CASE NO. ______

CAPITAL CASE

IN THE UNITED STATES SUPREME COURT

DANNY LEE HILL,

Petitioner,

v.

STATE OF OHIO,

Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE OHIO ELEVENTH DISTRICT COURT OF APPEALS

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CAPITAL CASE

QUESTIONS PRESENTED FOR REVIEW

Bite-mark comparison evidence was the foundation of the State's case that convicted Petitioner Danny Lee Hill of murder and sentenced him to death. The State of Ohio now acknowledges this evidence has been debunked as unscientific, and would be inadmissible in any current trial. The State of Ohio failed to grant Mr. Hill a new trial despite disqualification of and patent unreliability of this evidence. The question for this Court to address is whether a murder conviction and death sentence based on now recognized debunked unscientific evidence violates a petitioner's constitutional rights to fair trial and due process of law?

List of All Parties to the Proceeding

The parties are the same as those listed in the caption.

Corporate Disclosure

There are no corporate disclosures necessary for this case.

List of Proceedings

1. *State of Ohio v. Danny Lee Hill*, Case No. 85-CR-371 (Trumbull County Court of Common Pleas). Charges filed September 17, 1985.
    a. Aggravated Murder in violation of Ohio Rev. Code §2903.01(B)
    b. Kidnapping in violation of Ohio Rev. Code §2905.01(A)
    c. Rape in violation of Ohio Rev. Code §2907.02(A)(1)(3)
    d. Aggravated Arson in violation of Ohio Rev. Code § 2909.02
    e. Aggravated Robbery in violation of Ohio Rev. Code § 2911.01
    f. Felonious Sexual Penetration in violation of Ohio Rev. Code §2907.12(A)(1)(3)
    g. Aggravating circumstances of kidnapping, rape, aggravated arson and aggravated robbery, Ohio Rev. Code §2929.04(A)(7)
    h. Trial: January 21, 1986, before a three judge panel
    i. Guilty verdict: February 26, 1986 on all charges except aggravated robbery
    j. Mitigation trial: February 26 to March 5, 1986
    k. Death sentence on aggravated murder; 10-25 years' imprisonment for Arson and Kidnapping, life imprisonment for Rape and Felonious Sexual Penetration.

2. Direct Appeal:
    a. *State v. Oho v. Danny Lee Hill*, Case No. 3720, 3745 (11th District Court of Appeals)
        i. Convictions and sentences affirmed November 27, 1989
        ii. Case citation: 1989 WL 142781 unpublished
    b. *State of Ohio v. Danny Lee Hill*, Case No. 1990-0177 (Ohio Supreme Court)
        i. Convictions and sentences affirmed August 12, 1992
        ii. Case citation: 64 Ohio St. 3d 313, 595 N.E.2d 884 (Ohio 1992)

3. Post Conviction:
    a. Petition to Vacate or Set Aside Judgment and/or Sentence Pursuant to Ohio Revised Code §2953.23
        i. Filed with Trumbull County Court of Common Pleas on December 21, 1993
        ii. Denied by the trial court on July 18, 1994
    b. *State of Ohio v. Danny Lee Hill*, Case No 94-T-5116 (11th District Court of Appeals)
        i. Denial of post conviction relief affirmed on June 16, 1995.
        ii. Case citation: 1995 WL 418683
    c. Ohio Supreme Court declined to accept jurisdiction on November 15, 1995, *State of Ohio v. Danny Hill*, Case No. 1995-1577.

4. Habeas Proceedings:
    a. *Hill v. Anderson*, Case No. 96-CV-795, United States District Court for the Northern District of Ohio.
    b. Habeas petition filed December 2, 1996.
    c. Habeas petition denied September 29, 1999.
    d. *Hill v. Anderson*, Case No. 99-4317, Sixth Circuit Court of Appeals.

   i. Sixth Circuit held appeal in abeyance and remanded case to the state court for exhaustion of issues under *Atkins v. Virginia*.
   ii. Case citation: *Hill v. Anderson*, 300 F.3d 679 (6th Cir. 2002)

5. *Atkins* Proceedings in State court:
   a. Petition to Vacate the Death Sentence under *Atkins* filed on November 27, 2002
   b. *Atkins* Petition denied on February 15, 2006
   c. Denial affirmed on appeal by 11th District Court of Appeals on July 11, 2008, with one judge dissenting. *State of Ohio v. Danny Lee Hill*, Case No. 2006-T-0039, 894, N.E.2d 108 (Ohio Ct. App. 2008).
   d. Ohio Supreme Court declined to accept jurisdiction on August 26, 2009. *State of Ohio v. Danny Lee Hill*, Case No. 2008-1686, 912 N.E.2d 107 (Ohio 2009 table).

6. *Atkins* Proceedings in federal district court, *Hill v. Anderson*, Case No. 96-CV-795:
   a. *Atkins* Habeas Petition filed March 15, 2010.
   b. Habeas Petition denied by the federal district court on June 25, 2014.

7. Motion for New Trial in State Court:
   a. Request for Leave to File a Motion for New Trial filed November 14, 2014, with the Trumbull County Court of Common Pleas.
   b. Order granting request for leave to file Motion for New Trial June 7, 2016.
   c. Motion for New Trial filed June 13, 2016.
   d. Order denying Motion for New Trial on October 5, 2016.
   e. Denial of Motion for New Trial affirmed by the 11th District Court of Appeals on December 3, 2018, *State of Ohio v. Danny Lee Hill*, Case No. 2016-T-0099, 2018-Ohio-4800, 125 N.E.3d 158 (Ohio App. 11 Dist 2018).
   f. Ohio Supreme Court declined to accept jurisdiction, *State of Ohio v. Danny Lee Hill*, Case No. 2017-0708.

8. Habeas Appeal reopened in Sixth Circuit Court of Appeals
   a. Previous habeas appeal and *Atkins* appeal were combined, *Hill v. Anderson*, Case No. 99-4317/14-3718
   b. February 2, 2018: Panel decision granting *Atkins* relief, *Hill v. Anderson*, 881 F.3d 483 (6th Cir. 2018).

9. United States Supreme Court review of Sixth Circuit Court of Appeals decision
   a. Case No. 18-56
   b. Certiorari granted by per curium opinion and remanded to the Sixth Circuit Court of Appeals for further review on January 7, 2019. *Shoop v. Hill*, 586 U.S. ___, 139 S.Ct. 504 (2019).

