# COMMENT

ADDRESSING WRONGFUL CONVICTIONS: AN EXAMINATION OF TEXAS’S NEW JUNK SCIENCE WRIT AND OTHER MEASURES FOR PROTECTING THE INNOCENT*

## Table of Contents

I. INTRODUCTION ................................................................. 1038

II. THE JUNK SCIENCE PROBLEM ............................................. 1040
   A. Forensic Science Testimony Before Daubert .................. 1040
   B. Daubert and Beyond .................................................... 1043
   C. The Perseverance of Junk Science .................................. 1044

III. TEXAS TAKES ACTION: THE JUNK SCIENCE WRIT ............... 1046
   A. A Call for Reform ....................................................... 1046
   B. History of the Junk Science Writ ................................. 1049
   C. Successful Passage ..................................................... 1050
   D. The Junk Science Writ in Action ................................. 1051
   E. Criticisms of the Junk Science Writ .............................. 1056

IV. BEYOND TEXAS’S JUNK SCIENCE WRIT: OTHER MEASURES FOR REFORM ................................................................. 1059
   A. All Fifty States Should Adopt Their Own Junk Science Writ .................................................. 1059
   B. Additional Measures for Addressing and Preventing Wrongful Convictions ........................................... 1062
      1. Addressing Past Wrongful Convictions ..................... 1062
      2. Preventing Future Wrongful Convictions ................. 1063

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I. INTRODUCTION

Forensic science often involves numbers. For instance, a laboratory analyst may report that the DNA type of the defendant can be expected to occur in 1 out of 694,000 people among a certain population. In another instance, an expert may testify to a 1-in 10,000 chance that a hair found at a crime scene could have come from someone other than the defendant.

A different set of numbers, however, reveals another story. As of January 2015, there have been 325 post-conviction DNA exonerations in U.S. history. In a 2009 study on the first 232 exonerees, 156 men and women were identified as having trials in which forensic evidence was presented. An examination of the trial transcripts from 137 of those cases revealed that 60% of the cases involved inaccurate forensic science testimony. Indeed, the authors of the study noted that such inaccurate testimony was “not just common but prevalent.”

The scope of this problem presents additional alarming numbers: the set of trials in the study included inaccurate testimony by seventy-two prosecution experts employed by fifty-two laboratories, practices, or hospitals from twenty-five states. To say the least, these study findings present a cause for concern.

5. Id. at 14. “The 137 exonerees were convicted of the following crimes: rape (95 individuals), both rape and murder (33), murder (8), and attempted murder (1).” Id. at 13.
6. Id. at 14.
7. Id. at 24.
While 325 DNA exonerations is a significant accomplishment, one obvious fact should not be forgotten: That number excludes cases in which DNA testing is not an option. The Innocence Project, a national organization dedicated to exonerating the wrongfully convicted, estimates that DNA testing is not an option in 90% to 95% of criminal cases due to a lack of biological evidence that can be subjected to testing.\(^8\) Thus, in the vast majority of cases, the criminal justice system relies on other kinds of evidence to secure convictions, including forensic disciplines that were developed “solely to solve crime.”\(^9\)

Such disciplines, which are “cloaked in science but lack even the most basic scientific standards,”\(^10\) are often known as “junk science.”\(^11\) The term emerged in the late 1980s and early 1990s and was popularized by Peter Huber in *Galileo’s Revenge: Junk Science in the Courtroom.*\(^12\) Huber describes junk science as “the mirror image of real science, with much of the same form but none of the same substance.”\(^13\) Due in part to the “CSI Effect,”\(^14\) the use of junk science in the courtroom is a significant contributor to wrongful convictions.\(^15\) Science is constantly evolving, and the current number of DNA exonerations illustrates the doubt that modern science casts upon the soundness of convictions that are based on previously “valid” scientific testimony.

Judge Cathleen Cochran summarized the issue in a recent Texas Court of Criminal Appeals case: “The potential problem of relying on today’s science in a criminal trial . . . is that tomorrow’s science sometimes changes and, based upon that changed science, the former verdict may look inaccurate, if not downright ludicrous. But the convicted person is still imprisoned.”\(^16\)

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9. *Id.* The Innocence Project specifically mentions bite mark comparisons and hair and fiber analysis. *Id.*
10. *Id.*
15. *Unreliable or Improper Forensic Science, supra* note 8. The Innocence Project states that “unvalidated or improper forensic science” is the second-greatest contributor to wrongful convictions that have been overturned with DNA testing. *Id.*
In 2013, Texas became the first state to address this problematic phenomenon with the enactment of Senate Bill 344, known locally as the “Junk Science Writ.” The Junk Science Writ allows prisoners to challenge convictions based on science that has since been discredited. Prior to the bill’s enactment, Texas courts had no guidelines for granting habeas corpus relief in cases in which the science used at trial had changed.

Since the enactment of the Junk Science Writ, new trials have been granted in at least three Texas cases, and appeals are pending in a number of others. Texas currently leads the nation in number of post-conviction DNA exonerations, with fifty-two of the 325 exonerations to date. Considering this success, there is hope for those wrongfully convicted by other types of forensic evidence.

This Comment examines Texas’s new Junk Science Writ within the broader context of wrongful convictions. Both reactive and preventive measures can and should be implemented to address wrongful convictions, and the Junk Science Writ provides an example of one such measure. Part II of this Comment lays out a general background on the junk science problem. Part III elaborates on the Junk Science Writ, discussing the events leading up to its passage and criticisms voiced by its opponents. Finally, Part IV encourages other states to follow the lead of Texas lawmakers and examines other measures that should be implemented to address wrongful convictions.

II. THE JUNK SCIENCE PROBLEM

A. Forensic Science Testimony Before Daubert

The U.S. Supreme Court recently noted that “[f]orensic evidence is not uniquely immune from the risk of manipulation.”


18. Maurice Chammah, Bill Addresses Changing Science in Criminal Appeals, Tex. Trib. (Feb. 4, 2013), http://www.texastribune.org/2013/02/04/criminal-justice-advocates-renew-call-flawed-scient/. Furthermore, Texas judges often disagreed about whether or not to grant relief in such cases. See infra text accompanying notes 78–83 (describing the disconnect amongst judges on the Texas Court of Criminal Appeals).

19. See infra Part III.D.

20. Exonerations by State, INNOCENCE PROJECT, http://www.innocenceproject.org/know/National-View.php (last visited Feb. 5, 2015). Illinois and New York have the next highest number of DNA exonerations, with forty-three and twenty-nine exonerations, respectively. Id.

21. Melendez-Diaz v. Massachusetts, 557 U.S. 305, 318 (2009). Additionally, the Court noted that “[s]erious deficiencies have been found in the forensic evidence used in criminal trials.” Id. at 319.
This statement is especially true of the use of such evidence before the Supreme Court’s 1993 decision in Daubert v. Merrell Dow Pharmaceuticals. Prior to Daubert, rulings on admissibility of expert testimony were governed by the “general acceptance” test in Frye v. United States. The Frye test gave judges broad discretion to admit a wide variety of scientific evidence. Trial judges often preferred to err on the side of admissibility, and junk science prospered as a result.

In 1991, Peter Huber observed that junk scientists function as litigation “saxophones”: “[T]he lawyer calls the tune and the expert plays it.” Noting that junk science mirrors “real science,” Huber demonstrated that many disciplines are susceptible to its influence: “There is the astronomer, on the one hand, and the astrologist, on the other. The chemist is paired with the alchemist, the pharmacologist with the homeopathist . . . . The orthopedic surgeon is shadowed by the osteopath, the physical therapist by the chiropractor, the mathematician by the numerologist . . . .”

