

COMMENT

“I DID NOT HURT HIM THIS IS A NIGHTMARE”: THE INTRODUCTION OF FALSE, BUT NOT FABRICATED, FORENSIC EVIDENCE IN POLICE INTERROGATIONS

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Bitemark analysis, microscopic hair analysis, handwriting analysis, and other pseudosciences have been deceiving juries for years. Courts and the scientific community once regarded these types of forensic evidence as scientifically sound, but many now dispute their reliability. Almost fifty percent of cases overturned by DNA testing involve pseudoscience. This Comment focuses on a subset of those wrongful convictions: cases in which the pseudoscientific evidence deceived not only the jury but the defendant as well.

When the police use coercive methods and discuss forensic evidence with a suspect during an interrogation, the suspect sometimes confesses to committing a crime in a manner consistent with the forensic evidence. If the court convicts the suspect based on the forensic evidence and the suspect's confession, and the scientific community later determines that the forensic evidence is unreliable, retrial is necessary. The unreliability of the pseudoscience undermines confidence in the confession. This Comment surveys the empirical studies on false confessions and argues that pseudoscientific evidence is a type of false evidence that multiple studies have demonstrated increases the risk of a false confession. In fact, pseudoscientific evidence may be even more likely than other types of false evidence to spur a false confession because “science” is such a persuasive indicator of guilt.

This Comment argues that, because a defendant convicted by pseudoscientific evidence and a pseudoscience-induced confession may be factually innocent, these convictions should be overturned, and, if the prosecution believes it still has enough reliable evidence of the defendant's guilt, the defendant should be given a new trial. This Comment suggests a number of pragmatic methods for courts to overturn questionable convictions and provide defendants with fair retrials in which pseudoscientific and confession evidence is suppressed. Rather than viewing a defendant's confession as independent evidence of his or her guilt, courts should recognize that the unreliability of the pseudoscience introduced during the interrogation renders the defendant's confession unreliable as well.

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INTRODUCTION

I know you did something in there. . . .

I don't think you did. I know you did. . . .

This happened okay. And the doctor has said it happened. . . .

The doctor has told us that there's only one thing that caused this boy's injuries. Somebody shook him. . . .

This is not a situation where we say, oh, maybe she's telling the truth, maybe she's not. We know you're not telling the truth. The evidence proves it. . . .

We've got years of medical science to prove that it happened and a bevy of doctors to testify that it happened and what caused it.¹

In 2004, two detectives interrogated Beverly Moore.² They were completely confident that she had shaken her boyfriend's two-year-old son, Avery, to death.³ The detectives had no doubt of Beverly's culpability because the paramedics and doctors treating Avery "immediately 'knew'" that he was abusively shaken just before Beverly found him unconscious and called 911.⁴ As the detectives reminded Beverly, "there [were] only two people in the house. You and Avery."⁵ The conclusion was obvious: Beverly had shaken Avery to death. Yet throughout the interrogation, Beverly maintained that she had not shaken the boy.⁶ Because the detectives believed they had scientific proof that Beverly was guilty, they refused to accept Beverly's "lies."⁷

1. DEBORAH TUERKHEIMER, *FLAWED CONVICTIONS: "SHAKEN BABY SYNDROME" AND THE INERTIA OF INJUSTICE* 51 (2014) (quoting Transcript of Interrogation of Beverly Moore at 19, 21, 22, 24–25 (Jan. 13, 2004)).

2. *Id.* at 50–51.

3. *Id.*

4. *Id.*

5. *Id.* (quoting Transcript of Interrogation of Beverly Moore at 19, 21, 22, 24–25 (Jan. 13, 2004)).

6. *Id.*

7. MOORE: I did not hurt him.

DETECTIVE 2: Yes, you did.

DETECTIVE 1: You did hurt him.

MOORE: I did not hurt him.

Finally, upon realizing that “I’ll be in jail no matter what I tell you,” Beverly said the words the detectives wanted to hear: “I shook him.”⁸ At trial, the jury saw Beverly’s videotaped confession and the testimony of three medical experts claiming that Avery died of Shaken Baby Syndrome (SBS).⁹ As a result, the jury convicted Beverly of murder and the court sentenced her to life in prison without the possibility of parole.¹⁰

Almost ten years later, many consider the SBS diagnosis a myth,¹¹ and a federal court has recognized “the substantial newfound evidence . . . regarding [Beverly’s] actual innocence.”¹² Yet she is still in prison, fighting to regain her freedom.¹³ Beverly is not alone: “[s]erious deficiencies . . . in the forensic evidence used in criminal trials”¹⁴ have caused the arrest, charging, and conviction of an unknown number of innocent people. Although scholarly attention has focused on the problem of putatively accurate scientific evidence later shown to be unreliable or false (i.e., pseudoscientific evidence)¹⁵ used

DETECTIVE 1: You did hurt him.

DETECTIVE 2: Yes, you did.

MOORE: I did not.

DETECTIVE 1: If you didn’t hurt him, he wouldn’t be up there.

MOORE: I did not hurt him This is a nightmare.

Id. at 52 (quoting Transcript of Interrogation of Beverly Moore at 23 (Jan. 13, 2004)).

8. *Id.* (quoting Transcript of Interrogation of Beverly Moore at 28, 31–33 (Jan. 13, 2004)).

9. *Id.* at 55; see *Moore v. Newton-Embry*, No. CIV-09-985-C, 2011 WL 5143080, at *1 (W.D. Okla. Sept. 7, 2011).

10. *Moore v. Newton-Embry*, No. CIV-09-985-C, 2012 WL 1158658, at *1 (W.D. Okla. Apr. 6, 2012).

11. See *infra* Part I.A.2.

12. *Newton-Embry*, 2012 WL 1158658, at *1. Medical evidence, including “a prior diagnosis of ‘failure to thrive’; the existence of significant developmental delays; . . . a fall into a cast iron tub roughly a week before; . . . observations of lethargy in the week preceding Avery’s collapse . . . [and] the undisputed presence of optic disc swelling . . . which appears only after a week of increased intracranial pressure and generally indicates a chronic process,” now indicates that Avery’s death was probably caused by events weeks before his collapse, contrary to the prosecution’s SBS theory. TUERKHEIMER, *supra* note 1, at 186.

13. *Offender Lookup*, OKLA. DEP’T CORRECTIONS, http://docapp065p.doc.state.ok.us/servlet/page?_pageid=394&_dad=portal30&_schema=PORTAL30&doc_num=518614&offender_book_id=306091 (last visited Oct. 20, 2015).

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

15. Pseudoscience describes “theories, assumptions, and methods erroneously regarded as scientific.” *Pseudoscience*, MERRIAM-WEBSTER, <http://www.merriam-webster.com/dictionary/pseudoscience> (last visited Aug. 21, 2015). This Comment uses the term “pseudoscience” to refer to any scientific theory that is now considered unreliable. The scientific theories underlying unreliable forensic evidence have also

to secure convictions,¹⁶ the related problem of false confessions extracted through use of pseudoscience in interrogations—such as Beverly’s confession—has been overlooked.

This Comment argues that courts should overturn convictions based entirely on pseudoscientific evidence and a confession obtained through the introduction of that pseudoscience because the unreliability of the pseudoscientific evidence undermines all of the evidence supporting the conviction. When there is some other evidence of the defendant’s guilt, retrial provides an appropriate remedy. The confession, in addition to the pseudoscientific evidence, should be suppressed upon retrial in order to guarantee a fair trial. Part I reviews the empirical studies and scientific literature concerning forensic sciences and false confessions and suggests that pseudoscientific evidence may be considered a kind of false evidence comparable to the fabricated evidence known to produce false confessions. In fact, pseudoscientific evidence, cloaked in the robes of scientific truth and subject to the CSI effect,¹⁷ may present an even higher risk of producing false confessions.

been called “junk science,” *see, e.g.*, PETER W. HUBER, *GALILEO’S REVENGE: JUNK SCIENCE IN THE COURTROOM* 12 (1991), “changed science,” *see, e.g.*, Jennifer E. Laurin, *Criminal Law’s Science Lag: How Criminal Justice Meets Changed Scientific Understanding*, 93 *TEX. L. REV.* 1751 (2015), and “shifted science,” *see, e.g.*, Caitlin Plummer & Imran Syed, “*Shifted Science*” and *Post-Conviction Relief*, 8 *STAN. J. C.R. & C.L.* 259 (2012). Although these categories are not identical, they overlap and usually include traditional fire science, forensic odontology, shaken baby syndrome, serology, and the analyses of fingerprints, hairs, shoe prints, tool marks, handwriting, bloodstain patterns, and bullet lead. *See infra* note 37 & accompanying text. Other scientific theories may become pseudoscience in the future, after scientific advancements reveal their unreliability. *See* Sabra Thomas, Comment, *Addressing Wrongful Convictions: An Examination of Texas’s New Junk Science Writ and Other Measures for Protecting the Innocent*, 52 *HOUS. L. REV.* 1037, 1039 (2015). The boundary between reliable science and pseudoscience is an imprecise one that this Comment does not attempt to define. *See generally* Laurin, *supra*; Stephanie Tai, *Uncertainty About Uncertainty: The Impact of Judicial Decisions on Assessing Scientific Uncertainty*, 11 *U. PA. J. CONST. L.* 671 (2009). Instead, this Comment focuses on how courts should address cases involving a pseudoscience-induced confession *after* concluding that the evidence or theory presented to the defendant during a coercive interrogation was erroneously regarded as scientific at the time.

16. *See* COMM. ON IDENTIFYING THE NEEDS OF THE FORENSIC SCI. CMTY., NAT’L RESEARCH COUNCIL, *STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD* (2009) [hereinafter *NAS REPORT*]; *see also, e.g.*, Erica Beecher-Monas, *Reality Bites: The Illusion of Science in Bite-Mark Evidence*, 30 *CARDOZO L. REV.* 1369 (2009); Sarah Lucy Cooper, *The Collision of Law and Science: American Court Responses to Developments in Forensic Science*, 33 *PACE L. REV.* 234 (2013); Mark Donohoe, *Evidence-Based Medicine and Shaken Baby Syndrome: Part I: Literature Review, 1966–1998*, 24 *AM. J. FORENSIC MED. & PATHOLOGY* 239 (2003).

17. Many players within the legal sphere—prosecutors, defense attorneys, and judges alike—worry that popular crime shows like CSI raise jurors’ “expectations that

Part II provides a working definition of a “pseudoscience-induced confession” and presents techniques to remedy the improper administration of justice in cases where a pseudoscience-induced confession led to a conviction. Because the unreliable nature of the forensic evidence is often not discovered until long after the defendant has been convicted, this Part discusses procedural mechanisms to overturn these convictions and to analyze the admissibility of the confession upon retrial. This Comment concludes that, to ensure the proper and fair administration of justice, courts must acknowledge the involuntary and unreliable nature of pseudoscience-induced confessions. Courts and legislatures have recognized the inherent unreliability of convictions based on pseudoscience.¹⁸ It is time for them to recognize that pseudoscience-induced confessions are just as unreliable as the pseudoscientific evidence itself.