10. Return to the Sixth Circuit Court of Appeals, *Hill v. Anderson*, Case No. 99-4317/14-3718
   a. Supplemental Briefs filed on April 11, 2019, June 11, 2019, July 2, 2019
   b. Oral argument scheduled for December 5, 2019.

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CITATIONS TO THE OFFICIAL AND UNOFFICIAL REPORTS

The trial court denied the Motion for New Trial on October 5, 2016 in an unreported decision. (Appendix A-2).

The Ohio Eleventh District Court of Appeals affirmed the denial of the motion for new trial on December 3, 2018. *State of Ohio v. Danny Lee Hill*, 125 N.E.3d 158 (Ohio App. 11 Dist 2018). (Appendix A-3).

The Ohio Supreme Court declined to accept jurisdiction of the appeal on June 12, 2019. *State of Ohio v. Danny Lee Hill*, Case No. 2017-0708. (Appendix A-4).

JURISDICTIONAL STATEMENT

Petitioner Danny Hill filed a Motion for Leave to File a Delayed Motion for New Trial in the Trumbull County Court of Common Pleas in Ohio on November 14, 2014. Therein, he asserted that he was unavoidably prevented from filing a Motion for New Trial within the timeframe prescribed by Ohio Rule of Criminal Procedure 33. He explained that since his 1986 trial, in which the State relied almost exclusively on bite-mark evidence, the American Board of Forensic Odontology ("ABFO"), set new guidelines regarding the identification of a mark on a victim's body as a human bite-mark. The ABFO promulgated these guidelines in 2013 and Mr. Hill's counsel acted diligently to bring the claim to state court. After holding an evidentiary hearing on the issue of Petitioner Hill's diligence, the trial court granted him leave to file his Motion for New Trial on June 7, 2016. *State v. Hill*, No. 85-CR-317 (Trumbull Cty. Ct. of Common Pleas June 7, 2016) (Order granting leave to file Motion for New Trial) (Appendix A-1). Mr. Hill file the Motion for New Trial, but the Court denied the Motion on October 3, 2016. *State v. Hill*, No. 85-CR-317, slip op. (Trumbull Cty. Ct. of Common Pleas Oct. 3, 2016) (Appendix A-2).

Petitioner Hill timely appealed the trial court's decision to the Ohio Eleventh District Court of Appeals. After briefing and oral argument, the Court of Appeals affirmed the trial court. *State v. Hill*, 125 N.E.3d 158 (Ohio Ct. App. 2018) (Appendix A-3).

Petitioner Hill filed a timely Motion in Support of Jurisdiction to the Supreme Court of Ohio on January 17, 2019. In summary fashion, the Court declined to accept jurisdiction. *State v. Hill*, 123 N.E.3d 1040 (Table) (Ohio 2019) (Appendix A-4).

Jurisdiction to this Court is appropriate under 28 U.S.C. § 1257(a).

CONSTITUTIONAL AND STATUTORY PROVISIONS

United States Constitution, Fifth Amendment

"No person shall ... be deprived of life, liberty, or property, without due process of law ..." U.S. CONST. amend. V.

United States Constitution, Sixth Amendment

"In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury…." U.S. CONST. amend. VI.

United States Constitution, Eighth Amendment

"Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted." U.S. CONST. amend. VIII

United States Constitution, Fourteenth Amendment

"No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws." U.S. CONST. amend. XIV.

STATEMENT OF THE CASE

A. Trial and Direct Appeal

On September 17, 1985, the State charged Mr. Hill with Aggravated Murder in violation of Ohio Rev. Code § 2903.01(B); Kidnapping in violation of Ohio Rev. Code § 2905.01(A); Rape in violation of Ohio Rev. Code § 2907.02(A)(1)(3); Aggravated Arson in violation of Ohio Rev. Code § 2909.02; Aggravated Robbery in violation of Ohio Rev. Code § 2911.01; and Felonious Sexual Penetration in violation of Ohio Rev. Code § 2907.12(A)(1)(3). On September 23, 1985, Mr. Hill was indicted capitally on the aggravated murder charge with the aggravating circumstances of kidnapping, rape, aggravated arson and aggravated robbery. Ohio Rev. Code § 2929.04(A)(7).

Trial commenced on January 21, 1986, before a three-judge panel in the Trumbull County Court of Common Pleas. On February 26, 1986, that panel found Mr. Hill guilty of all charges except aggravated robbery. The mitigation hearing began on February 26, 1986. On March 5, 1986, the panel sentenced Mr. Hill to death on the aggravated murder, 10-25 years' imprisonment on Arson and Kidnapping, and life imprisonment on Rape and Felonious Sexual Assault, and issued a written opinion as to the basis for the sentence. *State v. Hill*, No. 85-CR-317 (Trumbell Cty. Ct. of Common Pleas Mar. 5, 1986). The convictions and sentences were affirmed on direct appeal. *State v. Hill*, Nos. 3720, 3745, 1989 WL 142761 (Ohio Ct. App. Nov. 27, 1989); *State v. Hill*, 595 N.E.2d 884 (Ohio 1992).

Mr. Hill thereafter filed, in the Trumbull County Court of Common Pleas, a Petition to Vacate or Set Aside Judgment and/or Sentence Pursuant to Ohio Revised Code Section 2953.21. Although Mr. Hill requested discovery, the court denied his petition without an evidentiary hearing or the benefit of discovery. Mr. Hill's appeal was denied, *State v. Hill*, No. 94-T-5116, 1995 WL 418683 (Ohio Ct. App. June 16, 1995), and the Supreme Court of Ohio declined to accept

jurisdiction to review. *State v. Hill*, 656 N.E.2d 951 (Ohio 1995). No application for re-opening the direct appeal under Ohio Rule of Appellate Procedure 26(B) was filed on Mr. Hill's behalf.

B. Federal Habeas Proceedings

On December 2, 1996, Mr. Hill filed a Petition for a Writ of Habeas Corpus under 28 U.S.C. § 2254 in the federal District Court for the Northern District of Ohio. The district court denied the petition on September 29, 1999. *Hill v. Anderson*, No. 4:96-CV-0795, slip op. (N.D. Ohio Sept. 29, 1999). Mr. Hill appealed to the Sixth Circuit Court of Appeals. While that appeal was pending, the United States Supreme Court issued *Atkins v. Virginia,* 536 U.S. 304 (2002). Citing that ruling, the Sixth Circuit held the habeas appeal in abeyance to allow Mr. Hill to exhaust the *Atkins* issue in state court before proceeding on federal habeas. *Hill v. Anderson*, 300 F.3d 679 (6th Cir. 2002).