One classic example of junk science in criminal cases is the testimony of a phrenologist who purports to prove a defendant’s future dangerousness based on the contours of the defendant’s

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24. Frye v. United States, 293 F. 1013, 1014 (D.C. Cir. 1923). The standard was set forth as follows: “While courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.” Id. It is not the purpose of this Comment to provide an extensive background on the adoption or application of this standard. For more on Frye’s “general acceptance” test, see generally Paul C. Giannelli, The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later, 80 COLUM. L. REV. 1197, 1204–08 (1980).

25. See Peter J. Goss et al., Clearing Away the Junk: Court-Appointed Experts, Scientifically Marginal Evidence, and the Silicone Gel Breast Implant Litigation, 56 FOOD & DRUG L.J. 227, 230 (2001) (“Junk science gained its ascendancy in part due to the broad discretion Frye gave judges to admit marginal scientific evidence.”); see also David S. Caudill, Give Me a Line in a U.S. Supreme Court Opinion or in Official Commentary to the Rules of Evidence for Admissibility of Experts in Court, and I Will Move the [Legal] World, 39 HOU.S. L. REV. 437, 439 (2002) (noting that “if a proposition was generally accepted by scientists, it was admissible”).


27. HUBER, supra note 12, at 19.

28. Id. at 2–3.
skull. Other examples of junk science include dog scent lineups, bite mark comparisons, arson science, and hair and fiber analysis. Junk science has been widely used in civil cases as well, particularly in mass tort cases, such as those involving asbestos exposure and silicone gel breast implants. While the use of junk science in civil cases is certainly an interesting and expansive topic in itself, this Comment is limited to an examination of the use of junk science in the criminal context.

The early use of junk science in criminal cases was not always accompanied by ill intent. One executive director of the Texas District and County Attorneys Association commented, “I thought hair and fiber stuff was terrific when I used it. We find out now, maybe not so much.” However, despite the fact that many prosecutors are now becoming more aware of the limitations of forensic evidence, many defendants wrongfully convicted under lenient pre-Daubert standards remain in prison today.


32. See Caitlin Plummer & Imran Syed, “Shifted Science” and Post-Conviction Relief, 8 STAN. J. C.R. & C.L. 259, 271 (2012) (referring to arson science as “the [second] most prominent current example of shifted science potentially calling into question hundreds or thousands of convictions that occurred over the past few decades”).


34. See Price & Kelly, supra note 11, at 396 (“Lawyers casting about for new theories to use to sue manufacturers of drugs, medical devices and other products create a limitless demand for junk science.”).


36. See Goss et al., supra note 25, at 227, 235–37 (noting that “junk science drove several manufacturers into bankruptcy and imposed massive liability on others”).

B. Daubert and Beyond

Difficulty in applying the overly broad Frye “general acceptance” test led to the Supreme Court’s adoption of a new standard in 1993. In Daubert v. Merrell Dow Pharmaceuticals, the Court held that the Federal Rules of Evidence, which had been promulgated in 1975, superseded the Frye test. 38 The Daubert Court established a two-part test for determining the admissibility of scientific evidence under Federal Rule of Evidence 702. 39 Under the Daubert standard, scientific testimony must be both reliable and relevant: “This entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.” 40

Although Daubert does not explicitly mention “junk science,” a number of courts and commentators subsequently interpreted the opinion as imposing barriers to the use of junk science in the courtroom. 41 The effectiveness of these implicit barriers is debatable. 42 Commentators on the other side of the debate argued that Daubert actually loosened the standard for admissibility of junk science. 43 Still others claimed that the standard remained unchanged after Daubert. 44

39. Id. at 592–93. This Comment seeks only to lay a basic foundation for the current standard of admissibility for forensic evidence. For a more extensive background on the adoption and application of the standard in Daubert, see generally David E. Bernstein, The Admissibility of Scientific Evidence After Daubert v. Merrell Dow Pharmaceuticals, Inc., 15 Cardozo L. Rev. 2139 (1994).
42. See Fed. R. Evid. 702 advisory committee’s note (“A review of the caselaw after Daubert shows that the rejection of expert testimony is the exception rather than the rule.”); United States v. 14.38 Acres of Land Situated in Leflore Cnty., Miss., 80 F.3d 1074, 1078 (5th Cir. 1996) (noting that Daubert did not “work a sea change over federal evidence law”); Nancy A. Miller, Daubert and Junk Science: Have Admissibility Standards Changed?, 61 DEF. COUNS. J. 501, 509 (1994) (“Whether the Daubert testimony and other like testimony, which many scientists and commentators consider ‘junk science,’ will make it into the courtroom remains to be seen.”).
43. E.g., G. Marc Whitehead, Daubert Will Allow More Expert Testimony, Complicate Jurors’ Job, Prejudice Defense, 21 Prod. Safety & Liability Rep. (BNA) 41–43 (1993); see also State v. Carter, 524 N.W.2d 763, 777–79 (Neb. 1994) (rejecting Daubert and noting that its test is “less demanding” and, therefore, more likely than Frye to admit junk science). Evidence suggests that this view is incorrect. Bernstein, supra note 39, at 2139–40 (observing that, in the short time after Daubert was decided, five federal circuit courts used Daubert to exclude evidence, whereas only one court relied on the opinion to admit evidence).
44. See Miller, supra note 42, at 501, 515 (“Although Daubert has been cited in more than 40 federal court decisions and more than 60 state court decisions across the country as of September 1994, admissibility of expert testimony appears relatively unchanged.”).
The standard for admissibility set forth in *Daubert* applies in all Texas cases. One year before *Daubert*, the Texas Court of Criminal Appeals adopted an identical standard by holding that scientific evidence offered pursuant to Texas Rule of Evidence 702 must be reliable and relevant. In 1995, the Texas Supreme Court explicitly endorsed the standard set forth in *Daubert*.

C. The Perseverance of Junk Science

One policy reason advanced by the Texas Supreme Court in adopting the *Daubert* standard was the fact that “[e]xpert witnesses can have an extremely prejudicial impact on the jury, in part because of the way in which the jury perceives a witness labeled as an expert.” This fact holds true for both civil and criminal cases.

A related phenomenon has been dubbed the “CSI Effect.” On the TV series *Crime Scene Investigation* (CSI), forensic evidence is consistently used to solve crimes. The CSI Effect refers to the expectation of jury members that science is always right. Jurors who have grown accustomed to seeing fictional cases built successfully on forensic evidence may expect actual cases to be similarly structured. In other words, these jurors may be tainted with “unrealistic expectations” of conclusive scientific proof of guilt before they will convict.

