment to precedent is also considered fundamental to traditional process thinkers because they emphasize the positivist features of that philosophy, namely “its commitment to neutrality and neutral principles, the principle of institutional settlement, and the importance of continuity, precedent, and tradition in law.”¹¹⁰

In fact, the American common law system’s commitment to the principle of *stare decisis* leads to this sort of body of precedent being able to naturally preserve itself. For instance, “if a judge knows that precedent dictates that individualization testimony by bite-mark examiners is admissible evi-

¹⁰⁴ NRC REPORT, *supra* note 38, at 53.

¹⁰⁵ Cole & Edmond, *supra* note 50, at 589.

¹⁰⁶ See generally Cooper, *supra* note 10.

¹⁰⁷ *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). SCOTUS made trial judges the gate-keepers of expert evidence. *Daubert* charges judges to examine the principles and methodology of proffered scientific evidence. In *Daubert*, SCOTUS listed five key factors courts should consider when analyzing the reliability of expert testimony: (1) whether a method can or has been tested; (2) the known or potential rate of error; (3) whether the methods have been subjected to peer review; (4) whether there are standards controlling the technique’s operation; and (5) the general acceptance of the method within the relevant community. *Id.* At present, *Daubert* (generally) governs the admissibility of scientific expert evidence in America.

¹⁰⁸ See generally Cooper, *supra* note 10.

¹⁰⁹ Frank B. Cross, *Decisionmaking in the U.S. Circuit Courts of Appeals*, 91 CAL. L. REV. 1457, 1470 (2003).

¹¹⁰ Robert F. Blomquist, *The Good American Legislator: Some Legal Process Perspectives and Possibilities*, 38 AKRON L. REV. 895, 928 (2005).

dence, he is likely to (at least as a starting position) reason that all individualization evidence by all bite-mark examiners is admissible.”¹¹¹ *State v. Brooks*¹¹² highlights such an approach. In *Brooks*, despite concerns about the credibility of the state’s expert, and the fact other experts found inconsistencies between the bite-mark on the victim and Brooks’ teeth, the majority of the court took the chance, on the basis of precedent, to “state affirmatively that bite mark identification evidence is admissible in Mississippi.”¹¹³ The author has previously concluded the application of such a broad-brush approach “avoids an immediate examination and discourages a future examination of the substance of the tension between law and science in this context.”¹¹⁴ As Beecher-Monas has found:

When defense counsel do challenge bite-mark testimony, they are rarely successful. Courts simply decline to engage in any serious analysis of these challenges. By far the most widely used gate-keeping avoidance technique that judges employ is admitting bite-mark evidence because other courts have done so. Rather than engage in any analysis of the scientific principles on which the testimony is based, the data underlying the testimony, the methodology, error rate, or general acceptance by the scientific community, these courts skirt the entire issue¹¹⁵

The general approach of the judiciary to routinely reject claims that center on the case of *Osborne*, therefore, highlights an interesting paradox. On the one hand, the judiciary continue to favor individualization evidence from a variety of crime-solving ‘soft’ forensic science disciplines – despite such practices being significantly criticized for lacking, at present, adequate scientific underpinning.¹¹⁶ On the other hand, the courts are comfortable in taking a comparably conservative approach to questions concerning access to DNA testing.

This is a sharp (and troubling) contrast because DNA is undoubtedly more scientifically qualified to engage in individualization than other forensic science identification methods.¹¹⁷ DNA analysis has been subject to rigorous evaluation standards from the beginning.¹¹⁸ Numerous institutions funded and conducted extensive basic research, followed by applied research, and serious studies on DNA analysis preceded the establishment and

¹¹¹ Cooper, *supra* note 46, at 10.

¹¹² *Brooks v. State*, 748 So. 2d 736 (Miss. 1999).

¹¹³ *Id.* at 739.

¹¹⁴ Cooper, *supra* note 46, at 10.

¹¹⁵ Erica Beecher-Monas, *Reality Bites: The Illusion of Science in Bite-Mark Evidence*, 30 CARDOZO L. REV. 1369, 1395 (2009).

¹¹⁶ *Id.* at 1395–96.

¹¹⁷ NRC REPORT, *supra* note 38, at 101.

¹¹⁸ NRC REPORT, *supra* note 38, at 101.

implementation of “individualization” criteria and parameters for assessing the probative value of claims of individualization.¹¹⁹ The NRC Report set out this distinction clearly,

This history stands in sharp contrast to the history of research involving most other forensic science disciplines, which have not benefitted from extensive basic research, clinical applications, federal oversight, vast financial support from the private sector for applied research, and national standards for quality assurance and quality control. The goal is not to hold other disciplines to DNA’s high standards in all respects; after all, it is unlikely that most other current forensic methods will ever produce evidence as discriminating as DNA. However, the least that the courts should insist upon from any forensic discipline is certainty that practitioners in the field adhere to enforceable standards, ensuring that any and all scientific testimony or evidence admitted is not only relevant, but reliable.¹²⁰

The courts are not meaningfully acknowledging this contrast. At present, the judiciary is supporting the use of what we know to be less reliable individualization evidence, and hampering the use of the most credible individualization evidence.¹²¹ And, ironically, both approaches are underpinned by a fidelity to the legal process vision.