I. HOW PSEUDOSCIENCE AND FALSE CONFESSIONS LEAD TO WRONGFUL CONVICTIONS

The advent of DNA testing, and the exonerations that came with it, demonstrated that pseudoscience and false confessions are two of the leading causes of wrongful convictions.¹⁹ Federal, state, and local governments have taken note: Congress recently asked the National

physical (or forensic) evidence must be present at trial” and prime jurors to “overestimate the probative value of scientific evidence.” Jessica D. Gabel, *Forensiphilia: Is Public Fascination with Forensic Science a Love Affair or Fatal Attraction?*, 36 NEW ENG. J. ON CRIM. & CIV. CONFINEMENT 233, 240–42 (2010) (quoting Tom R. Tyler, *Viewing CSI and the Threshold of Guilt: Managing Truth and Justice in Reality and Fiction*, 115 YALE L.J. 1050, 1068 (2006)) (internal quotation marks omitted). Some theorize that jurors may refuse to convict a defendant—despite evidence of her guilt—or convict a defendant—despite his innocence—based solely on the absence or presence of forensic evidence, regardless of its reliability or other evidence of guilt. *Id.* It is reasonable to assume that suspects may also have a warped view of forensic evidence as infallible proof of guilt—even their own guilt.

18. See *infra* Part II.A.

19. “Unvalidated or [i]mproper [f]orensic [s]cience played a role in 47 percent of wrongful convictions later overturned by DNA testing,” while “[f]alse confessions and incriminating statements [led to wrongful convictions] in approximately 28 percent of cases.” *DNA Exonerations Nationwide*, INNOCENCE PROJECT, <http://www.innocenceproject.org/free-innocent/improve-the-law/fact-sheets/dna-exonerations-nationwide> (last visited Aug. 28, 2015). Pseudoscientific evidence and false confessions also play a major role in all exonerations (not just those obtained through DNA testing): “[f]alse or [m]isleading [f]orensic [e]vidence” contributed to 22 percent of wrongful convictions, while false confessions contributed to 13 percent of wrongful convictions. % *Exonerations by Contributing Factor*, NAT’L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/ExonerationsContribFactorsByCrime.aspx> (last visited Aug. 27, 2015).

Academy of Sciences (NAS) to review forensic sciences.²⁰ In reporting its findings, the NAS called for judicial systems to implement new measures ensuring the reliability of forensic sciences used at trial.²¹ Two states have passed “junk science” bills allowing retrial of criminal convictions based on forensic methods now proven to be unreliable.²² And approximately one thousand jurisdictions now regularly record police interrogations, helping to reduce the rate of wrongful convictions based on false confessions.²³ Although these two causes of wrongful convictions—pseudoscience and false confessions—are often studied individually,²⁴ relatively little has been said about how they work together to produce wrongful convictions that may seem airtight.²⁵

A. Pseudoscience: Forensic Evidence Now Known to Be Unreliable

The public often views forensic evidence as “highly captivating” and “real.”²⁶ Yet in many instances this view is not only false, it is dangerous. Some forensic sciences, such as fingerprint identification,

20. See *infra* Part I.A.1.

21. See *id.*

22. See *infra* Part II.B.2.

23. *False Confessions or Admissions*, INNOCENCE PROJECT (Aug. 12, 2015, 1:05 PM), <http://www.innocenceproject.org/causes-wrongful-conviction/false-confessions-or-admissions>.

24. See *infra* Part I.A–B.

25. See, e.g., *Dennis Brown*, NAT'L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3060> (last visited Feb. 18, 2015) (discussing the exoneration of Brown, who was convicted of sexual assault based on serological evidence and Brown's false confession); *Eric Esse*, NAT'L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=4225> (last visited Feb. 18, 2015) (discussing the exoneration of Esse, who was convicted of murder based on tool mark analysis and Esse's false confession); *George Allen, Jr.*, NAT'L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=4091> (last visited Feb. 18, 2015) (discussing the exoneration of Allen, who was convicted of murder based on serological evidence and Allen's false confession); *Harold Hill*, NAT'L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3296> (last visited Feb. 18, 2015) (discussing the exoneration of Hill, who was convicted of murder based on forensic odontology evidence and Hill's false confession); *Luis Galicia*, NAT'L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3919> (last visited Feb. 18, 2015) (discussing the exoneration of Galicia, who was convicted of child sex abuse based on unreliable medical evidence and Galicia's false confession); *Sabrina Butler*, NAT'L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3078> (last visited Feb. 18, 2015) (discussing the exoneration of Butler, who was convicted of murder based on misleading medical evidence and Butler's false confession).

26. TUERKHEIMER, *supra* note 1, at 48; see also *supra* note 17 (discussing the CSI effect).

firearms identification, bite mark identification, and microscopic hair analysis, have lacked a foundation in the scientific method and have been “governed by inadequate standards,” leading to “unknown error-rates” and “overstated conclusions.”²⁷ Many argue that the same is true of SBS, a once-popular “medical diagnosis of murder”²⁸ that lacks a foundation in the scientific method.²⁹ These forms of pseudoscience have real consequences: as of October 2014, at least 316 people convicted of crimes based on pseudoscience have been subsequently exonerated.³⁰ Only recently have the scientific and legal communities begun to address these issues.³¹

1. THE NATIONAL ACADEMY OF SCIENCES REPORT ON UNRELIABLE FORENSIC SCIENCES

In 2005, because of the “absence of data”³² regarding forensic sciences, Congress called upon “the National Academy of Sciences to conduct a study on forensic science”³³ Four years later, the NAS reported the results of its study in *Strengthening Forensic Sciences in the United States: A Path Forward*.³⁴ This report was widely received as “a landmark report” that “highlighted the inadequacies of the forensic sciences and the dangers of its current use in court.”³⁵

The NAS report did not mince words; it declared that “[w]ith the exception of nuclear DNA analysis . . . no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source.”³⁶ The report left few stones unturned, challenging “generally accepted truths” about many of the forensic sciences commonly used in criminal investigations and trials: fire science, forensic odontology, and the analyses of fingerprints, hairs, shoe prints, tool marks, handwriting, bloodstain patterns, and bullet

27. Cooper, *supra* note 16, at 254; *see also infra* Part I.A.1.

28. Deborah Tuerkheimer, *The Next Innocence Project: Shaken Baby Syndrome and the Criminal Courts*, 87 WASH. U. L. REV. 1, 5 (2009) [hereinafter Tuerkheimer, *The Next Innocence Project*].

29. *See infra* Part I.A.2.

30. % Exonerations by Contributing Factor, *supra* note 19.

31. *See, e.g., Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 319 (2009); NAS REPORT, *supra* note 16.

32. S. REP. NO. 109-88, at 46 (2005).

33. H.R. REP. NO. 109-272, at 121 (2005) (Conf. Rep.).

34. NAS REPORT, *supra* note 16.

35. Rachel Dioso-Villa, *Scientific and Legal Developments in Fire and Arson Investigation Expertise in Texas v. Willingham*, 14 MINN. J. L. SCI. & TECH. 817, 818 (2013) (citing NAS REPORT, *supra* note 16, at 5).

36. NAS REPORT, *supra* note 16, at 7.

lead, to name a few.³⁷ The report noted that these forensic sciences were of questionable reliability, creating “cause for concern in court.”³⁸

The NAS report concluded that there “is a serious problem” with the current state of forensic sciences: “the interpretation of forensic evidence is not always based on scientific studies to determine its validity.”³⁹ The report also underscored the need for the judicial system to address this problem and noted that we all will benefit from increased reliability of forensic science because, “in addition to protecting innocent persons from being convicted of crimes that they did not commit, we are also seeking to protect society from persons who have committed criminal acts.”⁴⁰ Although many of the report’s recommendations have not yet been adopted, courts and legislatures throughout the country are recognizing the important and damaging role pseudoscience has played in wrongful convictions and are taking action.⁴¹

2. ANOTHER PSEUDOSCIENCE? SHAKEN BABY SYNDROME

The NAS report did not address the science used to convict Beverly Moore: SBS.⁴² SBS is “said to occur when a baby suffers shaking sufficient to tear the bridging veins connecting the brain to the sagittal sinus (one of the large veins that drains the brain) as well as axons within the brain itself, causing immediate brain swelling[,] permanent brain damage,” and often death.⁴³ Once used to convict parents and caregivers based on the testimony of medical experts

37. TUERKHEIMER, *supra* note 1, at 49; *see also* NAS REPORT, *supra* note 16, at 127. The unreliability of traditional fire “science” is particularly dangerous, as “many of the rules of thumb that are typically assumed to indicate that an accelerant was used”—i.e., that a crime was committed—“have been shown not to be true.” NAS REPORT, *supra* note 16, at 173 (footnotes omitted). This fire pseudoscience resulted in the execution of Cameron Todd Willingham, who is now widely regarded as an innocent man. *See* Dioso-Villa, *supra* note 35, at 829. Modern fire science, on the other hand, is regarded as reliable. In the early 1990s, the National Fire Protection Association published the results of scientific experiments that “displaced conventional wisdom about the observed traits of natural and accelerant-driven burn patterns” Laurin, *supra* note 15, at 1752. It took the better part of two decades, however, for arson investigators and courts to acknowledge this change in science. *Id.* at 1752–53.

38. NAS REPORT, *supra* note 16, at 127.

39. *Id.* at 8.

40. *Id.* at 12.

41. *See infra* Part II.A.

42. *See* NAS REPORT, *supra* note 16.

43. Rachel Burg, *Un-Convicting the Innocent: The Case for Shaken Baby Syndrome Review Panels*, 45 U. MICH. J.L. REFORM 657, 663–64 (2012).

alone,⁴⁴ SBS is now a highly disputed diagnosis that many would categorize as a pseudoscience.⁴⁵

For decades, doctors based SBS diagnoses on a triad of symptoms: “retinal hemorrhaging (bleeding inside the surface of the back of the eye), subdural or subarachnoid hematoma (bleeding between the membranes that surround the brain), and cerebral edema (brain swelling).”⁴⁶ This triad of symptoms was “considered conclusive proof of SBS.”⁴⁷ Because doctors theorized that the *only* way to produce these symptoms was to violently shake the child, a diagnosis of SBS not only identified the perpetrator⁴⁸ but also provided scientific proof of the *mens rea* required for a conviction.⁴⁹ SBS cases were prosecuted “because law enforcement officers genuinely believe[d] in the validity of the diagnostic triad”⁵⁰

But many scientists now challenge the scientific underpinnings of the SBS diagnosis, just like the forensic sciences discussed in the NAS Report.⁵¹ The SBS diagnosis “lack[s] . . . consistent and reliable criteria” and is based on “anecdotal case series, case reports, reviews,

44. TUERKHEIMER, *supra* note 1, at xi–xii; *see also* Emily Bazelon, *Shaken*, N.Y. TIMES MAG., Feb. 6, 2011, at 32 (“In an estimated 50 percent to 75 percent of [SBS prosecutions], the only medical evidence of shaken-baby syndrome is the triad of internal symptoms . . .”).