While the CSI Effect effectively increases the burden on the prosecution, one commentator argues that the “Reverse CSI Effect” actually benefits the prosecution and may ultimately be more damaging to the criminal justice system as a whole. The Reverse CSI Effect is described as follows:

47. *Id.* at 553.
50. *Id.* (“The theme of CSI is that people lie, but science always tells the truth.” (citing Thomas W. Nolan, *Depiction of the “CSI Effect” in the Popular Culture: Portrait in Domination and Effective Affectation*, 41 New Eng. L. Rev. 575, 584 (2007))).
51. *Id.* at 442.
52. *Id.* at 439–40 (internal quotation marks omitted).
[W]hile jurors may have come to expect, as a result of CSI-type shows, high-tech forensic testimony in criminal cases, and may inappropriately acquit when such evidence is lacking, these same jurors, as a result of these same CSI-type shows, often place too much weight on forensic evidence in cases where forensic evidence IS in fact produced by the prosecution, resulting in convictions in cases where the defendant probably should have been acquitted.55

In short, scientific evidence impresses juries.56 Thus, despite the adoption of a tougher standard for admissibility of scientific evidence by both the federal and Texas court systems, the use of junk science—which may be indistinguishable from “real” science to the average jury member—perseveres. In fact, nearly a decade after Daubert, one of the country’s top scientific journals published an editorial titled “Forensic Science: Oxymoron?”57 The article, and others like it, illustrate the continuing concern of the scientific community about how science is being used in criminal cases.58

Some argue that there has been a decline in the use of junk science since Daubert.59 While this may be true, such a decline has a disparate impact on civil and criminal cases. The effect is initially the same: A departure from junk science has no retroactive impact on prior losers in the courtroom. The crucial difference lies in the fact that while prior civil losers cannot recoup their financial losses, prior criminal losers cannot recoup their personal freedom. Those convicted under outdated science remain in prison even if modern science renders the former verdict “inaccurate, if not downright ludicrous.”60

Until recently, changing science did not mean a chance at freedom for these prisoners.61 But the growing realization of this

55. Id.
fact, coupled with the grave injustice of convicting an innocent man or woman, may have been just the catalyst needed to set a change in motion.62

III. TEXAS TAKES ACTION: THE JUNK SCIENCE WRIT

A. A Call for Reform

In 2009, the National Academy of Sciences released a groundbreaking report on the status of forensic science.63 The report was a “scathing indictment” of the state of the forensic science system, commenting that “[t]he law’s greatest dilemma in its heavy reliance on forensic evidence . . . concerns the question of whether—and to what extent—there is science in any given ‘forensic science’ discipline.”65

The report reviewed and criticized a number of forensic science disciplines, including analysis of impression evidence (such as shoeprints and tire tracks), analysis of hair and fiber evidence, forensic odontology, and analysis of bloodstain patterns.66 While noting that some areas of forensic science have great potential to help law enforcement officials identify criminals, the report observed that, in some cases, information and testimony based on faulty forensic science analyses might actually contribute to wrongful convictions of innocent people.67 Concluding that “major challenges still face the forensic science community,” the report made a number of recommendations, including the creation of a “new, strong, and independent entity” to support and oversee the forensic science community.68

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62. See Craig M. Cooley, Reforming the Forensic Science Community to Avert the Ultimate Injustice, 15 STAN. L. & POL’Y REV. 381, 408 (2004) (emphasizing that “forensic science has played a role in numerous injustices around the world”); H. Patrick Furman, Wrongful Convictions and the Accuracy of the Criminal Justice System, COLO. LAW., Sept. 2003, at 11, 11 (“The wrongful conviction of an innocent person is the worst nightmare to anyone who cares about justice.”).

63. NAS REPORT, supra note 31, at xix.


65. NAS REPORT, supra note 31, at 87.

66. Id. at 145–50 (impression evidence); id. at 155–61 (hair evidence); id. at 161–63 (fiber evidence); id. at 173–76 (forensic odontology); id. at 177–79 (bloodstain patterns). Other disciplines covered in the extensive report included analysis of controlled substances, toolmark and firearms identification, analysis of paint and coatings evidence, and digital and multimedia evidence. Id. at 134, 150–51, 167, 179–80.

67. Id. at 4. “This fact has demonstrated the potential danger of giving undue weight to evidence and testimony derived from imperfect testing and analysis.” Id.

68. Id. at 5, 18–33 (outlining the role the new independent agency would play in helping reform forensic science).
Additionally, a number of academic and professional commentators have raised the issue of reform throughout the last decade.69 The central inquiry advanced by one author is as follows: “[W]hat are the avenues of relief for a factually innocent person who was convicted on the basis of scientific testimony that may have been generally accepted at the time of the conviction, but is later discovered to be completely wrong under modern scientific understanding?”70 Potential avenues of relief for such persons have been identified, but they are not without limitations.71

Another author contended, “The point here is simple: When scientific methodologies once considered sacrosanct are modified or discredited, the judicial system must accommodate the changed scientific landscape.”72 As indicated, the academic and professional community has been decidedly vocal about the need for reform and its expectations of the judicial system.

The need for reform was recognized at a local level as well. In 2009, the Texas legislature established the Timothy Cole Advisory Panel on Wrongful Convictions (the Advisory Panel).73 The Advisory Panel was named after the first Texan to be posthumously exonerated of a crime through DNA testing.74 In 2010, the Advisory Panel submitted a report to the Texas Indigent Defense Commission regarding the causes of wrongful convictions and recommendations for preventing future wrongful convictions.75


70. Plummer & Syed, supra note 32, at 261. The authors further questioned, “Does the current structure of state post-conviction and federal habeas proceedings provide enough protection for individuals in such situations?” Id.

71. For example, very few claims are “plainly available” to a defendant on collateral appeal, id. at 280; new evidence claims are difficult to raise and are met with skepticism in state courts, id. at 287; and federal habeas corpus traditionally does not provide any relief in convictions relying upon changing science, id. at 289.


Among the recommendations advanced by the Advisory Panel was a suggestion to amend Chapter 11 of the Texas Code of Criminal Procedure to allow a writ of habeas corpus based on changing scientific evidence. This suggestion stemmed from the Advisory Panel’s recognition of the need to provide “meaningful access to the courts to those with claims of actual innocence following a conviction based on science that has since been falsified.”

Recent disagreements among the Texas Court of Criminal Appeals (CCA) judges also illustrated the need for reform. In *Ex Parte Robbins*, the 5–4 court rejected the trial judge’s recommendation to grant the defendant a new trial. Judge Cochran stated in her dissenting opinion that, given the current concerns about the reliability of forensic science used in the courtroom, “the criminal justice system needs some jurisprudential mechanism to deal with cases in which a prior conviction was based upon scientific evidence that has subsequently been found to be unreliable, in whole or in a specific case.”

Lack of consensus among the CCA judges was also demonstrated in *Ex Parte Henderson*, in which three concurring and two dissenting opinions were filed. In *Henderson*, the CCA accepted the trial judge’s recommendation to grant the defendant a new trial. However, both dissenting opinions criticized the majority’s opinion for failing to identify the legal basis for granting the defendant relief; one dissenting judge went so far as to call it

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76. TCAP REPORT, supra note 75, at 29.
77. Id. “The Panel believes this is a valuable reform for the criminal justice system in Texas.” Id.
79. Id. at 471 (joint opinion of Cochran, Womack, and Johnson, JJ., dissenting) (citing NAS REPORT, supra note 31).
80. *Ex parte Henderson*, 384 S.W.3d 833, 834 (Tex. Crim. App. 2012) (Price, J., concurring); id. at 837 (Cochran, J., concurring); id. at 851 (Alcala, J., concurring); id. at 852 (Keasler, J., dissenting); id. at 859 (Hervey, J., dissenting).
81. Id. at 833 (per curiam).
82. See id. at 852 (Keasler, J., dissenting) (commenting that the court issued a “legally hollow opinion with a staggering result”); id. at 859 (Hervey, J., dissenting) (arguing that the court made a “quantum leap from ‘advances in science’ to granting relief”).
a “travesty” to grant relief on “some unknown legal principle.” 83 This disconnect between judges illustrated in Robbins and Henderson helped set the stage for the next step toward reform.