On November 27, 2002, Mr. Hill filed an initial *Atkins* claim in the Trumbull County Court of Common Pleas. A hearing was conducted in October 2004, with rebuttal testimony in March 2005. Judge Thomas Curran, visiting judge, denied Mr. Hill's *Atkins* petition on February 15, 2006. An appeal was perfected to the Ohio Eleventh District Court of Appeals, which affirmed the denial on July 11, 2008, with one judge dissenting. *State v. Hill*, 894 N.E.2d 108 (Ohio Ct. App. 2008). The Ohio Supreme Court declined jurisdiction on August 26, 2009, with two justices dissenting. *State v. Hill*, 912 N.E.2d 107 (Table) (Ohio 2009).

Mr. Hill thereafter filed an Amended Petition for Writ of Habeas Corpus in the federal district court regarding his exhausted *Atkins* claim. The petition was denied on June 25, 2014. *Hill v. Anderson*, No. 4:96-CV-0795, 2014 WL 2890416 (N.D. Ohio June 25, 2014).

Mr. Hill appealed that decision to the Sixth Circuit Court of Appeals. On February 2, 2018, the Sixth Circuit reversed the district court, finding habeas relief was warranted under *Atkins*. *Hill v. Anderson*, 881 F.3d 483 (6th Cir. 2018).

On January 7, 2019, this Court reversed the Sixth Circuit's ruling in a *per curiam* decision, holding the "reliance" on *Moore v. Texas*, 137 S.Ct. 1039 (2017), was "plainly improper" under 28 U.S.C. §2254(d)(1). The case was vacated and remanded to the Court of Appeals "so that Hill's claim regarding intellectual disability can be evaluated based solely on holdings of this Court that were clearly established at the relevant time." *Shoop v. Hill*, 586 U.S. __, 139 S. Ct. 504, 505 (2019). Supplemental briefs have been filed with the Sixth Circuit Court of Appeals. Oral argument is scheduled for December 5, 2019.

C. Motion for New Trial

Mr. Hill filed a Motion for Leave to file a Motion for New Trial under Ohio Rule of Criminal Procedure 33(B) on November 14, 2014. The grounds for his motion were based on newly-discovered evidence. On November 21, 2014, Presiding Judge Andrew J. Logan recused the entire Trumbull County Court of Common Pleas from further proceedings. On April 10, 2015, the Ohio Supreme Court appointed Judge Patricia A. Cosgrove to preside over the proceedings. Judge Cosgrove conducted several conferences by phone and held a formal hearing on December 21, 2015. On June 7, 2016, the trial court found by clear and convincing evidence that Mr. Hill had been unavoidably delayed in presenting his new evidence and granted Mr. Hill's motion for leave to file a new trial motion.

On June 13, 2016, Mr. Hill filed his Motion for New Trial, with a supporting memorandum. Therein, Mr. Hill identified two forms of newly discovered evidence as the basis for his motion. Mr. Hill offered an affidavit from Dr. Franklin Wright, a qualified and well-respected forensic odontologist, who stated that, contrary to the evidence the State presented at trial, a mark on the victim could not be classified as a human bite mark under currently sanctioned methodology. Dr. Wright also stated that Dr. Curtis Mertz—whom he considered a mentor and friend—had confided to Dr. Wright that he regretted his testimony at Mr. Hill's trial and that he would not provide it

again.

In addition, profound developments in the field of bite-mark analysis were identified in the Motion for New Trial that confirm the scientific invalidity and intrinsic unreliability of Dr. Mertz's testimony at his trial. These developments included changes adopted by the ABFO, the field's sanctioning body, that no longer allowed for personalized bite-mark identifications like that offered by Dr. Mertz.

To provide necessary context, Mr. Hill's motion also included affidavits from a pathologist, Dr. Zhongxue Hua, who detailed the deeply flawed medical and scientific opinion testimony offered at Mr. Hill's trial, and Dr. Debra Davis, a psychologist specializing in false confessions who found the conditions of Mr. Hill's interrogation coercive and conducive to false confession.

On June 16, 2016, the State filed a consolidated motion to: (i) dismiss Mr. Hill's motion and memorandum in its entirety; (ii) strike portions of Mr. Hill's motion under Ohio Rule of Civil Procedure 12(f); and (iii) oppose Mr. Hill's request for a hearing on his Motion for New Trial. On July 5, 2016, the State filed an additional response to Mr. Hill's Motion for New Trial, arguing that Mr. Hill's bite-mark evidence was not "newly discovered" or "new evidence" and, in the alternative, that the evidence did not meet the requirements for a new trial under *State v. Petro*, 76 N.E.2d 370 (Ohio 1947).

The trial court initially scheduled a hearing on the new trial motion, and then canceled it *sua sponte*. On October 5, 2016, the court denied Mr. Hill's Motion for New Trial. The trial court found Mr. Hill's bite mark evidence to be "new" under Rule 33, and acknowledged that it raised "serious concerns about the scientific reliability of bite mark evidence." Nonetheless the court denied Mr. Hill relief. (Appendix A-2, Order on Petitioner's Motion for Evidentiary Hearing on Motion for New Trial). The court held that its own analysis of Mr. Hill's motion was precluded by

decisions from Mr. Hill's direct appeal twenty-five years prior. It also held that Mr. Hill's new bite-mark evidence did not satisfy *State v. Petro* because, even if the bite-mark evidence was eliminated from the record, Mr. Hill could not show a strong probability of a different result at retrial. Finally, it granted the State's motion to strike Mr. Hill's non-bite-mark evidence.

On February 27, 2017, Mr. Hill filed a timely appeal of the trial court's decision. Oral argument was held on October 10, 2017. On December 3, 2018, the Ohio Eleventh District Court of Appeals affirmed the trial court's holding that, although Mr. Hill's bite-mark evidence constituted "new evidence" under Rule 33, it did not create a "strong probability" of a different result on re-trial. *See, e.g.*, *State v. Hill*, 125 N.E.3d 158, 168 (Ohio Ct. App. 2018) (noting "the trial court's own statements acknowledging that the bite mark evidence is newly discovered evidence.") (Appendix A-3). The Honorable Diane V. Grendell authored an opinion in her name only, with one judge concurring in the decision only, and one judge dissenting.