45. *See, e.g., Cavazos v. Smith*, 132 S. Ct. 2, 10 (2011) (Ginsburg, J., dissenting) (“Doubt has increased in the medical community ‘over whether infants can be fatally injured through shaking alone.’” (quoting *State v. Edmunds*, 746 N.W.2d 590, 596 (Wis. Ct. App. 2008))); Keith A. Findley et al., *Shaken Baby Syndrome, Abusive Head Trauma, and Actual Innocence: Getting it Right*, 12 HOUS. J. HEALTH L. & POL’Y 209, 213 (2012) (“[T]here is now widespread, if not universal, agreement that the presence of the triad alone—or its individual components—is not enough to diagnose abuse.”); Genie Lyons, Note, *Shaken Baby Syndrome: A Questionable Scientific Syndrome and a Dangerous Legal Concept*, 2003 UTAH L. REV. 1109, 1109 (“Shaken baby syndrome in its most extreme form—assuming abuse when a child has two specific brain injuries but no other signs of trauma—quite possibly does not exist.”); Debbie Cenziper, *A Disputed Diagnosis Imprisons Parents: Prosecutors Build Murder Cases on Disputed Shaken Baby Syndrome Diagnosis*, WASH. POST (Mar. 20, 2015), <http://www.washingtonpost.com/graphics/investigations/shaken-baby-syndrome/>.

46. Burg, *supra* note 43, at 663 (citing David L. Chadwick et al., *Shaken Baby Syndrome—A Forensic Pediatric Response*, 101 PEDIATRICS 321, 321 (1998)).

47. *Id.* at 664 (citing Chadwick et al., *supra* note 46, at 321).

48. TUERKHEIMER, *supra* note 1, at xi (“[SBS] science could even identify a perpetrator—the caregiver last with the lucid baby—since the infant’s loss of consciousness would necessarily have been immediate.”).

49. *Id.* (“The relationship between . . . the triad [of symptoms] and shaking was described as pathognomic, meaning that shaking was the only causal explanation possible. The science could also rule out an accidental jostle, given how forceful the shaking must have been to generate these injuries.”).

50. Tuerkheimer, *The Next Innocence Project*, *supra* note 28, at 26.

51. NAS REPORT, *supra* note 16.

opinions, . . . [and] circular logic.”⁵² The SBS theory resulted not from controlled studies of infants but rather a few doctors’ observations that some babies with subdural hematomas did not have external marks of injuries and an extrapolation from biomechanical studies on adult primates.⁵³ Recent studies contradict the traditional SBS theory and “raise serious doubt that abuse is the cause in all cases” in which the triad of symptoms is present.⁵⁴ In fact, some now doubt whether shaking alone may *ever* cause the triad of symptoms.⁵⁵

When scientists discovered that SBS lacked “scientifically-conducted validation and forensic rigor[.]”⁵⁶ they began to repudiate the triad as a method of diagnosis.⁵⁷ Courts in other

52. Patrick D. Barnes & Michael Krasnokutsky, *Imaging of the Central Nervous System in Suspected or Alleged Nonaccidental Injury, Including the Mimics*, 18 TOPICS MAGNETIC RESONANCE IMAGING 53, 54–55 (2007).

53. See John Caffey, *The Whiplash Shaken Infant Syndrome: Manual Shaking by the Extremities with Whiplash-Induced Intracranial and Intraocular Bleedings, Linked with Residual Permanent Brain Damage and Mental Retardation*, 54 PEDIATRICS 396 (1974); A.N. Guthkelch, *Infantile Subdural Hematoma and Its Relationship to Whiplash Injuries*, 2 BRIT. MED. J. 430 (1971).

54. Barnes & Krasnokutsky, *supra* note 52, at 55; see also Cenziper, *supra* note 45 (“[D]octors have found that accidents and diseases can trigger identical conditions in babies.”). A number of conditions may cause the triad of symptoms, such as short falls, birth trauma, CPR, sepsis, venous thrombosis, metabolic disorders, and vascular diseases. Barnes & Krasnokutsky, *supra* note 52, at 65–66.

55. See Waney Squier, *The “Shaken Baby” Syndrome: Pathology and Mechanisms*, 122 ACTA NEUROPATHOLOGICA 519, 520 (2011) (“While shaking does cause rotational forces, their magnitude is insufficient to cause intracranial injury; biomechanical studies have shown that impact and falls cause far greater rotational forces.” (citations omitted)); L. Bache Wrennall et al., *Open Letter on Shaken Baby Syndrome and Courts: A False and Flawed Premise*, ARGUMENT & CRITIQUE, Feb. 2015, at 2 (“Biomechanical evidence has shown that shaking without contact would only produce the triad of injuries in association with other injuries to the neck and spinal column that are typically not found in alleged SBS cases.”); Cenziper, *supra* note 45 (“Testing has been unable to show whether violent shaking can produce the bleeding and swelling long attributed to the diagnosis . . .”). In 2009, the American Academy of Pediatrics (AAP) issued a policy statement recommending that doctors stop using the term “Shaken Baby Syndrome,” as “precise mechanisms for all abusive injuries remain incompletely understood.” Cindy W. Christian et al., *Abusive Head Trauma in Infants and Children*, 123 PEDIATRICS 1409, 1409 (2009). Instead, the AAP recommended the broader term “Abusive Head Trauma” (AHT), which includes shaking, blunt force impact, and other causes. *Id.* at 1411. The AAP noted that “[m]edical diseases . . . can mimic the presentation of AHT . . .” *Id.* at 1409.

56. Wrennall et al., *supra* note 55; see also Donohoe, *supra* note 16, at 239.

57. George Nichols, a forensic pathologist, no longer believes SBS is a valid diagnosis: “Doctors, myself included, have accepted as true an unproven theory about a potential cause of brain injury in children.” Cenziper, *supra* note 45 (quoting George Nichols). And the American Academy of Pediatrics has repudiated the term “Shaken Baby Syndrome,” although it has not gone so far as to entirely abandon the theory that shaking may cause the triad of symptoms. See Christian et al., *supra* note 55. Even Dr.

countries have taken note: “In 2005, Britain’s Court of Appeal found that the head and eye injuries alone were not absolute proof of abuse and, in Sweden [in 2014], the Supreme Court ruled that the scientific support for the diagnosis had ‘turned out to be uncertain.’”⁵⁸ Yet innocent people like Beverly Moore continue to sit in prison, convicted by an unreliable SBS diagnosis⁵⁹ and the false confession it produced.

B. False Confessions Cause Wrongful Convictions Independently and in Conjunction with Pseudoscience

False confessions are another leading cause of wrongful convictions.⁶⁰ While it is impossible to know the exact rate of false confessions in police interrogations, as of 2006, studies “have documented almost three hundred cases of interrogation-induced false confession since the late 1980s.”⁶¹ As false confessions have entered the

A. Norman Guthkelch, the British pediatric neurosurgeon who wrote the 1971 paper giving birth to the idea of SBS, recently said that SBS science is “greatly premature and sufficiently invalid” and lamented the fact that “innocent . . . people are in jail on the basis of what they claim is my paper, when in fact it is nothing like it.” Anna Bisaro, *Monkey Business*, MEDILL JUST. PROJECT (Dec. 12, 2013), <http://www.medilljusticeproject.org/2013/12/12/monkey-business/> (quoting A. Norman Guthkelch).

58. Cenziper, *supra* note 45 (quoting Nytt Juridiskt Arkiv [NJA] [Supreme Court] 2014-10-16 B 3438-12 (Swed.), *available at* [http://www.hogstادمstolen.se/Domstolar/hogstادمstolen/Avgoranden/2014/2014-10-16 B 3438-12 Dom.pdf](http://www.hogstادمstolen.se/Domstolar/hogstادمstolen/Avgoranden/2014/2014-10-16%20B%203438-12%20Dom.pdf)) (citing *R v. Harris*, [2005] EWCA (Crim) 1980 (Eng.)).

59. See Burg, *supra* note 43, at 660 (There are “innocent people currently in prison, convicted of seriously injuring a child that they loved, based on a medical diagnosis that has become scientifically questionable. . . . [and] individuals continue to be convicted of SBS-related crimes on the basis of evidence that is . . . likely unsound.”); Tuerkheimer, *The Next Innocence Project*, *supra* note 28, at 22 (“Given the scientific developments described, we may surmise that a sizeable portion of the universe of defendants convicted of SBS-based crimes is, in all likelihood, factually innocent.”); Cenziper, *supra* note 45 (“Despite the uncertainty, prosecutors are still using the diagnosis to help prove criminal cases beyond a ‘reasonable doubt’ against hundreds of parents and caregivers.”).

60. Richard A. Leo et al., *Bringing Reliability Back In: False Confessions and Legal Safeguards in the Twenty-First Century*, 2006 WIS. L. REV. 479, 515 [hereinafter Leo et al., *Reliability*].

61. *Id.* This number barely begins to represent the full extent of the false confession problem: It does “not include false confessions that were dismissed or disproved before trial, [or] those given for crimes that were not subject to post-conviction review” Richard A. Leo, *False Confessions: Causes, Consequences, and Implications*, 37 J. AM. ACAD. PSYCHIATRY & L. 332, 332 (2009) [hereinafter Leo, *False Confessions*]. Nor does it include false confessions occurring in cases before the 1980s or since 2006. Yet “[d]ocumented cases of interrogation-induced false confessions in the USA date back at least to the Salem witch trials of 1692, in which some 50 women confessed falsely to witchcraft.” Deborah Davis & Richard A. Leo, *The Problem of Interrogation-Induced False Confession: Sources of Failure in*

popular consciousness, social scientists' empirical studies have pinpointed three errors that can produce false confessions: the misclassification error, the coercion error, and the contamination error.⁶² These errors⁶³ proceed in order:

Investigators first misclassify an innocent person as guilty; they next subject him to a guilt-presumptive, accusatory interrogation that invariably involves lies about evidence and often the repeated use of implicit and explicit promises and threats as well. Once they have elicited a false admission, they pressure the suspect to provide a postadmission narrative that they jointly shape, often supplying the innocent suspect with the (public and nonpublic) facts of the crime.⁶⁴

The introduction of false evidence in an interrogation is known to cause false confessions.⁶⁵ Empirical studies show that false evidence solicits compliant false confessions, in which “the suspect admits guilt

Prevention and Detection, in HANDBOOK OF FORENSIC SOCIOLOGY AND PSYCHOLOGY 47, 48 (S.J. Morewitz & M. L. Goldstein eds., 2014).