B. History of the Junk Science Writ

The proposal underlying Senate Bill 344, or the Junk Science Writ, failed twice before, in 2009 and 2011. 84 In 2009, a nearly identical bill, Senate Bill 1976, was passed in the Senate. 85 Senate Bill 1976 would have authorized courts to “grant relief on writs of habeas corpus that, subject to criteria in the bill, raised relevant scientific evidence that was not available at the time of a trial or that discredited scientific evidence relied on by the prosecution at a trial.” 86 However, this bill was pushed off the House floor agenda during the voter ID fight. 87

The Timothy Cole Advisory Panel noted Senate Bill 1976 with approval in its 2010 report. 88 The Advisory Panel concluded that the bill’s provisions represented sound post-conviction policy and that such a bill would be “valuable” for the criminal justice system in Texas. 89

In 2011, similar bills were filed in the House and Senate but were not rigorously pursued because the legislature was more focused on reforming eyewitness identification practices. 90 A renewed push during the eighty-third legislative session led to state Senator John Whitmire filing Senate Bill 344 in 2013. 91 Following its filing, Whitmire noted that the recent disagreement within the CCA increased the Junk Science Writ’s likelihood of success. 92

The Junk Science Writ also received support from the Innocence Project of Texas. 93 While the bill was pending before the

83. Id. at 859 (Keasler, J., dissenting).
84. Chammah, supra note 19.
87. Chammah, supra note 19.
88. TCAP REPORT, supra note 75, at 29.
89. Id. at 29, 31. The Advisory Panel further noted that such a bill would “provide meaningful access to the courts to those with claims of actual innocence following a conviction based on science that has since been falsified.” Id. at 29.
90. Chammah, supra note 19.
91. Id. State Representative Sylvester Turner filed a companion bill, House Bill 967, the following day. Id.
92. Id.; see also supra notes 78–83 and accompanying text (describing the recent disagreement amongst CCA judges).
legislature, one Innocence Project attorney commented that “some legislation establishing black and white procedures, and a concrete process with articulated standards of review would assist both defendants and the state in knowing what has to be done in order to obtain the desired relief.”

C. Successful Passage

Illustrating the idiom, “third time’s the charm,” the Junk Science Writ passed in the Senate on March 25, 2013, and in the House on May 16, 2013. Governor Rick Perry signed the bill into law on June 14, 2013, an act that award-winning criminal justice blogger Scott Henson called “a tremendous relief.” Henson also noted the historical importance of the bill’s expansion of—the writ of habeas corpus: “When legislative bodies . . . engage in habeas ‘reform,’ the change nearly always limits the writ’s use rather than expand it. That’s why [the Junk Science Writ] stands out as a singular accomplishment, flying in the face of legislative trends going back not just decades but centuries.”

Texas, usually criticized for its harsh stance on crime, is now being recognized and praised as the first state in the nation to pass such a bill. While “new evidence” claims are nothing new for

94. Chammah, supra note 19.
100. See, e.g., Jervis, supra note 17 (observing that Texas is “somewhat surprisingly” at the forefront of the effort to challenge forensic science); Mark Godsey, Breaking: With Today’s Release of the San Antonio Four, Texas Now on the Cutting Edge of Efforts to Free the Innocent, HUFFINGTON POST BLOG (Nov. 18, 2013, 12:47 PM), http://www.huffingtonpost.com/mark-godsey/with-todays-release-of-th_b_4296813.html (calling Texas a trendsetter for innocence reforms); Hilary Hylton, Texas Justice Goes Soft, TIME (Dec. 10, 2013), http://nation.time.com/2013/12/10/texas-justice-goes-soft/ (referring to the Junk Science Writ as “the nation’s first law recognizing advances in forensic science”).
those who are convicted but maintain their innocence, judges have not often regarded changing scientific standards as grounds on which to review convictions. Habeas writs based on new evidence are very difficult to win, especially in the Texas judicial system. The Junk Science Writ gives the “new evidence” claim a makeover by allowing a prisoner to challenge his conviction based on new scientific evidence.

The language of the bill provides that prisoners may file a writ even if a previous writ of habeas corpus has been made. This language is important, as defendants are generally allowed only one habeas writ to appeal their conviction, and many of these writs are filed without an attorney or soon after a conviction. Thus, without the ability to file a writ based on new scientific evidence, prisoners who have already filed their one allowable habeas writ would be precluded from demonstrating that the science that convicted them at trial has since been discredited.

The Junk Science Writ went into effect on September 1, 2013, and amended Chapter 11 of the Texas Code of Criminal Procedure by adding Article 11.073. As described, prisoners may use the bill to apply for a writ of habeas corpus based on new scientific evidence. If the writ is granted, the case goes to the Texas Court of Criminal Appeals, which may call for a retrial or send the case back to the trial court for dismissal.

D. The Junk Science Writ in Action

Since the enactment of the Junk Science Writ, at least three Texas cases have been overturned and their defendants released. The first of these cases, known as the “San Antonio Four” case, involved four women accused of child sex abuse in

101. Koppel, supra note 37.
102. Hylton, supra note 100.
103. Tex. S.B. 344 § 1, 83d Leg., R.S. (2013). The bill provides in part that a court may grant a convicted person relief on a habeas petition if the convicted person files an application containing “specific facts indicating that relevant scientific evidence is currently available and was not available at the time of the convicted person’s trial because the evidence was not ascertainable through the exercise of reasonable diligence by the convicted person before the date of or during the convicted person’s trial.” Id. Furthermore, the court must find that, “had the scientific evidence been presented at trial, it is reasonably probable that the person would not have been convicted.” Id.
104. Id.
106. Tex. S.B. 344 § 3; see TEX. CODE CRIM. PROC. ANN. art. 11.073 (West Supp. 2014).
108. Id.
The four women, Elizabeth Ramirez, Kristie Mayhugh, Cassandra Rivera, and Anna Vasquez, were accused by two of Ramirez's young nieces of sexual assault. One commentator notes that the case fit perfectly in the "day-care sex abuse hysteria that swept the nation during the 1980s and early 1990s," brought about by terrified parents with a witch-hunt mentality.

At trial in the San Antonio Four case, the prosecution called expert witness Nancy Kellogg, who testified that a two- to three-millimeter "scar" found on one of the girls' hymens could only have been caused by the sexual abuse claimed by the girls. At the time of trial, such a mark was considered to be the direct result of vaginal penetration, and Kellogg's testimony thus became the linchpin of the prosecution's case. Notably, Kellogg refused to turn over photographs she claimed to have taken of the girls' hymens.

Furthermore, Kellogg's medical reports included the possibility that the sexual abuse claimed by the girls was connected to some sort of Satanic ritual. The prosecution, unable to offer any other explanation as to why the women would commit such an assault, used the information in Kellogg's reports to hint at the possibility of Satanism in its opening statements. In the fresh aftermath of the recent child-abuse hysteria, the jury convicted the four women. Ramirez, accused of being the ringleader, received a sentence of thirty-seven and a half years; the other three women each received fifteen-year sentences.

In 2007, nine years after the convictions, the American Academy of Pediatrics published a study demonstrating that

110. Id. Ramirez's nieces were seven and nine years old at the time. Id.
111. Id. Silverglate and Bloom note that the hysteria "began with bizarre allegations in California that children were being sexually abused and tortured by day-care workers in Satanic rituals," and resulted in a number of trials and prosecutions across the country. Id.
113. Godsey, supra note 100.
114. Silverglate & Bloom, supra note 109. The expert witness claimed to have taken six photographs of the girls' hymens with a colposcope, but stated that they had gone into long-term storage and were too difficult to access. Id.
115. Id.
116. Id. Silverglate and Bloom note that while the prosecution was not able to raise the possibility of Satanism directly, it nonetheless hinted at it through statements such as one claiming that the girls were "sacrificed to the altar of lust." Id.
117. Id.
118. Id.
torn or injured hymens do not leave scars. Kellogg subsequently retracted her testimony, stating that new medical standards contradicted her conclusion that Ramirez’s nieces exhibited signs of a hymenal injury. Furthermore, a spokesman for the District Attorney’s Office in Bexar County, where the women were convicted, recently conceded that medical science no longer supports Kellogg’s testimony and stated that Kellogg would no longer testify that way if the trial were held today. Despite the 2007 study, the San Antonio Four remained in prison due to the difficulty of securing a habeas writ based on new evidence and the lack of guidance for Texas courts reviewing cases in which the science used at trial has changed.