B. THE PROTECTION OF FINALITY INTERESTS

Finality is an umbrella term used to cover a variety of “interests” allegedly furthered by restricting post-conviction relief.¹²² These interests include: ensuring respect for criminal judgments and victims’ rights, conserving state resources, furthering the efficiency and deterrent and educational functions of the criminal law, satisfying the human need for closure, incentivizing defense counsel to “get it right first time,” and preventing a flood of non-controversial claims from masking the fewer, credible ones.¹²³

The doctrine of finality made up by the courts’ preservation of these interests is underpinned by the legal process vision. This is because the notion of finality was conceived in the spirit that the efficacy of outcomes produced by the criminal justice system requires the application of a procedural model that provides “a reasoned and acceptable probability that justice will be done.”¹²⁴ Thus, if a rational process (absent procedural error) generates a

¹¹⁹ NRC REPORT, *supra* note 38, at 101.

¹²⁰ NRC REPORT, *supra* note 38, at 117–18.

¹²¹ *E.g.*, NRC REPORT, *supra* note 38, at 103.

¹²² Kim, *supra* note 27 at 563–64.

¹²³ *See generally*, Sperling, *supra* note 28; Bator, *supra* note 22; Friendly, *supra* note 28; Kim, *supra* note 27.

¹²⁴ Bator, *supra* note 22, at 448.

conviction; that conviction is legitimate in the eyes of process thinkers.¹²⁵ Appeals seeking to undermine such rationally generated convictions are to be narrowly construed, and, thus, the appellate process naturally protects finality interests by narrowing avenues for relief.

Concerns about disturbing finality interests have played a direct role in numerous Supreme Court decisions relevant to this article. For instance, in *Osborne*, the majority were restrained by the “dilemma”¹²⁶ DNA presented to America’s “established system of justice”,¹²⁷ signaling that its decision was underpinned by concerns that the creation of a constitutional right to access DNA for testing would too severely undermine “traditional notions” of finality.¹²⁸

The decision in *Herrera* was similarly underpinned.¹²⁹ Writing for the majority, Chief Justice Rehnquist reasoned that allowing actual innocence to stand solely as a ground for federal habeas relief would have a “very disruptive effect...on the need for finality”¹³⁰, and was mindful of the “enormous burden that having to retry cases based on often stale evidence would place on the States...”¹³¹ At some point in time, the majority opined, “the State’s interest in finality must outweigh the prisoner’s interest in yet another round of litigation.”¹³² The Court further remarked that, if a petitioner was to have a freestanding right to make an actual innocence claim, the threshold for relief would “necessarily be extraordinarily high.”¹³³ This rationale drew upon a fundamental “interest” of finality, namely the prevention of frivolous claims flooding the appellate system and masking the fewer, credible claims. Chief Justice Rehnquist concluded, “If the federal courts are to entertain claims of actual innocence, their attention, efforts, and energy must be reserved for the truly extraordinary case; they ought not be forced to sort through the insubstantial and the incredible as well.”¹³⁴

¹²⁵ See Bator, *supra* note 22, at 448.

¹²⁶ *Osborne*, 557 U.S. 52 at 62.

¹²⁷ *Id.* at 62.

¹²⁸ *Id.* at 72.

¹²⁹ See *Herrera v. Collins*, 506 U.S. 390, 417 (1993). For further comment on the influence of finality on clemency see Sarah Lucy Cooper, *The State Clemency Power and Innocence Claims: The Influence of Finality and its Implications for Innocents*, 6 CHARLOTTE L. REV. (forthcoming 2016) (on file with author).

¹³⁰ *Herrera*, 506 U.S. at 417 (1993).

¹³¹ *Id.*

¹³² *Id.* at 426.

¹³³ *Id.* at 417.

¹³⁴ *Id.* at 426–27.

An active, yet somewhat veiled, protection of finality interests by the courts is evident in decisions rejecting challenges concerning, in particular, the veracity of firearms identification evidence (especially those made subsequent to the NRC Report).¹³⁵ When rejecting such challenges, the courts rely on two particular finality interests, namely preventing non-controversial claims from flooding the system and incentivizing defense counsel.¹³⁶ In relation to preventing non-controversial claims flooding the system, courts often conclude that the admission of such evidence was “non-prejudicial” in light of other evidence against the petitioner.¹³⁷ In other words, the courts are terming the (legally sound or unsound) admission of firearms identification evidence as non-controversial and implying such evidence is of inconsequential impact on the jury. In relation to incentivizing defense counsel, the courts emphasize the importance of the adversarial system, highlighting that it is the role of defense counsel to weed out frailties in forensic evidence through cross-examination, and the function of the jury to assess the credibility and weight of such evidence after that process.¹³⁸ Notably, courts also, in particular, draw upon the ‘incentivizing defense counsel’ finality interest in order to rationalize rejections to challenges to the veracity of fingerprint identification evidence.¹³⁹ In those cases, the courts indicate a belief that the adversarial system will function to “resolve and neutralize” any post-NRC Report concerns about the reliability of fingerprint evidence.¹⁴⁰

These approaches can be problematic, however. This is largely because they divorce the relevant ‘science’ from its social context by overlooking the difficulties that the social actors involved in the adversarial model – in particular lawyers and jurors – can have in handling scientific evidence accurately. As Faigman puts it, as consumers of science, lawyers (and jurors, judges and extended legal personnel), “have very little understanding of the product they are buying.”¹⁴¹

¹³⁵ See generally, Sarah Lucy Cooper, *Judicial Responses to Challenges to Firearms-Identification Evidence: A Need for New Judicial Perspectives on Finality*, 31 T.M. COOLEY L. REV. 457, 458–88 (2014).