62. Leo, *False Confessions*, *supra* note 61, at 333.

63. Although the scientific literature uses the “error” label, the interrogation methods used to produce false confessions are no mistake. Rather, they are a product of the very methods taught as part of the popular “Reid Technique,” which is known to produce a high number of confessions, regardless of their veracity.

[T]he object of the Reid Technique is to convince suspects that confession is in their best interest. . . . [T]he suspect's actual guilt or innocence has little bearing on whether he confesses; rather, he will confess *whenever* the costs of confession as he perceives them are outweighed by the benefits of confession, regardless of his culpability. . . . When a suspect is confronted with seemingly incontrovertible evidence of his guilt, he is likely to conclude that he is certain to be convicted even though he is innocent.

Miriam S. Gohara, *A Lie for a Lie: False Confessions and the Case for Reconsidering the Legality of Deceptive Interrogation Techniques*, 33 FORDHAM URB. L.J. 791, 817–18 (2006).

64. Leo, *False Confessions*, *supra* note 61, at 333–34.

65. Gohara, *supra* note 63, at 794 (“[I]nterrogation practices in which police misrepresent evidence against suspects can and do lead to false confessions and wrongful convictions. Examination of actual wrongful convictions and additional empirical data demonstrat[e] the correlation between deceptive interrogation practices and false confessions”); *see also* Danielle E. Chojnacki et al., *An Empirical Basis for the Admission of Expert Testimony on False Confessions*, 40 ARIZ. ST. L.J. 1, 18 (2008) (“Controlled studies have found that the presentation of manufactured evidence dramatically increases the likelihood that an individual will falsely confess and, at times, even internalize blame for the act.”); Davis & Leo, *supra* note 61, at 59 (“The practice of lying about evidence has been strongly implicated as a cause of real life false confessions and the conviction of the innocent.”); Deborah Young, *Unnecessary Evil: Police Lying in Interrogations*, 28 CONN. L. REV. 425, 457 (1996).

with the knowledge that he is innocent and that what he says is false.”⁶⁶ False evidence also solicits internalized false confessions, in which the suspect “cannot reconcile the obvious contradiction between his knowledge that he is innocent and his belief that the police are truthfully reporting unmistakable evidence of his guilt.”⁶⁷ Faced with evidence proving his involvement in the crime, “the suspect offers up the remaining basis for his belief in his innocence: that he has no memory of committing the crime.”⁶⁸

False scientific evidence—including evidence based on pseudoscientific theories—works best at producing false confessions because “both the guilty and the innocent have a harder time explaining away evidence that is allegedly derived from scientific technologies.”⁶⁹ A suspect finds it difficult to contradict evidence carrying “the prestige

66. Leo, *False Confessions*, *supra* note 61, at 338. In one study, subjects were falsely accused of pressing the alt key during a fast typing exercise. The accuser alleged there was a witness to the “crime.” One hundred percent of subjects signed a confession stating they pressed the forbidden key, sixty-five percent internalized guilt, reporting to a bystander that they pressed the wrong key, and thirty-five percent created false details describing how and when they pressed the key—despite the fact that they had not, in fact, pressed it. Saul M. Kassin & Katherine L. Kiechel, *The Social Psychology of False Confessions: Compliance, Internalization, and Confabulation*, 7 *PSYCHOL. SCI.* 125, 126–27 (1996). A follow-up study in the Netherlands showed even higher rates of false confessions to pressing a prohibited key despite the fact that the subjects believed confessing would lead to financial consequences. *See* Saul M. Kassin & Gisli H. Gudjonsson, *Psychology of Confessions*, 5 *PSYCHOL. SCI. PUB. INT.* 33, 54 (2004). In another study, subjects were interrogated about whether they cheated on a problem-solving task. Melissa Russano et al., *Investigating True and False Confessions Within a Novel Experimental Paradigm*, 16 *PSYCHOL. SCI.* 481, 482 (2005). When the interrogator offered a deal and minimized the seriousness of the offense, forty-three percent of innocent subjects confessed to cheating. *Id.* at 483–84. Unlike the typing studies, the subjects in Russano’s study knew without a doubt that they had not cheated on the task and that, therefore, they were confessing to something that they did not do. In a more recent study, an interviewer “well trained in police interview tactics” used strategies similar to “Reid-model interrogation tactics,” including the presentation of “incontrovertible false evidence,” to induce seventy percent of participants to provide a detailed account of a false memory of committing theft or assault. Julia Shaw & Stephen Porter, *Constructing Rich False Memories of Committing Crime*, 26 *PSYCHOL. SCI.* 291, 294, 296, 299 (2015). The authors noted that this finding “supports the notion that false confessions and gross confabulations can take place within interview settings. . . . Th[is] kind of research . . . is essential in the quest to help prevent memory-related miscarriages of justice.” *Id.* at 9.

67. Leo, *False Confessions*, *supra* note 61, at 339.

68. *Id.*

69. Richard J. Ofshe & Richard A. Leo, *The Decision to Confess Falsely: Rational Choice and Irrational Action*, 74 *DENV. U. L. REV.* 979, 1023 (1997); *see also* Gohara, *supra* note 63, at 822 (“Confessions are more likely to occur when the fictitious evidence is presented as strong, perhaps overwhelming. Suspects tend to believe that ‘scientific’ evidence—such as DNA, fingerprints, and even lie detector tests—are generally accepted by juries as infallible proof of guilt . . .”).

and incomprehensibility of modern science.”⁷⁰ A suspect is especially likely to falsely confess when the evidence is plausible⁷¹—which is often the case when the evidence at issue is based on a pseudoscientific theory that all parties (the suspect, the interrogators, and eventually the prosecutor, defense attorney, judge, and jury) believe is true.⁷² For example, a suspect may maintain his innocence when the police tell him a witness identified him as the robber of a bank when he knows that he was at work twenty miles from the bank on the day in question. But it is not so easy for a mother to deny the detectives’ insistence that the medical evidence proves she shook her child to death when she was indeed alone with the child throughout the day.⁷³ The fact that pseudoscientific evidence is often plausible and carries the prestige of science only increases the likelihood that it will produce a false confession. Thus, pseudoscientific evidence carries a greater risk of producing a false confession when introduced during an interrogation than fabricated evidence. Because of this and the fact that prosecutors use pseudoscientific evidence as independent evidence supporting the defendant’s conviction, courts should treat pseudoscientific evidence differently from police-fabricated evidence.

II. GIVING CONVICTIONS BASED ON PSEUDOSCIENTIFIC EVIDENCE AND FALSE CONFESSIONS FAIR RETRIALS

Courts should overturn convictions based on confessions induced by pseudoscientific evidence. When scientific advancements reveal that the forensic science discussed during the interrogation is unreliable, the

70. Ofshe & Leo, *supra* note 69, at 1023.

71. In a study replicating the alt key study, *see supra* note 66, participants were instructed to hit the Z key during a fast typing exercise. Jessica R. Klaver et al., *Effects of Personality, Interrogation Techniques and Plausibility in an Experimental False Confession Paradigm*, 12 *LEGAL & CRIMINOLOGICAL PSYCHOL.* 71, 77 (2008). The participants were divided into two groups: one was forbidden to touch the alt key, while the other was forbidden to touch the escape key. *Id.* Fifty-nine percent of the participants in the first group falsely confessed to hitting the forbidden alt key (a plausible scenario, as the alt key is close to the Z key), while only thirteen percent of participants in the second group falsely confessed to hitting the forbidden escape key (an unlikely scenario, as the escape key is far away from the Z key). *Id.* at 79. No member of the second group internalized guilt. *Id.*

72. In the cases at issue in this Comment, the scientific evidence introduced during the interrogation is thought to be reliable at the time of interrogation and trial, and therefore constitutes plausible evidence of guilt. It is only later, long after the defendant’s conviction, that scientific advancements reveal that the evidence used in the interrogation and conviction is unreliable pseudoscience.

73. See *infra* note 82 for Judge Richard Posner’s excellent description of the suspect’s thought process in such a situation.

reliability of the defendant's confession may be undermined as well.⁷⁴ Overturning a conviction is suitable when the prosecution's foundational evidence—forensic science and a confession—is no longer a reliable indicator of guilt.⁷⁵ Should the prosecution pursue retrial, courts should exclude the confession, as well as the pseudoscientific evidence, to ensure a fair trial.⁷⁶

A. When Does Pseudoscientific Evidence Induce a False Confession?

Pseudoscience-induced false confessions occur when (1) the police introduce forensic evidence to the suspect during the interrogation, (2) the suspect confesses to committing the crime in the manner that the forensic evidence suggests only after the evidence is introduced, (3) the scientific basis for the forensic evidence is later proven to be unreliable, and (4) other factors known to produce false confessions⁷⁷ were present in the interrogation. As Judge Posner recognized, such confessions are “worthless as evidence and as a premise for an arrest” because they were produced after the introduction of false but compelling evidence.⁷⁸ Courts should view such confessions as unreliable indicators of guilt.

For example, when the police told Rick Aleman of the medical evidence proving that Aleman shook the baby in his care, Aleman said the doctors must be right: “[I]f the only way to cause the injuries is to shake that baby, then . . . I admit it. I did shake the baby too hard.”⁷⁹ Based on this admission, the police arrested Aleman and eventually

74. See *infra* Part II.A.

75. See *infra* Part II.B.

76. See *infra* Part II.C.

77. Other factors include prolonged periods of isolation, the length of the interrogation, implied promises of leniency, and the suspect's youth, intellectual impairment, poor memory, mental illness, sleep deprivation, suggestibility, and compliance. Chojnacki et al., *supra* note 65, at 16–18; Saul M. Kassin et al., *Police-Induced Confessions: Risk Factors and Recommendations*, 34 LAW & HUM. BEHAV. 3, 16, 18, 19, 21 (2010). An expert in false confessions can help the court “understand[] general findings and social-scientific research regarding interrogation processes, and how such processes can lead to false confessions.” Joshua E. Kastenberg, *A Three-Dimensional Model for the Use of Expert Psychiatric and Psychological Evidence in False Confession Defenses Before the Trier of Fact*, 26 SEATTLE U. L. REV. 783, 812 (2003) (discussing the views of Dr. Richard A. Leo).

78. *Aleman v. Vill. of Hanover Park*, 662 F.3d 897, 907 (7th Cir. 2011) (“[A] trick that is as likely to induce a false as a true confession renders a confession inadmissible because of its unreliability If a question has only two answers—*A* and *B*—and you tell the respondent that the answer is not *A*, and he has no basis for doubting you, then he is compelled by logic to ‘confess’ that the answer is *B*.”). Beverly Moore's interrogation and eventual false confession provide another example. See *supra* notes 1–8 and accompanying text.