After spending more than a decade in prison, the San Antonio Four caught the break of a lifetime with the passage of the Junk Science Writ. The new law finally established a procedure for a court to review the women’s claims of new scientific evidence. Pursuant to the Junk Science Writ, the four women were able to get their convictions overturned in November 2013 by demonstrating that which was long-known: Had Ramirez’s nieces been physically examined using today’s medical standards, the “science” supporting Kellogg’s medical testimony would no longer corroborate the girls’ claims of sexual abuse. The next step for the San Antonio Four is the CCA, where they will seek full exonerations.

119. See John McCann et al., Healing of Hymenal Injuries in Prepubertal and Adolescent Girls: A Descriptive Study, 119 PEDIATRICS 1094, 1105 (2007) (concluding that hymenal injuries observed in the study “healed rapidly and frequently left little or no evidence of the previous trauma”). Two commentators note that such a notion had been discredited within the medical community even before the time of trial in the Ramirez case. Silverglate & Bloom, supra note 109. Indeed, a 2010 investigative report by the San Antonio Express-News, supra note 109, claimed that significant research available to Kellogg at the time of trial indicated that the type of mark found on the girl’s hymen was a normal variation in vaginal appearance and did not necessarily point to trauma. Michelle Mondo, Did These Women Molest Two Girls?, SAN ANTONIO EXPRESS-NEWS (Dec. 21, 2010), http://www.mysanantonio.com/news/local_news/article/Did-these-womenmolest-two-girls-908873.php.

120. Koppel, supra note 37.

121. Hylton, supra note 100.

122. Jervis, supra note 17.

123. Godsey, supra note 100. Some find it incredible that it took nine years to overturn the conviction considering other post-conviction events: three of the four women took and passed polygraphs while in prison, and one of the two girls recanted the story of sexual abuse, explaining that nothing actually happened on the weekend in question. Id.

124. The Bexar County District Attorney’s Office has said that it will not retry the case if the CCA vacates the convictions. Linda Rodriguez McRobbie, How Junk Science and Anti-Lesbian Prejudice Got Four Women Sent to Prison for More Than a Decade, SLATE (Dec. 4, 2013), http://www.slate.com/blogs/outward/2013/12/04/san_antonio_four_junk_science_and_anti_lesbian_prejudice_sent_them_to_prison.html. However, the District Attorney is unwilling to agree to an innocence claim, which would entitle the women to compensation paid by the
The second Texas case to be overturned under the Junk Science Writ was that of Frances and Dan Keller. The Kellers were convicted in 1992 of sexually abusing children at a day care center they ran near Austin, Texas. Charges were filed when three young children who were infrequent visitors to the day care center claimed that they had been forced to take part in bizarre Satanic rituals. The only physical evidence offered at the Kellers’ trial was the testimony of Doctor Michael Mouw, an ER doctor who examined one of the children. Dr. Mouw testified that he had discovered “what appeared to be lacerations” on the girl’s hymen, and concluded that the marks could have come from sexual abuse. Dr. Mouw’s testimony was enough for the jury to convict the Kellers and sentence each of them to forty-eight years in prison.

Dr. Mouw has since recanted his testimony. In an affidavit supporting a writ filed on behalf of the Kellers in early 2013, Dr. Mouw stated, “While my testimony was based on my good faith belief at that time, I now realize my conclusion is not scientifically or medically valid, and that I was mistaken.” Pursuant to the Junk Science Writ, the Kellers successfully proved that scientific standards had changed since the time of their trial. A trial court released both Frances and Dan on bond after vacating their convictions. Like the San Antonio Four, the Kellers will also take their case to the CCA to seek exoneration.


Hall, supra note 125.

The children’s allegations included “that the Kellers defecated and urinated in their hair, put spells on them, baptized them in blood in a backyard pool, made them sacrifice babies—one of whom they cut open so they could drink its blood and hold its beating heart in their hands.” Id. The children also claimed that they were flown to Mexico and forced to dig up graves outside of Austin, all during their time at the day care center.

Dr. Mouw acknowledged that, in 1991, he was a young doctor who had made a mistake. Id. He stated that, shortly after he gave his testimony, he learned that the “lacerations” he had identified weren’t necessarily injuries, but were just normal marks. Id.
A Texas Monthly article labeled the Kellers as some of the “last Americans in jail from a long-gone era of hysteria over ‘Satanic ritual abuse.’” But the article poses the following question: “What about the dozens of other inmates in Texas convicted of child-sex abuse and sent away because of testimony that scars or lacerations on hymens were evidence of abuse?” And this Comment poses a further question: What about those convicted in countless non-sex-abuse cases involving forensic evidence and “scientific” testimony?

The third case to be overturned under the Junk Science Writ is that of Neal Robbins, who was convicted of murdering his girlfriend’s seventeen-month-old child in 1999. At Robbins’s trial, the prosecution’s case depended largely upon the testimony of Dr. Patricia Moore, a medical examiner who testified that the child’s death was caused by asphyxiation by compression. In 2007, Dr. Moore was asked by the Montgomery County District Attorney’s Office to review her autopsy report from the case. In a letter to the District Attorney, Dr. Moore wrote, “Given my review of all the material from the case file and having had more experience in the field of forensic pathology, I now feel that an opinion for a cause and manner of death of undetermined . . . is best for this case.”

Robbins subsequently filed a writ of habeas corpus, alleging that “[n]ewly discovered evidence shows that no rational juror would find [him] guilty beyond a reasonable doubt of the offense for which he was charged and convicted.” The trial judge agreed and recommended a new trial for Robbins. The CCA, however,

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136. Id. The author notes that hundreds of other Americans who were imprisoned in similar ritual abuse cases were freed over the years, “as children recanted and common sense prevailed.” Id. However, the Kellers had “remained in prison, largely forgotten.” Id.

137. Id.


139. Id. at 448.

140. Id. at 454.

141. Id. “Moore explained that since her original opinion, she has had more experience, and she has reviewed additional information that suggested that the bruises could have resulted from aggressive CPR and other efforts to assist the child.” Id. Additionally, Dr. Moore’s trial testimony was called into question by both the deputy chief medical examiner for Harris County and a former medical examiner for Harris County who had been Dr. Moore’s supervisor at the time of trial. Id. at 453.

142. Id. at 454. Approximately one month later, Robbins filed a supplemental application alleging that his “right to a fair trial by a fair and impartial jury . . . was violated because his conviction was based on testimony material to the State’s case that has now been determined to be false.” Id.