¹³⁶ *Id.*

¹³⁷ *Id.* at 460.

¹³⁸ *Id.* at 471.

¹³⁹ See generally Sarah Lucy Cooper, *Challenges to Fingerprint Identification Evidence: Why the Courts Need a New Approach to Finality*, 42 MITCHELL HAMLIN L. REV. (forthcoming 2016); see also Kim, *supra* note 27, 564.

¹⁴⁰ See Cooper, *supra* note 139.

¹⁴¹ DAVID L. FAIGMAN, *LEGAL ALCHEMY: THE USE AND MISUSE OF SCIENCE IN THE LAW* 53 (1999).

For instance, consider the following two cases. In *People of Illinois v. Morris*,¹⁴² Morris appealed his first-degree murder conviction, arguing that his counsel was ineffective for failing to request an admissibility hearing with regards to the fingerprint evidence against him.¹⁴³ The state's expert had testified that a palm print recovered from a bloody shovel found at the crime scene matched Morris' palm print.¹⁴⁴ The court rejected Morris' argument, reasoning Morris did not suffer prejudice because, even minus the fingerprint evidence, "there was still overwhelming evidence that he was guilty beyond a reasonable doubt."¹⁴⁵ This other evidence included that Morris was angry and acted aggressively towards the victim, was observed leaving the victim's house just prior to the discovery of the murder, and that the blood on his clothing matched the victim's DNA profile.¹⁴⁶

In 2014, in *Abdull-Salaam v. Beard*,¹⁴⁷ the appellant appealed his convictions for multiple violent offences, claiming recent scientific developments undermined the "reliability and admissibility" of the fingerprint evidence against him.¹⁴⁸ The state presented evidence that his prints "matched" a print found on an extension cord wrapper at the crime scene.¹⁴⁹ In rejecting the argument, the court stated:

Appellant's argument conveniently overlooks that even in the absence of such fingerprint evidence, there was overwhelming eyewitness testimony placing Appellant at the scene of the crime. At least four persons who were at the scene of the crime testified that Appellant shot the police officer... Thus, even if we were to accept Appellant's argument regarding the fingerprint evidence, Appellant is simply unable to show that the evidence would have altered the outcome of the trial.¹⁵⁰

Both decisions downplay the impact that fingerprint individualization evidence would likely have had on the jury. As such, the courts are arguably overlooking that evidence, which is presented as both scientific and capable of concluding that the defendant was present at the crime scene in terms of absolute certainty, has a highly persuasive impact on jurors. Research suggests statements made by such experts are given "considerable deference" by jurors and the impact of these statements is likely not to be

¹⁴² *People v. Morris*, 997 N.E.2d 847 (Ill. App. Ct. 2013).

¹⁴³ *Id.* at 851.

¹⁴⁴ *Id.* at 850.

¹⁴⁵ *Id.* at 870.

¹⁴⁶ *Id.* at 872.

¹⁴⁷ *Abdull-Salaam v. Beard*, 16 F. Supp. 3d 420 (M.D. Pa. 2014).

¹⁴⁸ *Id.* at 466.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

“undone” by cross-examination or rebuttal witnesses.¹⁵¹ It is even suggested jurors feel more inclined towards an expert who is subject to a vigorous cross-examination, as opposed to more skeptical about the reliability of his or her evidence.¹⁵²

Case law also demonstrates that the difficulties lawyers may have in re-sourcing, making and understanding challenges to forensic science evidence are being similarly overlooked.¹⁵³ For instance, cases such as *United States v. Perkins*¹⁵⁴ and *United States v. Sebbert*¹⁵⁵ demonstrate that counsel may struggle to couch their challenges to the veracity of firearms identification evidence effectively. Cases like *Sebbert* also show, along with cases such as *Thomas v. State*¹⁵⁶ and *Jones v. United States*,¹⁵⁷ that counsel might fail to do something more specific to challenge firearms identification evidence, such as hire an expert, make an objection, or cross-examine.¹⁵⁸ All told, these cases show,

That the courts are acknowledging counsels’ deficiencies but not unpacking why counsel may have made these inadvertent mistakes or, indeed, strategic decisions. The reasons why, of course, may be many and varied, but one important rationale courts should not overlook—but seemingly do—is that counsel encounter specific difficulties when engaging with forensic science.¹⁵⁹

Notably, judges—including those making the appellate decisions in these cases—can experience similar difficulties to jurors and lawyers. Judges, too, generally lack scientific expertise and technical training.¹⁶⁰ Some argue that judges generally “do not think like scientists” and therefore have restricted ability to make accurate assessments about science.¹⁶¹ As Saks notes:

¹⁵¹ J. Koehler & Michael J. Saks, *Individualization Claims in Forensic Science: Still Unwarranted*, 75 BROOK L. REV. 1187, 1206 (2010).