79. *Aleman*, 662 F.3d at 902.

charged him with first-degree homicide.⁸⁰ Over a year later, the state dismissed the charges against Aleman because doctors “eventually decided that [the baby’s] . . . collapse . . . could have been the delayed effect of . . . earlier trauma rather than of anything Aleman had done.”⁸¹ Years later, Judge Posner refused to dismiss Aleman’s civil claim of unlawful interrogation against the police, finding that Aleman’s confession was induced by false evidence.⁸²

When evaluating confessions, pseudoscience should be considered a type of false evidence, which is known to produce false confessions.⁸³ There is no difference between a confession obtained through the use of fabricated scientific evidence and one obtained through the use of putatively accurate scientific evidence proven to be unreliable or false years later—what this Comment terms “pseudoscientific evidence.” The coercive nature of the false evidence remains the same, regardless of whether it was fabricated or not. If anything, the pseudoscientific evidence may be even more coercive than fabricated evidence because the interrogators, and perhaps even the suspect, believe that the evidence is true.⁸⁴ A confession induced by pseudoscience is unreliable evidence that no longer supports a guilty verdict.

When the foundation of the prosecution’s case rests on a pseudoscience-induced confession and the pseudoscientific evidence itself, the fair administration of justice requires that the conviction be

80. *Id.*

81. *Id.*

82. *Id.* at 907–08. Judge Posner described the process by which the police’s false medical evidence of SBS induced Aleman’s false confession:

They told him the only possible cause of Joshua’s injuries was that he’d been shaken right before he collapsed; not being an expert in shaken-baby syndrome, Aleman could not deny the officers’ false representation of medical opinion. And since he was the only person to have shaken Joshua immediately before Joshua’s collapse, it was a logical necessity that he had been responsible for the child’s death.

Id.

83. *See supra* notes 65–72 and accompanying text; *see also* Gohara, *supra* note 63, at 817–19 (“When a suspect is confronted with seemingly incontrovertible evidence of his guilt, he is likely to conclude that he is certain to be convicted even though he is innocent. The suspect may believe that he has been framed somehow, that there was a mistake in the analysis of the evidence, or that he is just very unlucky in that all the evidence points to him, an innocent person. . . . When faced with overwhelming evidence against him, the innocent suspect may rationally conclude that the costs of his confession are relatively low because he is likely to be convicted regardless of whether he confesses. . . . [T]he presence . . . of overwhelming evidence flips the cost-benefit calculation such that one has some reason to confess and may believe that he has little reason to remain silent.”).

84. *See supra* notes 69–72 and accompanying text.

overturned in order to correct a potential wrongful conviction.⁸⁵ Should the prosecution elect to retry the case, the court must carefully consider excluding the confession from evidence.⁸⁶ Courts should acknowledge that the pseudoscience taints the resulting confession. Thus, a fair retrial will often require the court to exclude the confession from evidence.

B. Courts May Properly Overturn Convictions Based on Pseudoscience-Induced Confessions

Courts grant motions for a new trial based on a change in science, albeit rarely.⁸⁷ Overturning a conviction is less likely when the pseudoscientific evidence did not appear at trial. This usually occurs when the defendant, faced with seemingly irrefutable scientific evidence and a confession, accepted a plea deal or when the prosecution introduced a pseudoscience-induced confession as evidence at trial but not the pseudoscientific evidence itself. When the pseudoscience greatly influenced the conviction but was not relied upon by the prosecution at trial, obtaining a new trial is more difficult. Yet all courts have at least one,⁸⁸ and sometimes two,⁸⁹ tools at their disposal to order new trials

85. See *infra* Part II.B.

86. See *infra* Part II.C.

87. See *infra* text accompanying note 100. All states have some form of newly discovered evidence statute allowing for retrial, and a few states have even fashioned “junk science” bills allowing for retrial when there is a change in science. See *infra* Part II.B.1–2. Although “new evidence claims . . . generally meet skepticism and demanding standards in state courts,” they are “a pathway that can work for an innocent defendant trapped by shifted [i.e., pseudo] science, as long as states interpret their new evidence pathways as broad enough to allow relief based on shifted science.” Plummer & Syed, *supra* note 15, at 287. For example, in *State v. Edmunds*, the Wisconsin Court of Appeals ordered retrial based on newly discovered evidence of a shift in SBS since Edmunds’ original trial. *State v. Edmunds*, 746 N.W.2d 590 (Wis. Ct. App. 2008). Yet when the conviction is based on a confession, courts “overwhelmingly uphold the conviction.” Davis & Leo, *supra* note 61, at 70–71.

88. See *infra* Part II.B.1.

89. See *infra* Part II.B.2. A possible third tool is ineffective assistance of counsel (IAC). The opportunities to claim IAC regarding pseudoscience are rare, however, and the Supreme Court recently rejected such a claim. *Maryland v. Kulbicki*, No. 14–848, 2015 WL 5774453 (Oct. 5, 2015), *rev’g per curiam Kulbicki v. State*, 99 A.3d 730 (Md. 2014). The Court rejected the Maryland Court of Appeals’ finding of ineffective assistance of counsel when defense counsel failed to use one report that “presaged the flaws in CBLA [Comparative Bullet Lead Analysis] evidence” at trial. *Id.* at *1 (quoting *Kulbicki*, 99 A.3d at 734). Although CBLA has “fallen out of favor,” the Court held that counsel’s performance was not deficient *at the time of trial*, when “the validity of CBLA was widely accepted, and courts regularly admitted CBLA evidence” *Id.* at *2.

when pseudoscientific evidence, and the confession it induced, are no longer reliable indicators of the defendant's guilt.

1. NEWLY DISCOVERED EVIDENCE STATUTES

When scientific advancements prove that the forensic evidence originally used to induce a confession and secure a conviction comes from unreliable pseudoscience, courts can view the scientific advancements as new evidence of the defendant's innocence. Every American jurisdiction provides "some form of post-trial relief on the basis of newly discovered evidence."⁹⁰ Thus, every court can use newly discovered evidence claims to overturn questionable convictions based on pseudoscientific evidence and a pseudoscience-induced confession.

Some convictions have already been overturned based on newly discovered scientific evidence disproving older scientific evidence. For example, Andrew Babick was granted a new trial eighteen years after his conviction for arson and felony murder when a Michigan court recognized that the change in fire science since his conviction constituted newly discovered evidence.⁹¹ Almost a decade earlier, Audrey Edmonds' conviction of first-degree reckless homicide was overturned when the Wisconsin Court of Appeals found that "a shift in the mainstream medical opinion since the time of Edmonds's trial" regarding SBS constituted newly discovered evidence.⁹² The court found that the medical evidence was newly discovered,⁹³ material,⁹⁴ and

90. Daniel S. Medwed, *Up the River Without a Procedure: Innocent Prisoners and Newly Discovered Non-DNA Evidence in State Courts*, 47 ARIZ. L. REV. 655, 659 (2005). Courts today usually apply the "Berry test," taken from *Berry v. State*, 10 Ga. 511 (Ga. 1851), ordering a new trial when the petitioner presents evidence that (1) is newly discovered and was unknown to the defendant at the time of trial, (2) is material, (3) has a reasonable probability of producing a different outcome at trial, and (4) was not discovered at the time of trial "due to [no] lack of diligence on the part of the defendant." 3 CHARLES ALAN WRIGHT & SARAH N. WELLING, FEDERAL PRACTICE AND PROCEDURE: CRIMINAL § 584 (4th ed. 2011). There are numerous variations on the Berry test, but most courts have a "general proclivity . . . to read post-conviction relief rules in as militantly narrow a fashion as possible," such that no state supreme court has yet found "new science" to be new evidence giving the defendant a right to a new trial. Plummer & Syed, *supra* note 15, at 287.

91. Laurin, *supra* note 15, at 1751-53 (citing *People v. Babick*, No. 1996-2562 FC (Mich. Cir. Ct. Nov. 7, 2014)). For a discussion of the evolution of fire science from pseudoscience to reliable science, see *supra* note 37.

92. *Edmonds*, 746 N.W.2d at 598-99.

93. *Id.* at 595-96 ("[A] significant and legitimate debate in the medical community has developed in the past ten years over whether infants can be fatally injured through shaking alone . . .").

created “a reasonable probability” of acquittal,⁹⁵ and that Edmunds was not negligent in failing to obtain the evidence prior to trial.⁹⁶

When reviewing a case involving a confession induced by pseudoscience, courts should follow an analysis similar to the *Babick* and *Edmunds* courts because this analysis recognizes the likelihood that the defendant is actually innocent of the crime and thus ensures the fair and proper administration of justice. Although *Babick* and *Edmunds* did not involve confessions, courts should not view a pseudoscience-induced confession as an impediment to proving the probability of a different outcome on retrial. Instead, courts should view the confession as one more piece of the prosecution’s case undermined by the new scientific evidence because empirical studies have shown that such confessions may be false.⁹⁷

There is precedent to support this view: After Martin Tankleff was convicted of murdering his parents, he filed a motion for new trial based on newly discovered (non-scientific) evidence.⁹⁸ Tankleff’s confession “was the most compelling evidence elicited by the prosecution” at the original trial.⁹⁹ Yet the appellate court overturned Tankleff’s conviction, finding that,

when the evidence presented at the [evidentiary] hearing is evaluated against the backdrop of the trial evidence, including the defendant’s confession, how the confession was obtained, and the fact that the defendant almost immediately recanted the confession, the newly-discovered evidence is “of such character as to create a probability that had such evidence

94. *Id.* at 596 (“[T]he main issue at trial was the cause of [the baby’s] injuries, and the new medical testimony presents an alternate theory for the source of those injuries.”).

95. *Id.* at 599 (“[A] jury would be faced with competing credible medical opinions in determining whether there is a reasonable doubt as to Edmunds’s guilt.”).

96. *Id.* at 596 (“[T]he record demonstrates that the bulk of the medical research and literature supporting the defense position, and the emergence of the defense theory as a legitimate position in the medical community, only emerged in the ten years following her trial.”). The Mississippi Supreme Court recently ordered an evidentiary hearing on newly discovered evidence in another SBS case. *Havard v. Mississippi*, No. 2013-DR-01995-SCT, 2015 Miss. LEXIS 161 (Miss. Apr. 2, 2015).

97. *See supra* notes 65–72.

98. Margaret A. Berger, *False Confessions—Three Tales from New York*, 37 Sw. L. REV. 1065, 1072 (2008) (describing *People v. Tankleff*, 848 N.Y.S.2d 286 (N.Y. App. Div. 2007)).