STATEMENT OF THE FACTS

A. Facts Presented at the 1986 Trial

On Tuesday, September 10, 1985, 12-year-old, Raymond Fife was attacked while riding his bike near the Valu-King convenience store in Warren, Ohio. Initially reported missing by his family, he was found by his father at approximately 9:00 P.M. that evening, unconscious but alive, in the wooded area behind the Valu-King. The victim died two days later in the Intensive Care Unit of Warren's St. Joseph Hospital.

In the week following the assault, Danny Lee Hill—just eighteen years old at the time and with an I.Q. below 70—provided the police with several statements regarding knowledge he claimed to possess about the assault of the victim. Initially, Mr. Hill visited the Warren police department voluntarily, seeking a reward for his purported information; subsequently, the police

elected to treat him as a suspect. On two separate occasions, members of the Warren Police Department transported Mr. Hill from his home to the station for interrogation. One of the police detectives was Mr. Hill's maternal uncle, Morris Hill. Danny Hill was coerced into giving a statement after hours of leading questions without representation or family. Mr. Hill's statements are replete with inconsistent "details" regarding the crime, though he consistently maintained that Timothy Combs was responsible for the crime and that he, himself, did not participate in the assault on the victim or harm him in any way.[1]

After waiving a jury trial, Mr. Hill's trial commenced on January 21, 1986, before a three-judge panel. The State's evidence against Mr. Hill was overwhelmingly circumstantial and inferential. The State conceded that it lacked forensic evidence—it presented no fingerprints, no blood, no hair—connecting Mr. Hill to the crime. With no physical evidence connecting Mr. Hill to the crime scene, the prosecution relied on eyewitness testimony that placed Mr. Hill near the scene hours before the victim was found and opinion testimony from two experts, Dr. Curtis Mertz, a dentist, and Dr. Howard Adelman, the pathologist who performed the autopsy on the victim.

Dr. Mertz testified that a quarter-inch injury found on the victim's genitals days after the attack was a human bite mark that could be traced to Mr. Hill, specifically, to the exclusion of any other individual. The state characterized this testimony as "especially significant," and the "best evidence" of Mr. Hill's active participation in the crime. (Appendix A-5, Page 82). The State presented it as scientific, indelible, and definitive evidence of Mr. Hill's crimes:

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[1] While Mr. Hill was being interrogated for a second time, on September 16, the police removed Timothy Combs from his high school for questioning. When told that Mr. Hill had identified him as the perpetrator of the attack, Mr. Combs blamed Mr. Hill for the assault but admitted that he had participated by sodomizing the victim. Combs was later tried separately and convicted as a principal in the murder. Not yet eighteen, Combs was sentenced to life in prison. Combs passed away in 2018 while still incarcerated. https://www.tribtoday.com/news/local-news/2018/11/timothy-combs-co-defendant-in-raymond-fife-murder-dies/

> Evidence will show that in odontology, that teeth, ***like fingerprints*** in a way, leave identifying characteristics . . . Doctor Mertz will tell this Court that in his opinion, with reasonable medical and dental certainty, that the teeth marks on the private part of Raymond Fife were made by [Mr. Hill] . . . [Mr. Hill] has a rotated tooth and a chipped tooth which is sufficient enough for Doctor Mertz to come to the conclusion that [Mr. Hill]'s teeth marks are on [the victim].
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> I think that especially significant is the odontology evidence in this case . . . [N]ot only do we have exclusion of [Timothy Combs], we have, with reasonable medical certainty from Doctor Mertz, that [Mr. Hill's] tooth . . . gives us ***the best evidence*** because that's what Doctor Mertz says is a ***trademark*** and ***blueprint*** that we can follow in the pattern of injury on [the victim].

(Appendix A-5, Page 84-86; *id* at 82-83) (emphasis added).

The State also relied upon Dr. Mertz's bite-mark testimony to establish the elements of Mr. Hill's rape and kidnapping charges, as well as a basis to introduce testimony from individuals that Mr. Hill had been convicted of sexually assaulting as a juvenile. Dr. Adelman testified - salaciously, prejudicially, and without credible scientific support - that the victim likely gained an erection while being strangled. This testimony was necessary to Dr. Mertz's opinion about Mr. Hill's teeth matching the mark on the penis because Dr. Mertz could not *actually* match the quarter-inch injury on the penis with Mr. Hill's teeth without manipulating his measurements. In addition, Dr. Adelman testified that a broken broom handle located several days later, roughly 800 feet from the site where the victim was found was used to sodomize him.

The State also proffered the testimony of several "witnesses"—local teenagers Donald Allgood, Tony Cree, Darren Ball, and Matthew Hunter—who testified that they saw Mr. Hill and/or Timothy Combs in the vicinity of the Valu-King about four hours before the victim was found. However, none testified they saw Mr. Hill with the victim, let alone that they witnessed Mr. Hill's participation in the assault. Cree and Ball testified they never saw Mr. Hill at all.

Donald Allgood, a 16-year old student at a local high school, related that Mr. Hill was one

of four individuals he saw "coming out of the woods" behind the Valu-King on the day of the attack about 4 hours before the victim was found. Appendix A-5, Page 87-88. Allgood stated that two of those individuals (but not Mr. Hill) were pulling up their zippers. Appendix A-5, Page 89; *id.* at 90-91; *id.* at 92-93. Despite Allgood's testimony, the State later argued Mr. Hill must have participated in the crime because only two people were, or could have been, at the scene. Appendix A-5, Page 94; *id.* at 95. Allgood's testimony deviated from the State's evidence in other ways. For instance, he testified that he was "sure" Combs was wearing full-length "blue jeans" and a "leather jacket." Appendix A-5, Page 96 The State's other witnesses, Tony Cree and Darren Ball, testified they saw Mr. Combs on the path behind the Valu-King around the time the victim was reported missing, but both testified Combs was wearing sunglasses, a cap, a t-shirt, and a pair of shorts. Appendix A-5, Page 97; *id.* at 98-99.

The State relied on Allgood's testimony that he saw Mr. Hill discard a stick as he exited a path leading out of the woods. Allgood did not mention this in his original statement to the police; instead, this detail was added to his account only after the police showed up at his house with the prosecutor in tow. Appendix A-5, Page 100-101. This visit occurred one day after Dr. Adelman completed his initial post-mortem analysis, in which he determined that the victim had been "penetrated" and "perforated" by an "object." *See* Appendix A-5, Page 102. On the stand, Allgood could not identify the State's broken broom handle as the "stick" he claimed to have witnessed being thrown. Appendix A-5, Page 103

The State also offered testimony from Raymond Vaughn, Mr. Hill's younger brother, who stated he witnessed Mr. Hill washing a "red-ish stain" from a pair of grey pants in the bathtub days after the assault. Appendix A-5, Page 104. No specific testimony linked the pants to the attack on the victim. Vaughn later recanted his testimony, swearing in an affidavit that he never saw Mr.