¹⁵² Dawn McQuiston-Surrett & Michael Saks, *Communicating Opinion Evidence in the Forensic Identification Sciences: Accuracy and Impact*, 59 HASTINGS L.J. 1159, 1188 (2008). Moreover, the adversarial model means that jurors are not necessarily presented with the full picture. The adversarial model adversarial forces science - in the form of expert testimony - to ‘pick a side’ as scientific evidence is either presented in favor of the prosecution or the defense narrative. See Cooper, *supra* note 46, at 6.

¹⁵³ Cooper, *supra* note 135.

¹⁵⁴ *United States v. Perkins*, 342 F. App’x. 403 (10th Cir. 2009).

¹⁵⁵ *United States v. Sebbert*, No. 10-CR-87-SLT, 2012 WL 5989813 (E.D.N.Y. Nov. 30, 2012) (denying motion to preclude expert testimony).

¹⁵⁶ *Thomas v. State*, 155 So. 3d 270 (Ala. Crim. App. 2013).

¹⁵⁷ *Jones v. United States*, 27 A.3d 1130 (D.C. 2011).

¹⁵⁸ *United States v. Sebbert*, No. 10-CR-87-SLT, 2012 WL 5989813 (E.D.N.Y. Nov. 30, 2012); *Thomas v. State*, 155 So. 3d 270 (Ala. Crim. App. 2013); *Jones v. United States*, 27 A.3d 1130 (D.C. 2011).

¹⁵⁹ Cooper, *supra* note 135, at 482–83.

¹⁶⁰ FAIGMAN, *supra* note 141, at 26.

¹⁶¹ Michael J. Saks, *Merlin & Solomon: Lessons from the Law’s Encounters with Forensic Identification*

Just as legal training teaches one the intellectual skills to analyze legal problems, scientific training teaches one how to analyze empirical questions and proposed answers. This places judges in a weak position to know what questions need to be asked in order to test an empirical claim or how to evaluate the data offered in answer.¹⁶²

Professor Frederic I. Lederer further notes that lawyers' educational deficiency (when it comes to scientific knowledge) "... often places lawyers at a disadvantage when confronted with scientific evidence...lawyers often fail to ask the right questions and uncritically accept scientific assertions."¹⁶³ The NRC Report recognized this was a significant issue as well, stating that, "lawyers and judges often have insufficient training and background in scientific methodology, and they often fail to fully comprehend the approaches employed by different forensic science disciplines and the reliability of forensic science evidence"¹⁶⁴

The institutions of law and science are two powerful social enterprises. To divorce either from their social context threatens to undermine their epistemological legitimacy. Notably, the principle of institutional competence is premised on several assumptions about law and society, including that "society is capable of functioning rationally when properly guided by law."¹⁶⁵ This premise requires that relevant institutions possess the "expertise necessary to efficiently manage changing social conditions" and "match society's increasing complexity."¹⁶⁶ This includes the ability to "distinguish fairly among competing characteristics of law's social, political, and ideological purposes . . . [and] includes the ability to separate fact from norm when interpreting and applying law."¹⁶⁷ At present, there is a question mark over whether key social actors operating in the courts have, on a meaningful scale, the levels of expertise necessary to accurately address the complexities associated with the scientific uncertainty that numerous forensic science disciplines, like firearms identification and fingerprint identification, are currently subject to.¹⁶⁸ As the institution granted competence to address

Science, 49 HASTINGS L.J. 1069, 1136 (1999).

¹⁶² *Id.*

¹⁶³ Symposium, *Scientific Evidence—An Introduction*, 25 WM. & MARY L. REV. 517, 519–20 (1984).

¹⁶⁴ NRC REPORT, *supra* note 38, at 27.

¹⁶⁵ Jeffrey Rudd, *The Evolution of the Legal Process School's Institutional Competence Theme: Unintended Consequences for Environmental Law*, 33 ECOLOGY L.Q. 1045, 1054 (2006).

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ It is worth noting that the National Commission on Forensic Science has made steps towards addressing this vacuum. The Commission's sub-committee for Science and Law Training has recommended the implementation of a national curriculum aimed at improving the expertise of these social actors (particularly judges and lawyers). See NATIONAL COMMISSION ON FORENSIC SCIENCE, FORENSIC SCIENCE CURRICULUM DEVELOPMENT, available at http://www.justice.gov/ncfs/file/795351/download__The

these complexities, as they are presented in the form of legal challenges, the courts need to acknowledge these internal deficiencies and take steps towards limiting them.