99. *Tankleff*, 848 N.Y.S.2d at 302.

been received at the trial the verdict would have been more favorable to the defendant.”¹⁰⁰

A claim of newly discovered evidence may also provide relief to defendants who pled guilty—not an uncommon occurrence in cases where the defendant has confessed and believes there is strong scientific evidence supporting the prosecution’s case. Some jurisdictions recognize that a guilty plea can be withdrawn based on newly discovered evidence.¹⁰¹ Courts should allow new trials based on new scientific evidence because the new evidence calls into question the reliability of the original forensic evidence and creates a reasonable probability that the defendant would have pled differently or the jury would have reached a different conclusion.

2. JUNK SCIENCE BILLS

While all states allow post-conviction relief on claims of newly discovered evidence, a couple have gone even further, adopting “junk science” post-conviction relief statutes.¹⁰² These statutes allow courts to order retrial of convictions based on pseudoscientific evidence and pseudoscience-induced confessions.¹⁰³ State legislatures should adopt similar laws in order to provide courts with an additional tool to overturn these questionable convictions and ensure the fair administration of justice.

Texas adopted the first junk science statute in 2013.¹⁰⁴ This law allows habeas relief when

relevant [and admissible] 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

100. *Id.* at 302–03 (quoting N.Y. CRIM. PROC. LAW § 440.10(1)(g)).

101. *See, e.g., People v. Schneider*, 25 P.3d 755, 764 (Colo. 2001); *State v. McCallum*, 561 N.W.2d 707, 712–13 (Wis. 1997). *But see Wilson v. Lawrence Cnty.*, 260 F.3d 946, 955 (8th Cir. 2001); *Norris v. State*, 896 N.E.2d 1149, 1153 (Ind. 2008).

102. CAL. PENAL CODE § 1473 (West 2015); TEX. CODE CRIM. PROC. ANN. art. 11.073(b) (West 2015).

103. § 1473; art. 11.073(b).

104. Linda Rodriguez McRobbie, *In Texas, a New Law Lets Defendants Fight Bad Science*, ATLANTIC (Feb. 28, 2014), <http://www.theatlantic.com/national/archive/2014/02/in-texas-a-new-law-lets-defendants-fight-bad-science/283895/>; *see also* Thomas, *supra* note 15, at 1040. This statute was “[t]he first of its kind in the nation” McRobbie, *supra*.

trial . . . and the court . . . finds that, had the scientific evidence been presented at trial, on the preponderance of the evidence the person would not have been convicted.¹⁰⁵

California recently enacted a similar bill.¹⁰⁶ Although a newly discovered evidence claim arguably provides the same relief, these junk science laws provide a more “definite” rule “that clearly describes when and how you can challenge a conviction based on evidence we now know to be wrong.”¹⁰⁷

Texas’s junk science statute has already been used to stay the execution of Rigoberto Avila, who was convicted of killing a nineteen-month-old boy.¹⁰⁸ A jury convicted Avila after the prosecution introduced Avila’s confession¹⁰⁹ and “claimed that there was no . . . possible explanation for the child’s death” other than Avila stomping on the baby’s stomach.¹¹⁰ Now, new breakthroughs in biomechanics show that the victim’s older brother, who said he was roughhousing with the victim when he stopped breathing, could have inflicted the injuries by jumping directly on the victim’s abdomen.¹¹¹ Unfortunately, “few scientists at the time were capable of understanding the biomechanics involved in [the victim’s] death, in part because little research had been done on these kinds of injuries.”¹¹²

Avila’s case demonstrates how Texas’s junk science law could be used in other states to allow fair retrials of cases based on pseudoscientific evidence and pseudoscience-induced false confessions. Some journalists posit that the junk science statute “also prohibits the court from denying relief based on the fact that a defendant either

105. art. 11.073(b).

106. 2014 Cal. Legis. Serv. 623 (West). This bill “allows a judge to determine that a wrongful conviction has occurred if expert testimony provided during a trial served as the primary basis for an incarcerated person’s conviction and has subsequently been retracted or disproven by scientific or technological advances.” Press Release, Governor Signs Leno Bill Helping to Prevent Wrongful Convictions (Sept. 29, 2014), <http://sd11.senate.ca.gov/news/2014-09-29-governor-signs-leno-bill-helping-prevent-wrongful-convictions>.

107. McRobbie, *supra* note 104 (quoting Mike Snedeker, president of the National Center for Reason and Justice).

108. *Id.*

109. “I saw him laying [sic] on the floor. I don’t know what came over me, but I walked over to him and stamped on him with my right foot.” *Id.* (quoting a police statement signed by Avila). According to Avila, this confession was not only false but fabricated by the detective who interrogated Avila. “[T]he detective who took both statements made up the second [incriminating statement], and [Avila] only signed it because the detective told him it was a ‘clarification’ of the first.” *Id.*

110. *Id.*

111. *Id.*

112. *Id.*

confessed to the crime or took a plea deal.”¹¹³ Although there is no clear legislative intent to apply Texas’s junk science statute to convictions resulting from guilty pleas, the bill cannot overturn all wrongful convictions based on pseudoscience unless it is interpreted as applying to guilty pleas.¹¹⁴ Legislators in other jurisdictions writing laws similar to Texas’s junk science statute should make it clear that relief is available to defendants whenever the prosecution’s case rested mainly on pseudoscientific evidence or a pseudoscience-induced confession, even if the pseudoscientific evidence was not directly presented to a jury.¹¹⁵ Only then will these laws truly allow “innocent people who have been wrongly convicted because of someone else’s error . . . a chance to clear their name and regain their freedom.”¹¹⁶

C. Getting the Confession Excluded on Retrial

In order to ensure a fair trial and avoid a wrongful conviction, courts should exclude unreliable confessions from evidence.¹¹⁷

113. Jordan Smith, *Junking Junk Science?*, AUSTIN CHRON. (May 17, 2013, 10:39 AM), <http://www.austinchronicle.com/daily/news/2013-05-17/junking-junk-science/>; see also McRobbie, *supra* note 104 (“The statute keeps the court from denying relief even if the defendant had previously confessed or accepted a plea.”).

114. See *supra* text accompanying note 101.

115. This is necessary because the confession presents the pseudoscience to the jury even if no other witness does so.

116. Press Release, *supra* note 106.

117. See, e.g., Police and Criminal Evidence Act, 1984, c. 60, § 76(2) (Eng. & Wales) (“If . . . the confession was or may have been obtained . . . in consequence of anything said or done which was likely, in the circumstances existing at the time, to render unreliable any confession which might be made by [an accused person] . . . the court shall not allow the confession to be given in evidence against him”); Jonathan Clough, *The Exclusion of Voluntary Confessions: A Question of Fairness*, 20 U. NEW S. WALES L.J. 25, 41 (1997); Kent Roach, *Unreliable Evidence and Wrongful Convictions: The Case for Excluding Tainted Identification Evidence and Jailhouse and Coerced Confessions*, 52 CRIM. L. Q. 210 (2007); Eugene R. Milhizer, *Confessions After Connelly: An Evidentiary Solution for Excluding Unreliable Confessions*, 81 TEMP. L. REV. 1 (2008). Within the past two decades, American courts have begun to exclude pseudoscientific evidence, such as fingerprint identification, firearms identification, bite mark identification, and arson investigation, under the new *Daubert* standard. Cooper, *supra* note 16, at 300. In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, the Court ruled that under Rule 702 of the Federal Rules of Evidence, a “trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589 (1993). This requirement “established a standard of ‘evidentiary reliability.’” NAS REPORT, *supra* note 16, at 91. Not all states have adopted the *Daubert* standard, however. Some states continue to use the more stringent standard of *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), while others “have adopted even more liberal standards . . . leaving the reliability of the evidence as a matter of weight, rather than admissibility.” Chojnacki et al., *supra* note 65, at 20.

Exclusion is necessary because “a significant proportion of jurors . . . generally assume that suspects who confess to crimes are guilty”¹¹⁸ Furthermore, admitting a pseudoscience-induced confession into evidence may not only expose the jury to a false confession, but allow the pseudoscientific evidence (evidence already excluded by the court) to reach the jury through the backdoor of the interrogation video or transcript. Courts should focus on the coercive nature of pseudoscientific evidence used in police interrogations¹¹⁹ and the unreliability of the confessions it produces in order to ensure a fair retrial that protects the innocent.

1. EXCLUDING CONFESSIONS BASED ON DUE PROCESS VIOLATIONS

Courts should consider excluding pseudoscience-induced confessions because the introduction of pseudoscientific evidence has a coercive effect on the suspect, rendering the resulting confession involuntary. The due process doctrine of the Fifth and Fourteenth Amendments requires the exclusion of these involuntary confessions.¹²⁰ Although critics have noted that, “as a means of protecting against unreliable or false confessions, the due process standard actually does very little[.]”¹²¹ a broader understanding of coercion is possible and would allow for the exclusion of many unreliable, pseudoscience-induced confessions.¹²²

Within the past century, the Supreme Court’s interpretation of due process has evolved into a totality of the circumstances voluntariness

118. Chojnacki et al., *supra* note 65, at 40.

119. Such pseudoscience is essentially false evidence, which has been shown in empirical studies to increase the likelihood of a false confession during interrogation. *See supra* notes 65–68 and accompanying text and Part II.A.

120. *Brown v. Mississippi*, 297 U.S. 278, 286 (1936); *accord Rogers v. Richmond*, 365 U.S. 534, 540 (1961).

121. Stacy Du Clos, Note, *Lessons from State v. Lawson: The Reliability Framework Applied to Confessions and Admissions*, 19 LEWIS & CLARK L. REV. 227, 248 (2014).

122. Broadening the definition of coercion will cause the exclusion of more confessions—both true and false. Courts may be willing to exclude pseudoscience-induced confessions because the introduction of false evidence during interrogations lowers the reliability of the resulting confession (that is, increases the probability that the suspect will confess, regardless of his guilt or innocence), as discussed above in Part I.B. A better exclusionary test—one that would exclude the most false confessions and admit the most true confessions—would be a reliability test. Unfortunately, the Supreme Court has steered American jurisprudence away from confession reliability and toward police coercion. *See infra* note 123.

test.¹²³ This test assesses whether police conduct “was such as to overbear [the suspect’s] will to resist and bring about confessions not freely self-determined—a question to be answered with complete disregard of whether or not petitioner in fact spoke the truth.”¹²⁴ The voluntariness test does not easily allow for the exclusion of pseudoscience-induced confessions because it focuses on police coercion.¹²⁵ When the police believe they are discussing reliable forensic evidence with a suspect, courts usually do not consider their actions coercive¹²⁶—even when the forensic evidence is later proven unreliable.

But a broader understanding of coercion is possible. Courts have begun to recognize that police misrepresentations, including fabricated evidence, during interrogation may render the resulting confession involuntary. For example, the highest court in New York recently suppressed a defendant’s confession when the police threatened to

123. The Court first articulated a voluntariness test under the due process doctrine in *Brown*, 297 U.S. 278. Twenty-five years later in *Rogers*, the Court explained that the doctrine excludes involuntary confessions

not because such confessions are unlikely to be true but because the methods used to extract them offend an underlying principle in the enforcement of our criminal law: that ours is . . . a system in which the State . . . may not by coercion prove its charge against an accused out of his own mouth.