Hill washing his pants and that he only testified otherwise "because of the coercion of the prosecutor." *State v. Hill*, 1989 WL 142761, at *24.

The State's attempt to tie the stick testimony to Mr. Hill was further complicated by the testimony of its own investigative witnesses. James Wurster, an employee of the Ohio Bureau of Criminal Identification, provided forensic analyses of the grey pants and the broken broom handle. The State repeatedly characterized the assault as extremely "bloody,"[2] yet Mr. Wurster testified that analysis of Mr. Hill's pants revealed no trace of blood. *See* Appendix A-5, Page 105-106 (testifying that he "did not find any blood" on Mr. Hill's pants); *id.* at 107 (testifying that he found "no blood whatsoever" on Mr. Hill's pants). Similarly, Mr. Wurster testified that his analysis of the broken broom handle found no trace of blood or any other indications it was used in the assault. *See* Appendix A-5, Page 108-109 (testifying that he was not "able to find any blood on" the stick); *id.* at 107 (agreeing that he found "no indication" of blood on the stick).

The absence of even microscopic traces of blood on either the "stick" or Mr. Hill's clothing was incongruous with the State's theory. This incongruity was acknowledged by prosecutors[3], and witnesses for both sides, including Dr. Adelman, who testified that, had the stick been used as alleged, "blood would go into the cellular structure of the wood" and "probably be absorbed right away." Appendix A-5, Page 113. The State's only explanation for this discrepancy was at best dubious - that "rain had washed [the blood] away." Appendix A-5, Page 111; *id.* at 113. This would have been impossible had the blood been "absorbed" as Dr. Adelman surmised. The prosecution's explanation for the lack of blood on Mr. Hill's pants was equally dubious: Mr. Hill, an

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[2] According to Dr. Adelman, the stick "punctured" and "perforated" the victim's internal organs and he lost so much blood that his organs "look[ed] very pale." *See* Appendix A-5 at 114.

[3] The prosecutors confessed that they would "like to have . . . forensic evidence," directly linking Mr. Hill to the attack on the victim. Appendix A-5 at 110-111; 112.

intellectually disabled teenager, cleaned them so thoroughly—by hand, in his bathtub—that not a single speck remained. The State's own witnesses acknowledged that, while theoretically possible, these explanations were highly unlikely. *See* Appendix A-5, page 115; *id.* at 116-121.

Finally, the State argued that Mr. Hill, "by his own confession . . . convicted himself." Appendix A-5, Page 122. The State also used disturbing, inflammatory statements about the purported bite-mark in its closing argument, inciting the panel by stating: "The question that is to be determined by this Court is whether that man [indicating to Mr. Hill] and his buddy, Timothy Combs, engaged in a criminal enterprise wherein he destroyed and **devoured** a little boy. . . ." Appendix A-5, Page 123 (emphasis added)

Even if one assumes Mr. Hill's statements as true, however, they do no more than place him at the scene of the crime. That should not sustain a conviction for aggravated murder and a death sentence. For over thirty years, Mr. Hill has consistently maintained that he played no part in harming the victim. Although prosecutors argued Mr. Hill provided details "about the crime that nobody but the actual killer or killers could know," their own witnesses again contradicted this argument: Sergeant Dennis Steinbeck of the Warren Police Department testified that details of the crime had swirled within Warren's insular community and the result was that "some fiction, some reality got out in the community" regarding unreported details of the crime. Appendix A-5, Page 124, *id.* at 125; *see also id.* at 126 ("there was a lot of rumors going around").

The three-judge panel found Mr. Hill guilty of all charges except aggravated robbery. The mitigation hearing began on February 26, 1986. The panel sentenced Mr. Hill to death and issued a written opinion as to the basis for the sentence, which it entered on March 5, 1986. The convictions and sentences were affirmed on direct appeal. *State v. Hill*, Nos. 3720, 3745, 1989 WL 142761 (Ohio Ct. App. Nov. 27 1989); *State v. Hill*, 595 N.E.2d 884 (Ohio 1992).

B. Facts Presented in the Motion for New Trial

In the Motion for New Trial, Mr. Hill provided detailed review and explanation to the trial court of the growing body of highly critical scientific literature, including a 2009 report published by the National Academy of Sciences ("NAS"), detailing the evisceration of the bite-mark comparison's biological, statistical, and, ultimately, epistemological foundation. As NAS noted in their report, forensic odontologists had devised their own standards, approved their own methodologies, and determined for themselves the acceptable scope of bite-mark testimony—a nearly boundless discretion that led to dozens of wrongful convictions. The NAS critique stripped bite-mark "science" of any pretense of credibility. It concluded that:

> The uniqueness of the human dentition has not been scientifically established.
>
> The ability of the dentition, if unique, to transfer a unique pattern to human skin and the ability of the skin to maintain that uniqueness has not been scientifically established.
>
> A standard for the type, quality, and number of individual characteristics required to indicate that a bite-mark has reached a threshold of evidentiary value has not been established.

NAS Report at 175-76 (Appendix A-6)[4]. The NAS report stated that these "inherent weaknesses," cast considerable doubt over "the value and scientific objectivity" of the discipline. *Id.* at 174; *see also id.* at 176 (noting "basic problems inherent in bite mark analysis"). Although bite-mark analysts had long treated their foundational hypotheses regarding dental measurement and uniqueness as if they were proven principles, the NAS found them to be universally unverifiable. Finally, the NAS concluded there exists no objective criteria or standards from which one might

[4] Appendix A-6 is the section of the NAS report addressing the bite-mark comparison. The entire NAS report is 350 pages and can be found at this website: https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf

reliably conclude that a specific individual's teeth produced a specific bite-mark.[5] In an aside particularly relevant to Mr. Hill's conviction, the NAS recognized that bite-mark analysts are subject to a significant risk of being compromised by prosecutorial and/or public pressure:

> [F]orensic odontology suffers from the potential for large bias among bite mark experts in evaluating a specific bite mark in cases in which police agencies provide the suspects for comparison and a limited number of models from which to choose in comparing the evidence. Bite marks often are associated with highly sensationalized and prejudicial cases, and there can be a great deal of pressure on the examining expert to match a bite mark to a suspect.