C. THE ACCEPTANCE OF OUTCOMES GENERATED BY RATIONAL (YET ILL-SUITED FOR ACCURATELY ASSESSING SCIENTIFIC UNCERTAINTY) PROCEDURES

The principle of institutional settlement dictates that decisions made by competent institutions, by way of rational procedures, ought to be accepted as binding “unless and until they [the procedures] are duly changed.”¹⁶⁹ Procedure thus provides a normative dimension to the law, transforming “law as fact to law as a normative legitimate statement.”¹⁷⁰ Procedure is vital to the stability and legitimacy of the law because, *inter alia*, it provides the law with a modicum of hindsight, with Eskridge and Frickey noting, “the substance of decision cannot be planned in advance in the form of rules and standards,” but “the procedure of decision commonly can be.”¹⁷¹

Legal process theory takes the view that procedure that is “soundly adapted to the type of power to be exercised is conducive to well-informed and wise decisions.”¹⁷² Because the principle of institutional settlement operates as a principle of justice, attention to the constant improvement of all of the procedures which depend upon the principle must be paid in an “effort to assure that they yield decisions which are not merely preferable to the chaos of no decision but are calculated as well . . . to advance the larger purposes of society.”¹⁷³

What can be taken from this is that procedures must be reasonably adapted to the task at hand in order to generate legitimate results. Moreover, those procedures need not be static – they can (and should) – be amended in order to reflect social and technological developments in order to better yield legitimate results. Yet, newly discovered evidence procedures provide an example of how seemingly rational procedures can, when examined closely, be ill-suited to producing well-informed and wise decisions.

author has made a number of observations about the proposed curriculum, in particular, that it should also, in some way, address the needs of law enforcement and jurors given their pivotal role in the criminal justice process. See Cooper, *supra* note 46, at 21–22.

¹⁶⁹ Eskridge & Frickey, *supra* note 1, at 2031.

¹⁷⁰ Rudd, *supra* note 165, at 1053.

¹⁷¹ Eskridge & Frickey, *supra* note 1, at 2044 (quoting HENRY M. HART, JR. & ALBERT M. SACKS, THE LEGAL PROCESS: BASIC PROBLEMS IN THE MAKING AND APPLICATION OF LAW (1958)).

¹⁷² Eskridge & Frickey, *supra* note 1, at 2044.

¹⁷³ Eskridge & Frickey, *supra* note 1.

Rather, when it comes to assessing scientific uncertainty, these procedures might well invite court decisions that are “ill-informed and unwise.”¹⁷⁴

Take the typical make-up of a state newly discovered evidence rule, for example. Findley summarizes that these rules, “involve some combination of showings that the new evidence could not have been discovered prior to trial with the exercise of reasonable diligence; that the evidence is relevant and not cumulative or merely impeaching; and that the new evidence creates a sufficient probability of a different result at a new trial.”¹⁷⁵ A deconstruction of this generic formula shows how these seemingly rationale rules can be particularly problematic for petitioners using them to obtain relief, after being convicted in part or whole on the basis of erroneous forensic science identification evidence.¹⁷⁶ As the author has concluded previously, “petitioners making such claims have a very steep mountain to climb.”¹⁷⁷

This steep mountain is exemplified in cases where petitioners have alleged that the criticism aimed at standard tool-mark identification evidence is newly discovered evidence.¹⁷⁸ The appellate courts have responded conservatively to these claims, choosing to (1) defer to lower court decisions regarding the disqualification of newly discovered evidence i.e., invoke standard principles of institutional settlement; and (2) not label the findings of the 2009 NRC Report – including the unprecedented finding that individualization was not proper in forensic disciplines such as firearms identification—as newly discovered evidence.¹⁷⁹ These cases show that the shift in scientific opinion contained in the 2009 NRC Report, with regards to firearms identification evidence, fails to qualify as newly discovered evidence.¹⁸⁰ The author has previously concluded this is due largely because courts take the view that it presents no “new” facts given that it cites to older research and lacks specificity to individual cases.¹⁸¹ As noted by Cole and Edmond, the judiciary’s “intense focus on the case, the particular witness, their opinion and its relation to facts in issue . . .”¹⁸² has made it difficult for petitioners to apply general concerns from the 2009 NRC Report

¹⁷⁴ Eskridge & Frickey, *supra* note 1.

¹⁷⁵ Findley, *supra* note 5, at 1197.

¹⁷⁶ See Cooper, *supra* note 11, at 654–655.

¹⁷⁷ See Cooper, *supra* note 11, at 655.

¹⁷⁸ See Cooper, *supra* note 11, at 664–666;

¹⁷⁹ See Cooper, *supra* note 11, at 666. See also *Rues v. Denney*, 643 F.3d 618 (8th Cir. 2011); *Foster v. Florida*, 132 So. 3d 40 (Fla. 2013).

¹⁸⁰ *Id.*

¹⁸¹ See Cooper, *supra* note 11, at 666.