Rogers, 365 U.S. at 540–41. After another twenty-five years, the Court narrowed the definition of “coercion” to “coercive police activity,” noting that “[t]he purpose of excluding evidence seized in violation of the Constitution is to substantially deter future violations of the Constitution.” *Colorado v. Connelly*, 479 U.S. 157, 166 (1986).

124. *Rogers*, 365 U.S. at 544.

125. Du Clos, *supra* note 121, at 248–49. The due process doctrine is often viewed as a poor gatekeeper of unreliable confessions because “[a] confession can be involuntary, even beaten out of the suspect, and yet still be true. On the other hand, it can be completely false, yet given entirely voluntarily.” Davis & Leo, *supra* note 61, at 67.

126. Courts generally agree “that false statements by the police are insufficient to invalidate an otherwise voluntary confession.” Young, *supra* note 65, at 452 (discussing courts’ reliance on *Frazier v. Cupp*, 394 U.S. 731 (1960)); see also Melanie D. Wilson, *An Exclusionary Rule for Police Lies*, 47 AM. CRIM. L. REV. 1, 29 n.176 (2010) (noting that *Frazier* indicated “that misrepresentations by police during an interrogation, ‘while relevant,’ did not make confession involuntary”). In fact, “no trial court has ever suppressed a suspect’s confession as involuntary prior to trial because police contaminated [i.e., supplied necessary details of the crime], rather than coerced, it.” Richard A. Leo et al., *Promoting Accuracy in the Use of Confession Evidence: An Argument for Pretrial Reliability Assessments to Prevent Wrongful Convictions*, 85 TEMP. L. REV. 759, 786 (2013) [hereinafter Leo et al., *Promoting Accuracy*]. The Supreme Court itself has noted that “[t]he aim of the requirement of due process is not to exclude presumptively false evidence, but to prevent fundamental unfairness in the use of evidence, whether true or false.” *Lisenba v. California*, 314 U.S. 219, 236 (1941).

arrest his wife and misrepresented that his child would die if he did not tell the “truth” during the interrogation, finding that “[i]t is well established that not all deception of a suspect is coercive, but in extreme forms it may be.”¹²⁷ Federal courts have acknowledged that “[u]nconstitutional ‘coercion can be mental as well as physical.’”¹²⁸ Most importantly, some courts have recognized that confessions obtained through use of fabricated evidence violate the Due Process Clause.¹²⁹

Courts should adopt this broader view of what constitutes coercion and take it one step further to suppress unreliable confessions elicited through the introduction of unreliable scientific evidence, thus helping to ensure a fair retrial that protects innocent defendants. Courts should acknowledge that scientific evidence later discovered to be unreliable is no different from evidence fabricated by the police when it comes to the coercive effect on the suspect: both “persuade a suspect that his

127. *People v. Thomas*, 8 N.E.3d 308, 313 (N.Y. 2014). The court made a point to note that although “confessions cruelly extorted may be and have been, to an unascertained extent, found to be untrustworthy. . . . [T]he constitutional principle of excluding confessions that are not voluntary does not rest on this consideration.” *Id.* at 315 (quoting *Rogers*, 365 U.S. at 540–41). The police induced Thomas to confess to throwing his infant son onto a mattress multiple times. *Id.* at 309. The admissibility of the State’s medical evidence (“radiologic and postmortem findings of subdural fluid collections, brain swelling and retinal hemorrhaging,” the classic SBS triad) was not at issue on appeal. *Id.* at 309–10.

128. *Washington v. Buraker*, 322 F. Supp. 2d 692, 697 (W.D. Va. 2004) (quoting *Blackburn v. Alabama*, 361 U.S. 199, 206 (1960)); see also *Robinson v. Smith*, 451 F. Supp. 1278, 1290–92 (W.D.N.Y. 1978).

129. See *Robinson*, 451 F. Supp. at 1291–92 (finding a confession obtained after police presented fabricated evidence involuntary); *State v. Patton*, 826 A.2d 783, 802 (N.J. Super. Ct. App. Div. 2003) (finding a confession obtained after police presented fabricated evidence *per se* involuntary). Most analogous to the introduction of scientific evidence later shown to be unreliable in an interrogation is *Aleman v. Village of Hanover Park*, in which Judge Posner wrote:

[Officer] Micci induced Aleman’s “confession” by lying to him about the medical reports. The lies convinced Aleman that he must have been the cause of Joshua’s shaken-baby syndrome because, according to Micci, the doctors had excluded any other possibility. (They had not.) The key statement in Aleman’s “confession” was that “if the only way to cause the injuries is to shake that baby, then, when I shook that baby, I hurt that baby.” The crucial word is “if.” By lying about the medical reports, Micci changed “if” to “because” and thereby forced on Aleman a premise that led inexorably to the conclusion that he must have been responsible for Joshua’s death; the lie if believed foreclosed any other conclusion.

Aleman v. Vill. of Hanover Park, 662 F.3d 897, 906 (7th Cir. 2011) (finding that a confession obtained after police lied about the medical evidence supporting an SBS diagnosis should have been excluded).

situation is hopeless”¹³⁰ and that he should, therefore, confess.¹³¹ In fact, a suspect presented with scientific evidence of his guilt may be in an even more hopeless situation.¹³² Courts should adopt similar reasoning to suppress involuntary confessions coerced through police introduction of pseudoscientific evidence.

2. THE CORROBORATION RULE: *CORPUS DELICTI*

Courts may also use the common law corroboration rule to exclude confessions when the prosecution’s only other evidence against the defendant is pseudoscientific evidence—that is, forensic evidence that the court has already excluded as unreliable. The corroboration rule generally requires “that additional evidence, other than the confession, exists to support the crime.”¹³³ This common law doctrine originally aimed to protect against convictions based solely on unreliable confessions¹³⁴ and “explicitly tests the *reliability* of a confession,” as opposed to its voluntariness.¹³⁵ Every state has adopted a version of the corroboration rule,¹³⁶ the most common versions being the *corpus delicti* rule (requiring independent evidence that a crime has been committed)¹³⁷ and the trustworthiness standard (requiring independent

130. Steven A. Drizin & Richard A. Leo, *The Problem of False Confessions in the Post-DNA World*, 82 N.C. L. REV. 891, 915 (2004).

131. The difference, of course, between false and fabricated evidence is the bad faith of the police. Although current case law on the voluntariness standard requires “state action,” it does not require a showing of bad faith. *Colorado v. Connelly*, 479 U.S. 157, 165 (1986). Police presentation of pseudoscientific evidence to a suspect during interrogation is coercive police action regardless of whether the police know the evidence is false because they fabricated it or believe the evidence is true at the time and only later, after scientific advancements, learn that it is unreliable. Thus, the current voluntariness standard allows courts to find that a confession elicited through the introduction of pseudoscientific evidence is involuntary. For example, Douglas Warney falsely confessed to and was convicted of second-degree murder. *Warney v. State*, 947 N.E.2d 639, 641–42 (N.Y. 2011). When DNA proved that Warney was innocent ten years later, New York’s court found that “although [his false] statement was admissible at the criminal trial, . . . the question of coercion must now be viewed in light of Warney’s innocence.” *Id.* at 644 n.4.

132. See *supra* notes 69–72 and accompanying text.

133. Leo et al., *Reliability*, *supra* note 60, at 501.

134. *Id.*

135. Corey J. Ayling, Comment, *Corroborating Confessions: An Empirical Analysis of Legal Safeguards Against False Confessions*, 1984 WIS. L. REV. 1121, 1127.

136. Leo et al., *Promoting Accuracy*, *supra* note 126, at 790.

137. The “orthodox” *corpus delicti* rule “bars admission in evidence of a criminal defendant’s extrajudicial confession unless the prosecution shows, by evidence independent of the confession, that the crime charged was committed by someone”—that is, unless there is independent evidence that a crime actually occurred. Thomas A.

evidence that the confession is trustworthy).¹³⁸ Thus, every court may exclude pseudoscience-induced confessions immediately using its jurisdictional variation of the corroboration rule—eliminating the need for legislative action.

Both *corpus delicti* and the trustworthiness standard have been criticized as too weak to protect against the introduction of false confessions into evidence at trial.¹³⁹ Yet they have successfully suppressed unreliable confessions in certain circumstances. For example, the Michigan Court of Appeals overturned a mentally ill woman's conviction of second-degree murder when the only evidence that she killed her infant son was her own confession, obtained through a police interrogation after the woman had been hospitalized for hallucinations.¹⁴⁰ "Since the prosecution could not establish the corpus delicti of homicide independent of [the defendant's] statements, the Court of Appeals ordered that a directed verdict of not guilty be entered."¹⁴¹

These rules may also be useful when reviewing the admissibility of pseudoscience-induced confessions. When the forensic evidence originally used to convict the defendant no longer supports the conviction, the "independent evidence which would tend to establish the trustworthiness of the [confession]"¹⁴² disappears as well. In a few cases, the forensic evidence is the only evidence that a crime was committed at all, such as some arson¹⁴³ and SBS cases.¹⁴⁴ When the

Mullen, *Rule Without Reason: Requiring Independent Proof of the Corpus Delicti as a Condition of Admitting an Extrajudicial Confession*, 27 U.S.F. L. REV. 385, 385 (1993).

138. In 1954, the Supreme Court outlined a new corroboration rule, the "trustworthiness standard," which requires that the prosecution provide "substantial independent evidence which would tend to establish the trustworthiness of the [confession]." *Opper v. United States*, 348 U.S. 84, 93 (1954). A number of state courts and the federal courts have adopted this standard. Leo et al., *Reliability*, *supra* note 60, at 508; *see also* David A. Moran, *In Defense of the Corpus Delicti Rule*, 64 OHIO ST. L.J. 817, 832 (2003).

139. *See, e.g.*, Boaz Sangero, *Miranda is Not Enough: A New Justification for Demanding "Strong Corroboration" to a Confession*, 28 CARDOZO L. REV. 2791, 2805 (2007); Moran, *supra* note 138, at 818 (describing the trustworthiness standard as a "weaker . . . rule that requires the prosecution to merely bolster the confession by some independent evidence, even if that independent evidence does not establish that any crime has occurred"); Mullen, *supra* note 137, at 407 (complaining that "courts . . . have created numerous exceptions to the [*corpus delicti*] rule and have reduced the quantum of evidence necessary to satisfy it").

140. Moran, *supra* note 138, at 820–25 (recounting *People v. McAllister*, No. 155392 (Mich. Ct. App. July 27, 1994), in which Moran represented the defendant on appeal). Physicians later attributed the baby's death to SIDS. *Id.* at 821.