Id. at 175.

The ABFO attempted to address these criticisms through substantial changes to its sanctioned methodology. For decades, ABFO-certified dentists had promoted themselves based upon their ability to identify "the Biter," the single individual responsible for a bite-mark to the exclusion of all other potential sources. In August 2013—in response to the NAS report, and dozens of wrongful convictions and indictments, subsequent lawsuits, and mounting criticism from independent researchers—the ABFO conceded the invalidity of individualization claims in "open" or "undefined population" cases (like Mr. Hill's) in which the universe of potential suspects is unknown. An updated Reference Manual published by the ABFO in August 2013 eliminated individualization and identification from its approved conclusions in open-field cases, an

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[5] In sum, the NAS concluded that there existed "no science" from which to quantify the probability of a "match," and "no evidence of an existing scientific basis for identifying an individual to the exclusion of all others." NAS Rep. at 176. Indeed, forensic odontologists lack "the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source." *Id.* at 7. Further, although forensic odontologists might "understand the anatomy of teeth and the mechanics of biting," their knowledge is woefully "insufficient to conclude that bite mark comparisons can result in a conclusive match" because "there is no established science indicating what percentage of the population or subgroup of the population could also have produced the bite." *Id.* at 174-75 In layman's terms, the NAS concluded that even in 2009, forensic odontologists had no reliable sense of what they should measure, how they should measure it, or what any such measurements might mean.

unprecedented, dramatic shift in the nature and scope of permissible bite-mark analysis.

Included in Mr. Hill's Motion for New Trial were summaries of several additional studies that followed up on the criticisms by the NAS, and confirmed the panel's skepticism. Among them was a study undertaken by Drs. Iain Pretty (who provided an affidavit supporting Mr. Hill's motion) and Dr. Adam Freeman (a former president of the ABFO), titled *Construct Validity Bitemark Assessments Using the ABFO Bitemark Decision Tree* ("Construct Validity Study"). In this study, photographs of 100 patterned injuries were shown to 103 ABFO board-certified Diplomates, who were asked to decide three questions: (1) whether there was sufficient evidence to determine a patterned injury was a human bite mark; (2) whether, consistent with the ABFO decision tree, that same injury fit into one of three categories: human bite mark, not a human bite mark, or "suggestive" of a human bite mark; and (3) whether, if the pattern *was* a human bite mark, the injury displayed distinct, identifiable arches and individual tooth marks. Radley Balko, A Bite Mark Matching Advocacy Group Just Conducted A Study That Discredits Bite Mark Evidence, WASHINGTON POST, April 8, 2015.[6] Thirty-nine board-certified ABFO Diplomates, accounting for nearly 40% of ABFO diplomates practicing at the time, answered all 100 questions, resulting in nearly 4,000 decisions. *Id.* The Construct Validity Study did not examine the results to determine the "truth" or accuracy of the analysts' conclusions but rather to determine, on a far more elemental level, whether analysts agreed internally, amongst themselves, on fundamental questions. The study demonstrated they could not agree.

The results of the Construct Validity Study were devastating to the ABFO community. On "the most basic question a bite mark specialist should answer before performing an analysis," the

[6] https://www.washingtonpost.com/news/the-watch/wp/2015/04/08/a-bite-mark-matching-advocacy-group-just-conducted-a-study-that-discredits-bite-mark-evidence/?utm=.f51759f24b55

study found that:

> the 39 analysts came to unanimous agreement on just 4 of the 100 case studies. In only 20 of the 100 was there agreement of 90 percent or more on this question. By the time the analysts finished question two - whether the photographed mark is indeed a human bite - there remained only 16 of 100 cases in which 90 percent or more of the analysts were still in agreement. And there were only 38 cases in which at least 75 percent were still in agreement. . . . By the time the analysts finished question three, they were significantly fractionalized on nearly all the cases. Of the initial 100, there remained just 8 case studies in which at least 90 percent of the analysts were still in agreement.

Id. Put simply, the Construct Validity Study revealed that forensic odontologists cannot consistently agree as to what they are analyzing, let alone provide the particularized identification used to convict Mr. Hill in 1986. As Dr. Wright's affidavit explained, Dr. Mertz's identification of Mr. Hill as the "biter" should never have proceeded past this threshold level: the marks on the victim were simply ***not*** a human bite-mark.

Finally, Mr. Hill also pointed the trial court to the results of an exhaustive, six-month investigation by the Texas Forensic Science Commission (Appendix A-7, Texas Report). On April 12, 2016, the Commission released a report that confirmed the invalidity of bite-mark identifications like that used to convict Mr. Hill:

> First, there is no scientific basis for stating that a particular patterned injury can be associated to an individual's dentition. **Any testimony describing human dentition as "like a fingerprint" or incorporating similar analogies lacks scientific support.** Second, there is no scientific basis for assigning probability or statistical weight to an association, regardless of whether such probability or weight is expressed numerically (e.g. 1 in a million) or using some form of verbal scale (e.g., highly likely/unlikely). Though these types of claims were once thought to be acceptable and have been admitted into evidence in criminal cases in and outside of Texas, it is now clear they have no place in our criminal justice system because they lack any credible supporting data.

Texas Report at 11-12 (emphasis added). The Commission criticized the ABFO's "glacial pace, reticence to publish critical data, and willingness to allow overstatements of science to go unchecked for decades." *Id.* at 17. The Commission recommended that bite-mark comparison

testimony "not be admitted" in criminal cases in Texas until these problems were corrected—if they could be corrected. *Id.* at 15-16.

In light of this rich evidentiary support, the Ohio court of appeals affirmed the finding of the trial court that Mr. Hill had presented new evidence by demonstrating the inherent unreliability of bite-mark testimony and were Mr. Hill's case tried today such evidence would be inadmissible. *State v. Hill*, 125 N.E.3d 158, 174 (Ohio Ct. App. 2018). The Ohio Courts erred though when finding there is no "strong probability" of a different result at a new trial. Those rulings were erroneous and fundamentally denied Mr. Hill his constitutional right to a fair trial and due process as guaranteed by the Fifth, Sixth, Eighth, and Fourteenth Amendments.