143. Id. at 457. The trial court concluded that a new trial was necessary because Robbins’s rights to due process, due course of law, and an impartial jury had been violated. Id.
denied Robbins habeas relief by a 5–4 margin in 2011.144 While acknowledging that Dr. Moore’s testimony played a crucial role in the prosecution’s case against Robbins, the CCA concluded that “the record does not support that Moore’s trial testimony has been proven to be false.”145 Commentators noted at that time that, “barring passage in some future session of writ-reform legislation,” an application for pardon or a commutation of his sentence remained the only options for Robbins.146

As luck would have it, Robbins only had to wait one more legislative session for the writ reform that he needed.147 One month after the Junk Science Writ became effective, a trial judge again recommended a new trial for Robbins.148 Relying on the Junk Science Writ, the CCA granted Robbins habeas relief, again by a 5–4 margin, and remanded the case for a new trial.149

The Junk Science Writ has prompted appeals in a number of other Texas cases since its passage.150 While some view these fresh appeals as a sign of hope,151 others do not share this enthusiasm.152

E. Criticisms of the Junk Science Writ

The Junk Science Writ has provoked a number of criticisms, primarily from prosecutors and from those who feel that the bill does not do enough in its attempt to address the wrongfully convicted. A House Research Organization analysis of the nearly identical bill that passed the Senate in 2009153 reported that some prosecutors saw the bill as “unnecessary” because “[t]he current system for filing and considering writs of habeas corpus is well...
2015] ADDRESSING WRONGFUL CONVICTIONS 1057

established.”154 The Junk Science Writ generated the same type of opposition. One assistant district attorney with Harris County said that the bill was “unnecessary because newly discovered evidence, including scientific evidence, can be presented in a subsequent writ application.”155 She added, “The bill’s language concerning contested scientific evidence is overbroad as opposing experts can be found for nearly all expert testimony and evidence.”156 Additionally, some prosecutors were concerned that the Junk Science Writ would open the door to frivolous appeals.157 Despite this criticism, the bill passed without opposition from the prosecutors’ lobby.158

That is not to say, however, that prosecutors have been fully cooperative in the junk science cases appealed since the bill’s enactment. For example, in the San Antonio Four case, the prosecution agreed to grant a new trial but will not agree to the women’s actual innocence.159 A declaration of formal innocence would allow the women to collect money that the state traditionally pays to the wrongfully convicted.160 Ironically, the district attorney’s office has decided not to re-prosecute the four women “in the interest of justice.”161

Additionally, although the CCA has granted a new trial in the Neal Robbins case,162 prosecutors remain convinced of his guilt and argue that he should not be allowed to appeal merely because the medical examiner in the case changed her opinion.163 Notably,

154. House Research Org., Bill Analysis, supra note 86, at 4. The analysis noted that opponents of the bill felt that “[i]t might be better to consider establishing a procedure for new scientific evidence that would be similar to the one in Code of Criminal Procedure Chapter 64 for DNA evidence.” Id. Chapter 64 allows convicted persons to submit motions to the court requesting DNA testing of biological material under certain circumstances. Id. This evidence may then be submitted in a writ if the writ meets the criteria allowing subsequent writs for claims that were not and could not have been presented previously. Id.

155. Chammah, supra note 19.

156. Id.


159. Henson, supra note 151. Henson criticizes the prosecution’s decision as a “CYA maneuver . . . allowing the DA to continue denying they secured false convictions against innocent women, even if that’s how the evidence now reads.” Id.

160. Id.

161. Id. A prosecutor in Bexar County stated, “Realistically, given the age of the cases, given the position . . . that one of the witnesses is recanting, it would be impossible for us to try to seek additional convictions. And I’m not sure . . . that that would be in the interest of justice anyway.” Id.

162. Supra notes 148–49 and accompanying text.

the prosecution in Robbins’s case originally agreed that Robbins should be granted a new trial when Dr. Moore’s testimony was discredited.\textsuperscript{164} However, after a subsequent investigation, prosecutors changed their position and recommended that relief be denied.\textsuperscript{165}

Opponents of the Junk Science Writ also caution critics of forensic science to not completely write off forensic techniques, which still play an important role in convicting criminals.\textsuperscript{166} The Executive Director of the National District Attorneys Association commented to one news source, “The criminal system is not falling apart. Yes, there are errors, but they’re very rare.”\textsuperscript{167} Law enforcement officials say that forensic evidence is still valid and useful, as long as prosecutors do not overstate the extent to which such evidence incriminates a suspect.\textsuperscript{168}

Apart from prosecutors, who feel that the Junk Science Writ is unnecessary and who continue to place an emphasis on the importance of forensic evidence, commentators on the opposite end of the spectrum have suggested that the bill may fall short of its stated purpose. For example, at least one commentator has expressed skepticism over whether the bill has any real “teeth.”\textsuperscript{169} A reporter at \textit{The Austin Chronicle} asks, “[W]ill [the Junk Science Writ] actually cure the problem it seeks to address?”\textsuperscript{170} The language in the bill provides that after all of its requirements are satisfied by a prisoner, the CCA \textit{may}—not \textit{shall}—grant relief.\textsuperscript{171} The article concludes by noting that it remains to be seen whether such discretionary language in the Junk Science Writ has any real meaning for wrongfully convicted defendants.\textsuperscript{172}

\begin{thebibliography}{172}
\bibitem{Robbins} \textit{Ex Parte} Robbins, 360 S.W.3d 446, 453–54 (Tex. Crim. App. 2011). In its original response to Robbins’s 2007 habeas petition, the State claimed that because it relied on Dr. Moore’s opinion in presenting its case, which had since been recanted, confidence in the outcome had been undermined. \textit{Id.} at 454.
\bibitem{Robbins2} \textit{Id.} at 454–56. After the trial court appointed a pathologist to conduct an independent forensic examination of the evidence in the case, the State was no longer willing to recommend granting a new trial, but it agreed not to oppose Robbins’s request for a new trial. \textit{Id.} at 456. After further discovery, the State recommended that Robbins be denied relief altogether. \textit{Id.}
\bibitem{Jervis} Jervis, \textit{supra} note 17.
\bibitem{Koppel} \textit{Id.} The Executive Director added that “[m]istakes in forensics still only make up a small minority of the more than 10 million felony cases prosecuted in the USA each year.” \textit{Id.}
\bibitem{Smith} Smith, \textit{supra} note 158.
\bibitem{Koppel2} \textit{Id.}
\bibitem{Smith2} \textit{Id.} In other words, even after a defendant demonstrates “due diligence at the trial level to ferret out updated science, for example, and that had that newer evidence been presented at trial the defendant, ‘on the preponderance of the evidence,’ would not have been convicted,” the CCA still has discretion to reject the defendant’s application. \textit{Id.}
\bibitem{See id.} (“[W]hether [the bill] will have any bite to it is unclear.”).
\end{thebibliography}
A final criticism of the Junk Science Writ is that it still allows faulty evidence to be introduced in the first place. The bill's provisions equip courts with guidelines to review writ applications submitted by people who have already been convicted and imprisoned. The bill, say critics, does nothing to stop those people from being convicted under junk science in the first place. This criticism misinterprets the purpose underlying the Junk Science Writ. The bill is not directed at preventing wrongful convictions at the outset, but rather at giving those who have already been convicted a chance at a new trial. It will be up to the states and the federal government to implement additional measures to supplement the purpose of the Junk Science Writ. The remainder of this Comment discusses several of these measures.

IV. BEYOND TEXAS'S JUNK SCIENCE WRIT: OTHER MEASURES FOR REFORM

This Part discusses further measures that can and should be utilized to address the problem of wrongful convictions. These measures fall into two categories: reactive and preventive. Texas's Junk Science Writ provides one example of a reactive measure that has met with success so far. Part IV.A encourages other states to adopt their own version of the Junk Science Writ. Part IV.B looks beyond the Junk Science Writ and discusses other reactive and preventive measures that have been employed in a limited number of states to date.

A. All Fifty States Should Adopt Their Own Junk Science Writ

Convictions under junk science are not just a Texas problem. ‘This is happening all over the country. Texas just happens to be a leader in its willingness to reconsider convictions based on [new scientific] evidence.’ In the remaining forty-nine states, ‘freeing an innocent person wrongfully convicted by [junk science] remains an obstacle.’ This Comment encourages other states to pass bills similar to the Junk Science Writ in Texas.