141. *Id.* at 825.

142. *Opper*, 348 U.S. at 93.

143. *See supra* note 37.

science underpinning that evidence is later proven to be unreliable, there is no independent evidence that a crime occurred. Thus, the *corpus delicti* rule mandates the exclusion of the confession.

3. CONFESSION SUPPRESSION STATUTES

Legislators wishing to improve the reliability of trials should consider adopting evidentiary statutes providing additional protection against the admission of false confessions. Only a few jurisdictions have enacted this type of statute.¹⁴⁵ One such statute requires the exclusion of confessions

induced . . . by threats or promises concerning action to be taken by a public official with reference to the crime, likely to cause the accused to make such a statement falsely, and made by a person whom the accused reasonably believed to have the power or authority to execute the same.¹⁴⁶

This statute provides broader protection against the introduction of false confessions because it makes clear that “[t]he apparent falsity of a statement is a relevant consideration favoring statutory exclusion.”¹⁴⁷ In fact, the Kansas Court of Appeals recently used this statute to exclude “inculpatory statements [that] were likely false.”¹⁴⁸

These evidentiary statutes do not require police intent to exclude the confession. Rather, the statute’s analysis focuses on what the suspect reasonably believed and the effect of that belief on the

144. See *supra* Part I.A.2; see also Lauren Quint, Note, *Bridging the Gap: An Application of Social Frameworks Evidence to Shaken Baby Syndrome*, 62 HASTINGS L.J. 1839, 1845 (2011).

145. See, e.g., KAN. STAT. ANN. § 60-460(f) (2014); N.Y. CRIM. PROC. LAW § 60.45(2)(b)(i) (McKinney 2014).

146. KAN. STAT. ANN. § 60-460(f)(2); cf. N.Y. CRIM. PROC. LAW § 60.45(2)(b)(i) (“A confession . . . is ‘involuntarily made’ by a defendant when it is obtained from him . . . [b]y a public servant engaged in law enforcement activity . . . by means of any promise or statement of fact, which . . . creates a substantial risk that the defendant might falsely incriminate himself . . .”).

147. *State v. Fernandez-Torres*, 337 P.3d 691, 697 (Kan. Ct. App. 2014). The due process voluntariness test, on the other hand, has “complete disregard [for] whether or not petitioner in fact spoke the truth.” *Rogers v. Richmond*, 365 U.S. 534, 544 (1961).

148. *Fernandez-Torres*, 337 P.3d at 695, 699–700 (ruling that a suspect’s admissions that he may have inadvertently touched his stepchild’s pubic area were inadmissible under the Due Process Clause and § 60-460(f) when the police presented false evidence that the suspect’s skin cells were found on the child and the suspect could have reasonably believed, based on the officer’s language, that the police “would negotiate some arrangement . . . if he admitted touching [the child]”).

reliability of the suspect's statement. That is, if the suspect reasonably believed that the forensic evidence introduced during the interrogation was real and confessed to committing the crime in the manner that the forensic evidence suggests, but the forensic evidence is later proven to be unreliable, courts may find that the suspect's statement is no longer reliable and thus should be suppressed under this statute.

It is easy to imagine how a confession suppression statute could be used to suppress a confession on retrial that had been properly admitted during the original trial. Police often use threats and promises in order to secure confessions during interrogations.¹⁴⁹ A threat that forensic evidence will be used to prove the suspect's guilt may be viewed as unlikely to produce a false confession when the evidence does, in fact, prove the suspect's guilt. But when that forensic evidence is later shown to be the result of pseudoscientific methods, a court may find that a threat to use the forensic evidence to prove the suspect's guilt is "likely to cause the accused to make"¹⁵⁰ a false confession. These evidentiary statutes, although only adopted in a few states, may provide a simple and direct method for courts to exclude pseudoscience-induced confessions.

4. FEDERAL RULE OF EVIDENCE 403

In jurisdictions that have adopted a rule similar to Federal Rule of Evidence 403, courts can exclude pseudoscience-induced confessions. Rule 403 allows the court to "exclude relevant evidence if its probative value is substantially outweighed by a danger of . . . unfair prejudice"¹⁵¹ Courts may apply Rule 403 to unreliable confessions—an avenue for exclusion suggested by the Supreme Court.¹⁵²

In fact, the risk of unfair prejudice is amplified in the case of a pseudoscience-induced confession. If the jury is allowed to consider the confession, it will be exposed to the pseudoscientific evidence—the very same evidence that the court has presumably suppressed because it has been shown to be unreliable. To admit such a confession into evidence would nullify the court's decision to suppress the

149. See *supra* notes 62–64 and accompanying text.

150. KAN. STAT. ANN. § 60-460(f)(2)(B).

151. FED. R. EVID. 403. "Unfair prejudice" is defined as "an undue tendency to suggest decision on an improper basis, commonly, though not necessarily, an emotional one." FED. R. EVID. 403 advisory committee's note.

152. "A statement rendered by one in the condition of respondent might be proved to be quite unreliable, but this is a matter to be governed by the evidentiary laws of the forum, . . . and not by the Due Process Clause of the Fourteenth Amendment." *Colorado v. Connelly*, 479 U.S. 157, 167 (1986).

pseudoscientific evidence. As a result, such confessions should be suppressed under Rule 403.

Unreliable confessions in general may be excluded under Rule 403 because they are “likely to have very little probative value” and have a high danger of creating unfair prejudice if placed before a jury.¹⁵³ The introduction of fabricated forensic evidence in an interrogation only increases the likelihood of a false confession, such that its probative value is outweighed by the likelihood of unfair prejudice.¹⁵⁴ Judge Posner recently confirmed the unreliability of confessions elicited through the introduction of false forensic evidence in interrogation:

[A] trick that is as likely to induce a false as a true confession renders a confession inadmissible because of its unreliability. . . . [The police] told [Aleman] the only possible cause of Joshua’s injuries was that he’d been shaken right before he collapsed; not being an expert in shaken baby syndrome, Aleman could not deny the officers’ false representation of medical opinion. And since he was the only person to have shaken Joshua immediately before Joshua’s collapse, it was a logical necessity that he had been responsible for the child’s death. . . . A confession so induced is worthless as evidence¹⁵⁵

Because pseudoscientific evidence is similar to fabricated evidence, pseudoscience-induced confessions likewise often contain little to no probative value and a high risk of unfair prejudice. As a result, courts should suppress these confessions.

CONCLUSION

During the police interrogation of Beverly Moore, the detectives, refusing to accept Moore’s statements that she did nothing wrong, commanded her to “please tell us the truth. For everybody’s sake.”¹⁵⁶ But in fact, the police, court, and jury did not want to hear the truth: they wanted to hear a story that matched the forensic evidence. They wanted to hear that Moore shook two-year-old Avery to death. And so

153. Leo et al., *Promoting Accuracy*, *supra* note 126, at 793.

154. Irina Khasin, *Honesty Is the Best Policy: A Case for the Limitation of Deceptive Police Interrogation Practices in the United States*, 42 VAND. J. TRANSNAT’L L. 1029, 1043 (2009) (“The deceptive technique of presenting false evidence . . . jeopardizes the reliability of the resulting confession.”).

155. *Aleman v. Vill. of Hanover Park*, 662 F.3d 897, 907 (7th Cir. 2011).

156. TUERKHEIMER, *supra* note 1, at 52 (quoting Transcript of Interrogation of Beverly Moore at 23, 28 (Jan. 13, 2004)).

Moore, worn down by the detectives' persistent questioning and convinced that she and Avery's father would be released if she only told the police what they wanted to hear, finally said, "I shook him."¹⁵⁷ Even though the SBS medical evidence originally used by the police in Moore's interrogation and by the prosecution in Moore's trial is now considered by many to be pseudoscientific,¹⁵⁸ Moore continues to serve a life sentence.¹⁵⁹

Far too often, pseudoscience causes innocent people like Beverly Moore to confess to something they did not do because "science" says they must have done it.¹⁶⁰ Rather than protect these innocent people, courts sometimes send them to prison for crimes they did not commit. Although it may be impossible for courts to recognize before trial or a plea that a confession was induced by pseudoscientific evidence, it is possible for courts to recognize the unreliability of confessions when scientific advancements show that forensic evidence is, in fact, pseudoscientific.

This is not to say that science has no place in the courtroom. Many forensic sciences are useful tools in the criminal justice system that should continue to be used in the courtroom as long as they are reliable.¹⁶¹ But when the scientific community has raised serious doubts about a particular type of forensic science,¹⁶² the justice system has a duty to retry cases in which the prosecution relied on that

157. *Id.* (quoting Transcript of Interrogation of Beverly Moore at 30–32 (Jan. 13, 2004)).

158. "[E]vidence uncovered after the trial established that Moore's admission to shaking Avery, even if believed, could not support a finding of guilt." *Id.* (citing *Moore v. Newton-Embry*, No. CIV-09-985-C, 2011 WL 5143080, at *11 (W.D. Okla. Sept. 7, 2011)).

159. *Offender Lookup*, *supra* note 13.

160. Although it may be difficult to imagine a situation in which one would confess to a crime one did not commit, there were at least 136 documented false confessions by 2003. See Leo, *False Confessions*, *supra* note 61, at 333. Irina Khasin describes the process in which police-fabricated evidence causes an innocent suspect to confess:

Faced with seemingly definitive proof of guilt, an innocent suspect may begin to doubt his own sanity. In a desperate situation, a person may weigh the prudence of maintaining innocence when it seems that everything is stacked against him. This type of deception seems most likely to induce a false confession—where a defeated and distraught suspect decides to surrender to escape an impossible situation.

Khasin, *supra* note 154, at 1043.

161. See *supra* note 117 for a discussion of the *Daubert* standard.

162. See *supra* Parts I.A.1–2. These are the unreliable and discredited forensic sciences referred to as "pseudoscience" throughout this Comment. See *supra* note 15. The difficult, but important, question of when science becomes pseudoscience is beyond the scope of this Comment.

pseudoscience. And when pseudoscience creates evidence that prompts an unreliable confession, the confession is no longer a reliable indicator of guilt.¹⁶³ As a result, confidence in the defendant's guilt is undermined, and a new trial is necessary to determine whether there is still proof of the defendant's guilt beyond a reasonable doubt.

When a conviction is based largely on pseudoscientific evidence and a pseudoscience-induced confession, courts have a responsibility to retry the case without the unreliable confession and pseudoscientific evidence in order to assure the proper administration of justice and to safeguard against wrongful convictions. Although this may result in a wave of retrials whenever a particular type of forensic science is discredited, concerns for judicial economy and finality cannot trump the American citizen's constitutional and natural right to liberty. The justice system was unable to stop Beverly Moore's nightmarish interrogation before it began, but it does have the power to end her nightmare now.

163. See Part II.A for this Comment's definition of a pseudoscience-induced confession.