REASONS FOR GRANTING THE WRIT

Issue One: The State Of Ohio's Failure To Grant Mr. Hill's Motion For A New Trial Violated His Fundamental Rights To Due Process And A Fair Adjudication Because The Prosecution's Case Relied Heavily Upon Debunked, Unscientific Evidence.

"When the only direct evidence of sexual assault drops out of the case, so, too, does a central theme in the State's narrative linking [the defendant] to the crime." *House v. Bell*, 547 U.S. 518, 541 (2006).

> Indeed, we have recognized the threat to fair criminal trials posed by the potential for incompetent or fraudulent prosecution forensics experts, noting that "serious deficiencies have been found in the forensic evidence used in criminal trials. . . . One study of cases in which exonerating evidence resulted in the overturning of criminal convictions concluded that invalid forensic testimony contributed to the convictions in 60% of the cases."

Hinton v. Alabama, 571 U.S. 263, 276 (2014) (quoting *Melendez- Diaz v. Massachusetts*, 557 U.S. 305, 319 (2009)). In both *House v. Bell*, and *Hinton v. Alabama*, this Court found that questionable forensic evidence rendered both trials constitutionally flawed and remanded for hearings. Although Mr. Hill's case does not involve a claim of prosecutorial misconduct or a claim of

ineffective assistance of counsel, due process principles apply and require this Court to at least remand for a hearing on Mr. Hill's Motion for New Trial.

"The right of an accused in a criminal trial to due process is, in essence, the right to a fair opportunity to defend against the State's accusations." *Chambers v. Mississippi*, 410 U.S. 284, 294 (1973). Due process and fair adjudication are axiomatic in American jurisprudence. This Court has long held that "reliability is the linchpin" of due process. *See, e.g., Manson v. Brathwaite*, 432 U.S. 98, 114 (1977). The unscientific evidence was the linchpin in Mr. Hill's case. Failure to provide at least a hearing on the Motion for New Trial violated Due Process.

For Danny Hill, the State courts accepted the evidence in the Motion for New Trial that the bite-mark comparison evidence relied upon heavily by the prosecutor to convict him of capital murder was invalid as unscientific. But the State courts erroneously found a new trial was not warranted, and that even an evidentiary hearing was unnecessary. That decision constitutes a fundamental denial of due process and a fair adjudication as protected by the Fifth, Sixth, Eighth, and Fourteenth Amendments. These fundamental concepts of due process and a fair proceeding are rooted in this Court's jurisprudence and should be applied to this case.

Danny Hill, an intellectually disabled man, was convicted of Aggravated Murder, Kidnapping, Rape, Arson, and Felonious Sexual Penetration. The aggravating circumstances necessary to sentence him to death were felony murder with kidnapping, rape, and arson. Ohio law requires the finding of either "prior calculation and design" or that the defendant was the "principal offender" for a death sentence to be imposed. Ohio Rev. Code § 2929.04.

When reviewing the Motion for New Trial, the trial court found "there is no question that the advancements in forensic odontology impeach and contradict the trial testimony of the experts. However, this determination alone does not resolve the question as to whether the bite-mark

evidence creates a 'strong probability' that there would be a different outcome in a future trial." *State v. Hill*, Case No. 85-CR-317, Order on Petitioner's Motion for Evidentiary Hearing on Motion for New Trial, at Pages 25-26 (Appendix A-2).

The appellate court affirmed the finding that newly discovered evidence demonstrated the bite-mark comparison was debunked and invalid science. The appellate court then reviewed the remaining evidence presented at trial and determined there was sufficient evidence to sustain the convictions. "The focus is not whether the bite mark evidence contributed to Hill's convictions, which it certainly did, but, rather, was there a strong probability of conviction had such evidence not been presented." *State v. Hill*, 125 N.E.3d 158, 169, n. 4 (Ohio Ct. App. 2018) (Appendix A-3). The appellate court affirmed the denial of an evidentiary hearing wherein Mr. Hill would have presented evidence to demonstrate the strong probability the result of the trial would have been different sans the bite-mark comparison evidence. The appellate court concluded the remaining evidence presented at the trial in 1986 would sustain the convictions and even the death penalty. This conclusion was contrary to the facts and a complete denial of Mr. Hill's right to due process and a fair adjudication of his Motion for New Trial.

In his Motion for New Trial and request for an evidentiary hearing, Mr. Hill requested the opportunity to demonstrate how the case against him could not sustain the convictions, especially the death penalty. The trial court's decision to strike the claims relating to the reliability denied Mr. Hill's right to due process and a fair adjudication. The state courts simply assumed the remaining evidence was valid without considering the serious flaws regarding its admissibility. While the evidence debunking the bite-mark comparison was sufficient to open the gate for the Motion for New Trial under Ohio Criminal Rule 33, the case was about the effect that false evidence had on the entire case in relation to the State's other evidence. The state court erred by

not allowing Mr. Hill to challenge his conviction appropriately once the bite-mark comparison was eliminated from the case.

A. The Only Evidence that Directly Implicated Mr. Hill to the Injuries Inflicted on the Victim was the Bite-Mark Comparison Evidence.

"Forensic evidence is not uniquely immune from the risk of manipulation and mistake." *Williams v. Illinois*, 567 U.S. 50, 122 (2012) (Kagan, J., dissenting). Dr. Curtis Mertz was a forensic dentist who testified for the State at Mr. Hill's trial. Dr. Mertz told the three judge panel that the marks on the victim's penis were a human bite-mark and that the only person who could have caused the injury was Danny Hill, "with a reasonable degree of medical certainty." (Appendix A-5, Page 127). The defense presented testimony from Dr. Lowell Levine who stated it was a bite-mark, but that either Danny Hill or Tim Combs could have caused the mark. Dr. Levine had been initially retained by the State, but when he would not say Danny Hill was the only person who could have made the bite-mark, the State did not call him as an expert witness.

The prosecution relied heavily on this evidence to prove their case as reflected in their opening statement and closing arguments. The prosecutor presented the bite-mark comparison evidence as scientific, indelible, and definitive evidence of Mr. Hill's participation in the murder.

> Evidence will show that in odontology, that teeth, ***like fingerprints*** in a way, leave identifying characteristics . . . Doctor Mertz will tell this Court that in his opinion, with reasonable medical and dental certainty, that the teeth marks on the private part of [the victim] were made by [Mr. Hill] . . . [Mr. Hill] has a rotated tooth and a chipped tooth which is sufficient enough for Doctor Mertz to come to the conclusion that [Mr. Hill]'s teeth marks are on [the victim].
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> I think that especially significant is the odontology evidence in this case . . . [N]ot only do we have exclusion of [Timothy Combs], we have, with reasonable medical certainty from Doctor Mertz, that [Mr. Hill's] tooth . . . gives us ***the best evidence*** because that's what Doctor Mertz says is a ***trademark*** and ***blueprint*** that we can follow in the pattern of injury on [the victim].