173. See Jervis, supra note 17 (“The Junk Science Writ law is imperfect, as it still allows [junk] science to be introduced in the first place . . . .”); Smith, supra note 158 (“Still, [the bill] does nothing to stop the use of junk or questionable science in the first place.”).
175. Jervis, supra note 17; Smith, supra note 158.
177. See Jervis, supra note 17 (quoting Stephen Saloom, policy director of a New York-based Innocence Project).
178. Godsey, supra note 100.
A survey of the law in various states illustrates the need for change. In Mississippi, despite “multiple people being wrongfully convicted” as a result of junk science, “there has been no uniform, formal inquiry into . . . what went wrong.”\footnote{K.C. Meckfessel Taylor et al., CSI Mississippi: The Cautionary Tale of Mississippi’s Medico-Legal History, 82 Miss. L.J. 1271, 1318 (2013).} One article in the Mississippi Law Journal, published the same year as the enactment of the Junk Science Writ, details a series of cases in which questionable scientific testimony was used by the prosecution to secure a conviction.\footnote{Id. at 1289–97.} The similarity between all of the cases is that they all included “stunning, variegated acts of forensic malfeasance.”\footnote{See id. at 1296–97 (noting that prosecutors “aided and abetted” in this malfeasance).}

For example, a murder suspect in one case had apparent scratch marks on his arms, neck, and face.\footnote{Id. at 1289. The victim had been suffocated in his bed with a pillow. Id.} The expert retained by the prosecution went to the funeral home and removed the fingernails from the victim.\footnote{Id. at 1289–90 (citing Aff. of Ross Parker Simons (Oct. 6, 2010) (on file with authors)).} The expert then mounted the fingernails onto sticks, went to the jail, and, “in a procedure that remains unparalleled in the annals of forensic science,” concluded that the victim’s fingernails had without a doubt caused the marks on the suspect’s body.\footnote{Id. at 1290 (citing Letter from Michael H. West to Jim McAnally, Lieutenant of Jackson Coty., Miss. Sheriffs Office (June 18, 1990) (on file with authors)).} The suspect was subsequently charged with capital murder.\footnote{Id. The expert “admitted that he neglected (1) to make test marks with the fingernails, (2) to evaluate the fingernails’ class and individual characteristics, and (3) to establish the reproducibility of this test.” Id. (citing Paul C. Giannelli & Kevin C. McMunigal, Prosecutors, Ethics, and Expert Witnesses, 76 Fordham L. Rev. 1493, 1502 (2007)).}

After all, “[t]he logical consequence of a system that encourages forensic fraud is forensic fraud; and the logical consequence of forensic fraud is wrongful convictions.”\footnote{Id. at 1276.} The authors of the Mississippi Law Journal article call for a reform in the standards for admitting forensic evidence and for handling cases in which a defendant was wrongfully convicted using faulty evidence.\footnote{Id. at 1317–18, 1327–29 (calling for an “effective and thorough investigation of wrongful convictions cases” and posing the question of how to stop the proliferation of junk science).}

Like Mississippi, Ohio is also in need of its own Junk Science Writ. In \textit{State v. Wheat}, Derrick Wheat was convicted of murder...
with firearm specifications.\textsuperscript{188} Wheat subsequently filed three motions for a new trial; the third motion was based on newly discovered forensic testing.\textsuperscript{189} In his third motion, Wheat challenged the scientific accuracy of the gunshot residue testing performed by the coroner on behalf of the state.\textsuperscript{190} The court acknowledged that, since the time of Wheat’s trial, the coroner had abandoned the type of testing used at trial in favor of a more scientifically advanced method.\textsuperscript{191} However, the court found this abandonment to be insufficient grounds for granting Wheat a new trial.\textsuperscript{192}

While “[t]he drive to retroactively challenge forensic evidence is still in its infancy nationally . . . some legal experts believe it could eventually lead to the reversal of many convictions, as has happened with the use of DNA evidence to challenge past prosecutions.”\textsuperscript{193} Although the Junk Science Writ is the first of its kind in the nation, a comparison to the history of DNA testing laws hints at a promising future.

Texas enacted its own law streamlining the process for new testing of DNA in 2001.\textsuperscript{194} By 2002, twenty-six states had enacted statutes to allow convicted prisoners access to DNA testing.\textsuperscript{195} By 2009, forty-three states had enacted such statutes.\textsuperscript{196} Today, all fifty states have some form of law allowing prisoners access to DNA testing.\textsuperscript{197} While this achievement did not happen overnight, it instills hope in those who support the Junk Science Writ and who urge other states to adopt similar bills.


\textsuperscript{189} Id.

\textsuperscript{190} Id. at *2.

\textsuperscript{191} Id. at *2–3. Wheat even offered expert testimony that the testing method utilized by the coroner at the time of trial was no longer a scientifically accepted method for indicating the presence of gunshot residue. Id. at *2.

\textsuperscript{192} Id. at *7.

\textsuperscript{193} Koppel, supra note 37.

\textsuperscript{194} Tex. Code Crim. Proc. Ann. arts. 64.01–.05 (West 2006 & Supp. 2014). The enactment of Chapter 64 of the Texas Code of Criminal Procedure came in response to then-governor George W. Bush’s pardon of Roy Criner in 2000. Chammah, supra note 19. Criner, who was serving ninety-nine years in prison for rape and murder, was denied a new trial in 1998 despite new DNA evidence suggesting that he was innocent. Id.


B. Additional Measures for Addressing and Preventing Wrongful Convictions

Efforts to improve the criminal justice system should not be limited to the Junk Science Writ, and certainly should not be limited to Texas. Reactive measures involve investigating wrongful convictions that have already occurred, while preventive measures involve preventing wrongful convictions that have yet to occur.

1. Addressing Past Wrongful Convictions. One important measure Texas has taken to address past wrongful convictions involves arson review. In 2011, the State Fire Marshall’s Office partnered with the Innocence Project of Texas to conduct a retroactive review of arson convictions in the state. This kind of partnership was the first of its kind in the nation. The arson review has included over 1,000 Texas convictions so far. To date, the Innocence Project has submitted eight cases to the State Fire Marshall’s Office, with five still under review. The three completed cases will be heading back to court soon. In this regard, the Junk Science Writ complements the arson review by providing clearer guidelines for judges reviewing these appeals. Again, Texas has proven itself as a state to emulate in this area, and other states should take notice.

Another measure some states have taken to address past wrongful convictions is the creation of “innocence commissions.” To date, eleven states have formed some sort of innocence commission to investigate the causes of wrongful convictions and make suggestions for reform. Texas’s own innocence commission was

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199. Id. The joint effort was agreed to in the fall of 2011, and the survey of cases began in January 2012. Id.
200. Id.
201. Id.
202. Id. The first case has been overturned, but authorities maintain that they will retry the defendant. Id. The defendant in the second case is out on parole, and the Innocence Project is seeking a full exoneration. Id. The third case received favorable findings from the State Fire Marshall’s Office and will be back in court soon. Id.
203. Innocence commissions were created in part due to the inadequacy of existing court-based post-conviction procedures. David Wolitz, Innocence Commissions and the Future of Post-Conviction Review, 52 Ariz. L. Rev. 1027, 1033, 1036–37 (2010). The rise of DNA evidence has been the most significant factor prompting a closer look at such procedures. Id. at 1046.
established in 2008 with the creation of the Texas Criminal Justice Integrity Unit, which is discussed further in Part IV.B.2.\textsuperscript{205} North Carolina’s innocence commission, in existence in one form or another since 2003, is regarded as the most successful model currently used in the United States.\textsuperscript{206} While an innocence commission may take many different forms, its basic goal remains the same: to prevent the injustice of wrongful convictions.\textsuperscript{207} Ideally, every state in the country will develop its own innocence commission in some shape or form.