¹⁸² Cole & Edmond, *supra* note 50, at 595.

to “specific case-based evidence relevant to prosecutions and appeals.”¹⁸³ “Courts are interested in relevant—that is, probative—evidence bearing on facts in issue in the specific proceedings.”¹⁸⁴ As it stands, petitioners are failing to bridge the gap between the NRC Report’s findings and the impact they have on the evidence in their cases.¹⁸⁵ This failure tends to fail to meet the requirements of the newly discovered evidence rules.¹⁸⁶

The situation is similar in relation to other ‘soft’ forensic science identification methods, namely fingerprint analysis, microscopic hair analysis, shoe-print analysis, and blood stain pattern analysis. The cases of *Johnston v. State*,¹⁸⁷ *Enderle v. Iowa*,¹⁸⁸ and *Pennsylvania v. Edmiston*¹⁸⁹ demonstrate this. Again, these cases show that the demand (by newly discovered evidence rules) for probative evidence that bears on the specific facts at issue is fatal for newly discovered evidence claims.¹⁹⁰ In other words, the *sui generis* nature of the rules (and adversarial legal proceedings in general), has been used to limit the impact of the 2009 NRC Report to support newly discovered evidence claims based on shifting scientific opinion and/or controversy in various forensic science identification disciplines.

In addition, newly discovered evidence rules present judges with an interpretative task that demands that, to a certain extent, they resolve the relevant scientific uncertainty themselves. For instance, in the course of their decision-making judges must determine the significance of the alleged scientific uncertainty, the point at which (if possible) it became a ‘new’ school of thought, and how that time-period relates to questions of diligence and fact-finding in the instant case before them. The problems that a judge can face when confronted with a newly discovered evidence claim based on the argument that ‘new’ developments in fire science undermine an arson conviction, which is based on ‘hallmarks’ of arson being identified at a fire

¹⁸³ Cole & Edmond, *supra* note 50, at 595.

¹⁸⁴ Cole & Edmond, *supra* note 50, at 597.

¹⁸⁵ Cooper, *supra* note 11, at 666.

¹⁸⁶ Cooper, *supra* note 11, at 666.

¹⁸⁷ *Johnston v. State*, 27 So.3d 11, 20–21 (2010) (holding evidence indicating no blood was found on the victim’s clothes did not amount to newly discovered evidence warranting a new trial).

¹⁸⁸ *Enderle v. Iowa*, No. 12-1635, 2014 WL 956018, at *9 (Iowa Ct. App. Mar. 12, 2014) (holding that the NRC Report identifying finger print analysis as an area of forensic science in need of improvement did not constitute newly discovered evidence).

¹⁸⁹ *Commonwealth v. Edmiston*, 65 A.3d 339, 352 (Pa. Super. Ct. 2013) (Finding the NRC Report’s observations about the imprecision of microscopic hair analysis did not provide a basis for applying a newly discovered facts exception to timeliness requirements for filing a petition for post-conviction relief).

¹⁹⁰ See generally notes 189–191. See also Cooper, *supra* note 11, at 669–673.

scene, provide a good example of how this situation can materialize.¹⁹¹ In such cases, a judge's task can be:

Fraught with difficulty, right from the first factual assessment he faces. The main problem is that there is scientific uncertainty in relation to the veracity of arson indicators and the assessment of arson fires, and the judge must attempt to resolve that uncertainty when determining the newly discovered evidence claim. This is a near impossible challenge for the judge, not in the sense that he can't make the relevant decision fairly and rationally - but in the sense that he will struggle to make it accurately.¹⁹²

This difficulty likely envelopes the majority of newly discovered evidence claims premised on alleged shifts in scientific opinion, given the very evolutive nature of the general scientific method and the provisional nature of the products it yields.¹⁹³ In other words, definite, accurate and final answers about a particular 'science' are extremely hard (if at all possible) to ascertain.

As demonstrated above, newly discovered evidence procedures routinely lead to the rejection of newly discovered evidence claims that relate to the presence of uncertainty in forensic science disciplines. This, in turn, creates a robust body of precedent that sidelines substantive accuracy, and is applied in a vicious circle. The outcome may be (seemingly) rationally generated, but it is not necessarily substantively accurate.

Procedure should, according to the legal process vision, encompass a self-corrective function.¹⁹⁴ Newly discovered evidence rules need to be examined through a more critical lens when it comes to their ability to facilitate relief in cases presenting credible claims of shifting scientific opinion. At present, in this context, the courts are preserving a cosmetically rational procedure that is substantively deficient. As such, courts are exalting form over substance, which as subsection D explains, is another symptom of loyalty to the legal process vision.

¹⁹¹ Consider the author's extended example in relation to such cases. *See Cooper, supra* note 11, at 683–685.

¹⁹² *See Cooper, supra* note 11, at 684.

¹⁹³ *Cooper, supra* note 46, at 4 (“...the products of the scientific method are widely understood to be provisional: hypotheses are routinely revised or abandoned and replaced by new dominant theories. This methodology “motivates more and more scientific study, and is thus vital to the scientific enterprise.” Hence, science embraces change in order to prevent the entrenchment of dogma or, more colloquially, ‘junk science’); *see also* Deborah M. Hussey Freeland, *Speaking Science to Law*, 25 *GEO. INT'L ENVTL. L. REV.* 289, 323 (2013).