One final measure to help mitigate the impact of past wrongful convictions is exoneree compensation. The Innocence Project reports that thirty states have enacted statutes to provide compensation for the wrongfully convicted.\textsuperscript{208} Nevertheless, about one third of those exonerated after proving their innocence have not been compensated for the harm inflicted upon them.\textsuperscript{209} The Innocence Project provides a number of guidelines to help states set up compensation statutes.\textsuperscript{210} While compensation in no way makes up for the injustice suffered by the wrongfully convicted, it is one step that all states can and should take to help restore the lives of these people.

2. Preventing Future Wrongful Convictions. In addition to addressing and resolving past injustices, a significant goal for all states should be preventing wrongful convictions before they ever occur. Innocent lives are upended by wrongful convictions, and this will remain a problem unless initiative is taken to prevent those convictions in the first place. Some measures have already been implemented in Texas and elsewhere.


\textsuperscript{205} See infra notes 211–13 and accompanying text (discussing the creation and purpose of the Texas Criminal Justice Integrity Unit). Texas’s innocence commission works both to address past wrongful convictions and to prevent future wrongful convictions, and thus is mentioned in both sections.


\textsuperscript{207} Wolitz, supra note 203, at 1041.

\textsuperscript{208} \textit{Compensation for the Wrongly Convicted, INNOCENCE PROJECT,} http://www.innocenceproject.org/fix/Compensation.php (last visited Feb. 5, 2015). However, the Innocence Project notes that “even some of these laws don’t meet society’s moral obligation to help exonerated people recover from the injustice they suffered and the years of freedom they lost.” Id.

\textsuperscript{209} Id.

\textsuperscript{210} Id. These guidelines include, among others, compensating exonerated people immediately upon release with a fixed sum or a range of recovery for each year of wrongful incarceration, and providing immediate re-entry funds and access to job training and educational, health, and legal services upon release. Id.
In 2008, the CCA established the Texas Criminal Justice Integrity Unit (the Unit) to investigate concerns over a growing number of wrongful convictions uncovered throughout the state.\textsuperscript{211} CCA Judge Barbara Parker Hervey notes that, “[s]ince its establishment, the Unit has made significant improvements toward eliminating the causes of wrongful convictions.”\textsuperscript{212} These improvements include training law enforcement officers on basic eyewitness identification procedures and establishing better procedures for properly preserving biological evidence.\textsuperscript{213}

Additionally, the Texas legislature has established a Forensic Science Commission (the Commission) to improve the state of forensic science and reduce the number of wrongful convictions that occur.\textsuperscript{214} The Commission investigates complaints of professional negligence or misconduct by a laboratory, facility, or other accredited entity that would “substantially affect the integrity of the results of a forensic analysis.”\textsuperscript{215}

One final measure specific to preventing wrongful convictions in Texas is Senate Bill 1292, also enacted in 2013.\textsuperscript{216} Senate Bill 1292 mandates DNA testing on biological evidence collected in any case in which the state is seeking the death penalty.\textsuperscript{217} This pretrial testing requirement is distinct from the post-conviction

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  \item \textsuperscript{211} Barbara Parker Hervey & D. Kaylyn Betts, Beyond the Bench: The Texas Court of Criminal Appeals’ Work to Improve the Criminal Justice System Outside the Box, 73 TEX. B.J. 560, 560 (2010) citing Texas Criminal Justice Integrity Unit, TEX. JUDICIAL BRANCH, http://www.txcourts.gov/cca/texas-criminal-justice-integrity-unit.aspx (last visited Feb. 5, 2015).
  \item \textsuperscript{212} Id.
  \item \textsuperscript{213} Id.
  \item \textsuperscript{216} Tex. S.B. 1292, 83d Leg., R.S. (2013).
  \item \textsuperscript{217} Id. Senate Bill 1292 amends Article 38.43 of the Texas Code of Criminal Procedure by adding the following language:

Before a defendant is tried for a capital offense in which the state is seeking the death penalty, . . . the state shall require . . . the Department of Public Safety . . . to perform DNA testing . . . on any biological evidence that was collected as part of an investigation of the offense and is in the possession of the state. The laboratory that performs the DNA testing shall pay for all DNA testing performed in accordance with this subsection.

\textit{Id.}
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2015] ADDRESSING WRONGFUL CONVICTIONS 1065

DNA testing laws discussed in Part IV.A. Notably, only one out of the fifty-two post-conviction DNA exonerations in Texas was in a capital case. However, keeping even one innocent defendant off of death row may be considered a success, and other states should be encouraged to adopt similar bills if they have not done so already.

On a wider scale, the Innocence Project has suggested a number of reforms that all states can implement to cut down on the number of wrongful convictions that occur. One such reform involves eyewitness identification procedures. Eyewitness misidentification is another significant contributor to wrongful convictions. Outdated procedures should be updated to improve the quality of identifications. Policies such as blind administration, confidence statements, and recording identifications can all help decrease the number of misidentifications. However, acceptance of these policies has been slow amongst most states. Other reforms advocated by the Innocence Project are better forensic oversight, proper evidence preservation, and the recording of police interrogations to prevent false confessions.

218. Maurice Chammah, Senate Committee Passes DNA Testing Bill, TEX. TRIB. (Mar. 19, 2013), http://www.texastribune.org/2013/03/19/abbott-backs-elliss-dna-testing-bill/ (noting that “testing [biological evidence] before a trial takes place would make it less likely that innocent people are convicted and sentenced to death”). “There’s no reason to test these items more than a decade after the crime was committed . . . .” Id. (quoting Texas Attorney General Greg Abbott).


221. See Jules Epstein, Irreparable Misidentifications and Reliability: Reassessing the Threshold for Admissibility of Eyewitness Identification, 58 VILL. L. REV. 69, 87 (2013) (“Every survey of wrongful convictions, beginning early in the twentieth century and continuing on to the present, has emphasized and catalogued proven cases of mistaken identification.”).

222. Id. Blind administration requires the police officer administering the lineup to be unaware of the suspect’s identity. Id. A confidence statement is an eyewitness’s statement immediately following the lineup, articulating the level of confidence in the identification. Id. Finally, identifications should be recorded on videotape whenever possible to protect innocent suspects from misconduct by the lineup administrator. Id.

223. Id.


V. CONCLUSION

Many longstanding forensic disciplines, once thought to be irrefutable, have been discredited by modern scientific knowledge. Known as “junk science” by today’s standards, these forensic disciplines have contributed to the convictions of countless defendants, some of whom—though it is unknown exactly how many—were innocent of the crime charged against them. Current DNA exoneration statistics indicate that junk science was used in over half of the cases in which a wrongful conviction was secured.

In the vast majority of cases, however, DNA testing is not an option, and defendants in those cases must find an alternative solution to challenge their convictions. Texas became the first state to provide that solution with the passage of the Junk Science Writ in 2013. This Comment encourages other states to establish a similar mechanism for aiding those convicted on the basis of scientific conclusions grounded in now-discredited science.

Texas’s Junk Science Writ is only one of many measures that can and should be taken to address wrongful convictions. Some of these measures can be implemented to prevent wrongful convictions before they occur. Others are necessary for addressing wrongful convictions after the fact. A cooperative effort by all states utilizing a combination of approaches will best serve to avoid the ultimate injustice of convicting the innocent.

Sabra Thomas

227. Price & Kelly, supra note 11, at 395.
228. Id.; Unreliable or Improper Forensic Science, supra note 8.
229. Garret & Neufeld, supra note 4, at 12–14.
230. Unreliable or Improper Forensic Science, supra note 8.
231. Jervis, supra note 17.