¹⁹⁴ Eskridge & Peller, *supra* note 17, at 721.

D. THE EXALTION OF FORM OVER SUBSTANCE IN A DESIRE TO ENGENDER RATIONALITY

Rationality is a key feature of the legal process vision. One way for courts to engender rationality in their decision-making processes is to engage in reductionism. As Midgley has pointed out, in an intellectual world reductionism offers order and simplicity.¹⁹⁵ The trouble with a largely unre-served desire for rationality through procedure, however, is that it can tend to “exalt the form over the substance of what is being said, the method over the aim of an activity, and precision of detail over the completeness of cover.”¹⁹⁶

The courts can be seen to be taking reductionist approaches to the uncertainty presently pervading certain forensics ‘soft’ science disciplines. They seemingly take this approach in order to generate rational decision-making that accounts for the relevant scientific uncertainty and, for all intents and purposes, resolves it. For instance, we may consider the cases of *United States v. Green*,¹⁹⁷ *United States v. Monteiro*,¹⁹⁸ *United States v. Diaz*,¹⁹⁹ and *United States v. Glynn*,²⁰⁰ and *United States v. Taylor*.²⁰¹ In these cases the courts have curtailed the testimony of firearms examiners, preventing them from testifying in terms of absolute certainty and individualization. The courts in these cases have, instead, required examiners to testify in, allegedly, more diluted terms such as “more likely than not” and “to a reasonable ballistic certainty.”²⁰²

This approach, which appears to be a judicial attempt to rationalize the criticism aimed at individualization evidence in the context of firearms identification, reduces the criticism to a mere issue of terminology. This approach, however, does not resolve the underlying – far more complicated – problem concerning the currently unknown scientific validity and reliability of individualization claims by firearms examiners.²⁰³ A 2009 study supports

¹⁹⁵ See MARY MIDGLEY, *THE MYTHS WE LIVE BY* 1 (2004).

¹⁹⁶ Mary Midgley, *Madness in the Method*, 3 PERSPECTIVES 1 (originally published in NETWORK) (1998).

¹⁹⁷ *United States v. Green*, 405 F. Supp. 2d 104, 124 (D. Mass. 2005).

¹⁹⁸ *United States v. Montiero* 407 F. Supp. 2d 351, 352, 375 (D. Mass. 2006).

¹⁹⁹ *United States v. Diaz*, No. 05-CR-00167 WHA, 2007 WL 485967, at *10–11 (N.D. Cal. Feb. 12, 2007).

²⁰⁰ *United States v. Glynn*, 578 F. Supp. 2d 567, 575 (S.D.N.Y. 2008).

²⁰¹ *United States v. Taylor*, 663 F. Supp. 2d 1170, 1179–1180 (D.N.M. 2009).

²⁰² *United States v. Montiero* 407 F. Supp. 2d 351, 375 (D. Mass. 2006); *United States v. Glynn*, 578 F. Supp. 2d 567, 575 (S.D.N.Y. 2008).

²⁰³ It should be noted that efforts have been – and continue to be – made to generate more knowledge about these claims. See THOMAS G. FADUL JR, ET AL, *AN EMPIRICAL STUDY TO IMPROVE THE*

this point, finding that both judges and jurors are comfortable converting subjective probability evidence into findings of liability.²⁰⁴ As such, limiting the testimony of firearms examiners (and other such examiners for that matter) to allegedly more diluted phrases may well not have the desired effect of deterring judges and jurors “from inaccurately thinking there is an absolute ‘match’ between suspect ammunition and a known weapon. In other words, this reductionist approach has overlooked relevant social concepts i.e., how the terminology will be interpreted by the social actors involved in the criminal justice process.”²⁰⁵ The National Commission on Forensic Science’s sub-committee has also chastised the use of these phrases, stating they are meaningless in a scientific sense.²⁰⁶ Cases such as *United States v. Gutierrez-Castro*²⁰⁷ also demonstrate a court taking a reductionist approach to the complex interaction between judge, jury, and expert. In that case, the court would *not* allow the state’s fingerprint identification witness (who would testify that suspect prints belonged to Gutierrez-Castro) to be referred to as an “expert” in the jury’s presence.²⁰⁸ This holding reflects a judicial attempt to engender rationality in its decision-making by endeavoring to respond to the notion that expert labels can easily seduce jurors.²⁰⁹ To an extent, therefore, the *Gutierrez-Castro* decision engages with the social context aspects relevant to the tension between the legal process and the forensic science at issue. This is important, as, in the context of fingerprint identification, studies have found that a vast majority of jurors agree that fingerprint identification is a ‘science’ and that fingerprints are the most reliable means of identification.²¹⁰ Still, the mere censoring of expert labels does not necessarily resolve the bigger tension and complex social

SCIENTIFIC FOUNDATION OF FORENSIC FIREARM AND TOOL MARK IDENTIFICATION UTILIZING 10 CONSECUTIVELY MANUFACTURED SLIDES, *available at* <https://www.ncjrs.gov/pdffiles1/nij/grants/237960.pdf>; THOMAS G. FADHUL JR, ET AL, AN EMPIRICAL STUDY TO IMPROVE THE SCIENTIFIC FOUNDATION OF FORENSIC FIREARM AND TOOL MARK IDENTIFICATION UTILIZING CONSECUTIVELY MANUFACTURED GLOCK EBIS BARRELS WITH THE SAME EBIS PATTERN, *available at* <https://www.ncjrs.gov/pdffiles1/nij/grants/244232.pdf>.

²⁰⁴ Dawn McQuiston-Surrett & Michael Saks, *Communicating Opinion Evidence in the Forensic Identification Sciences: Accuracy and Impact*, 59 HASTINGS L.J. 1159, 1188–89 (2008).

²⁰⁵ Cooper, *supra* note 46, at 14.

²⁰⁶ See, e.g., NATIONAL COMMISSION ON FORENSIC SCIENCE, TESTIMONY USING THE TERM “REASONABLE SCIENTIFIC CERTAINTY,” *available at* <http://www.justice.gov/ncfs/file/795336/download>

²⁰⁷ *United States v. Gutierrez-Castro*, 805 F. Supp. 2d 1218, 1235 (D.N.M. 2011).

²⁰⁸ *Id.* at 1218, 1235.

²⁰⁹ See Simon Cole, *Grandfathering Evidence: Fingerprint Admissibility Rulings From Jennings to Llera Plaza and Back Again*, 41 AM. CRIM. L. REV. 1189 (2004) (discussing the general proposition that jurors are easily seduced).

²¹⁰ Charles Illsley, *Juries, Fingerprints, and the Expert Fingerprint Witness*, Address at the International Symposium on Latent Prints (July 7–11, 1987) (finding ninety-three percent of jurors agree that fingerprint identification is a science; only two percent disagree), *available at* http://www.nlada.org/forensics/for_lib/Documents/1056493657.7/Illsley.pdf.

context issue, namely how jurors interpret testimony that, in no uncertain terms, links a suspect to suspect evidence via a ‘soft’ forensic science. This is because when jurors engage in decision-making about forensic science evidence, studies show that, in addition to expert testimony shaping their thoughts, jurors’ perceptions about the evidence can be shaped by a plethora of other experiences. This includes their prior beliefs and expectations, value judgments about expert and evidence credibility, the risk of error, how the forensic evidence aligns with other evidence presented in the case, and how it is popularized and conveyed by the media and other literature.²¹¹

III. CONCLUSION

The courts demonstrate a systemically conservative approach towards appellate challenges to the veracity of ‘soft’ forensic science identification evidence, and claims for access to DNA testing in order to, *inter alia*, support an application for clemency. Relevant case law reveals that the courts’ approach is underpinned by a fidelity to the legal process vision. In particular, the courts demonstrate (A) a deference to the principle of institutional settlement; (B) a keenness to protect ‘finality’ interests in order to foreclose claims for relief; (C) an acceptance of outcomes generated by rational procedures (despite such procedures being ill-suited for making accurate assessments about scientific uncertainty); and (D) an exaltation of form over substance in an attempt to engender rationality when faced with scientific uncertainty. Collectively, these themes are consistent with the legal process vision. Unfortunately, however, they can invariably sideline notions of substantive accuracy.

This article confirms the existence of these legal process-centric themes in relevant case law and has considered possible implications. It is important to consider, however, that these themes are not insular, but rather inter-related. For instance, the principle of institutional settlement is the cornerstone feature of all four themes given. Each one focuses on procedure, the preservation of competent institutional decisions, precedent, and the generation of rationality to varying extents. The notion that science is divorced from its social context by the legal process vision in this context similarly pervades each theme. Finality is not only visible in the courts’ selection of specific ‘interests’ to rationalize their rejections of claims, but is also reflected in the high thresholds for relief embodied in newly discovered evi-

²¹¹ William C. Thompson & Eryn J. Newman, *Lay Understanding of Forensic Statistics: Evaluation of Random Match Probabilities, Likelihood Ratios, and Verbal Equivalents*, 39 LAW & HUM. BEHAV. 332–333 (2015).

dence rules (and beyond). Moreover, newly discovered evidence rules are not the only seemingly rational post-conviction procedures that produce substantively questionable results in terms of how they guide the assessment of scientific uncertainty. The *Daubert* standard²¹² – regulating the admissibility of the vast majority of expert evidence across America – is open to the same criticism. In addition, the notion that courts exalt form over substance goes beyond reductionist approaches to expert terminology and labels, but also comprises ‘finality’ which is, in the end, an umbrella term for a variety of complex interests, and therefore also a reductionist concept.

This complicated web of legal process theory-associated ideas has a significant influence on the practical application of the law. An emphasis on process does, indeed, assist the law to maintain social order, stability, rationality and predictability. These are all fundamental, important features that should be preserved. However, it is now certain that rational, consistent and well-intentioned procedures can generate substantively erroneous results. As such, the courts (and other institutions) should have a closer eye on substance and, in particular, the substantive accuracy that can be approximated, to varying degrees, by progressing scientific thought.

²¹² See generally *Daubert*, *supra* note 107 (discussing admissibility of scientific evidence).