(Appendix A-5, Page 84-86; *id.* at 82-83 (emphasis added)). The State also relied upon Dr. Mertz's bite-mark testimony to establish the elements of the rape and kidnapping charges, and a basis to present testimony from two unrelated cases of sexual assault that Mr. Hill was convicted of as a juvenile two years before the murder case.

Dr. Adelman testified (salaciously, prejudicially, without credible scientific support) that the victim likely gained an erection while being strangled—testimony necessary to Dr. Mertz's opinion. Tellingly, Dr. Mertz could not *actually* match the quarter-inch injury on the penis with Mr. Hill's teeth without manipulating his measurements. In addition, Dr. Adelman testified that a broken broom handle - found several days after the attack roughly 800 feet from the site where the victim was found - was used to sodomize the victim. The State characterized Dr. Mertz's testimony as "especially significant" and as its "best evidence" in its closing arguments. (Appendix A-5, Page 82-83).

The three judge panel found Danny Hill was responsible for the death of the victim based on the forensic scientific evidence. On direct appeal, the court of appeals relied heavily on the bite-mark evidence to affirm the convictions and the death sentence, even where error was found. *State v. Hill*, Nos. 3720, 3745, 1989 WL 142761 *14-16, 20-21, 28-35 (Ohio Ct. App. Nov. 27, 1989). The impact of the bite-mark evidence was summed up in this one sentence by the court of appeals: "Appellant's contention suggesting that he merely observed while co-defendant Timothy Combs tortured and assaulted the victim is overwhelmingly negated by his personal odontological 'signature' on the penis of the victim." *Id.* at * 33. When the Ohio Supreme Court reviewed the case on direct appeal, that court also relied on the bite-mark evidence to deny relief on several claims and affirmed the convictions and death sentence. *State v. Hill*, 595 N.E.2d 884, 893-894, 899-901 (Ohio 1992). The assumption throughout Mr. Hill's appeals and post-conviction

proceedings by all the parties involved was the bite-mark comparison evidence proved Mr. Hill was guilty of this brutal murder. Science now refutes the bite-mark comparison evidence, thereby demonstrating it was flawed from the beginning and should have never been used to convict Mr. Hill of aggravated murder and even more critically sentence him to death.

B. Bite-Mark Comparison is not Sound Science and has been Universally Debunked by Even the Forensic Dentist Organizations.

In the thirty-plus years since Mr. Hill's conviction, the erroneous nature of Dr. Mertz's testimony – that the marks on the victim could be conclusively and reliably linked to Mr. Hill, and only Mr. Hill – has become abundantly clear. Subsequent expert opinion has not only revealed flaws specific to his testimony, but a searching examination of bite-mark analysis as a forensic science by the National Academy of Sciences ("NAS") has eroded the biological, statistical, and, finally, epistemological foundation of the field. The resulting, authoritative, 2009 report, *Strengthening Forensic Science in the United States: A Path Forward* ("NAS Report") (Appendix A-6), subjected bite-mark evidence to a scathing critique.[7] Although the report discussed numerous forensic fields and specializations, no other subject was so severely critiqued as bite-mark evidence. The NAS Report constituted the first independent examination of the validity and reliability of bite-mark evidence by a neutral committee of scientists. At that time, forensic odontologists set their own standards, approved their own methodologies, and identified the

[7] Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council (2009). The 2009 NAS Report was the culmination of nearly four years of work by a select committee of members of the forensic, scientific and legal communities, who were directed by Congress to assess the current state of forensic science in this country and make recommendations to strengthen it. The committee heard extensive testimony from a vast array of scientists, law enforcement officials, medical examiners, crime laboratory officials, investigators, attorneys and leaders of professional and standard-setting organizations. The NAS Report is the most comprehensive assessment of bite-mark evidence to date, and was conducted by highly respected members of the scientific and legal communities, including a federal judge, prosecutor and defense attorney.

permissible scope of their own testimony. Under the independent analysis of NAS scrutiny, however, any pretense of validity and reliability for bite-mark "science" disappeared. The report's conclusions were damning. Specifically, the NAS concluded that:

> (1) The uniqueness of the human dentition has not been scientifically established.
>
> (2) The ability of the dentition, if unique, to transfer a unique pattern to human skin and the ability of the skin to maintain that uniqueness has not been scientifically established.
>
> (3) A standard for the type, quality, and number of individual characteristics required to indicate that a bite-mark has reached a threshold of evidentiary value has not been established.

NAS Report at 175-76 (Appendix A-6). In reaching its conclusions, the NAS heard testimony from leading experts in the field, including then-ABFO president Dr. David Senn, and extensively reviewed current bite-mark literature and research. Based on its review, the NAS concluded that, at a minimum, there existed "considerable dispute" in the scientific community "about the value and reliability" of bite-mark evidence. *Id.* at 176. This is due to the "inherent weaknesses" and "basic problems inherent in bite mark analysis" which have "led to questioning of the value and scientific objectivity" of the discipline. *Id.* at 174, 176.

The only way to validate a scientific discipline and establish its reliability is by testing its basic hypotheses through the scientific method. Even assuming an injury can be determined to be a bite-mark, the identification of a single "biter" to the exclusion of anyone else, like that offered in Mr. Hill's case, rests on two hypotheses. First, that a properly trained forensic dentist can determine that a bite-mark and a suspect's dentition are indistinguishably similar, i.e., a "match." Second, that once an association is made, a forensic dentist can provide a scientifically valid estimate of the rareness or frequency of that association. Neither hypotheses has ever been scientifically validated. The NAS determined there are no criteria and no objective standards to render conclusions about whether a particular suspect's dentition can be reliably associated with a

bite-mark. The NAS Report found that no scientifically valid studies had ever been conducted to determine what aspects of the teeth and bite-mark should be measured to make any such comparisons.[8] No study has demonstrated whether the instruments dentists use for measurements or comparisons are reliable under non-ideal and non-uniform conditions, or whether, after a measurement is taken, that measurement would be considered "unique" or "different" enough to distinguish the bite-mark or teeth from the general population.

Dr. Mertz identified the biter of the victim as Danny Lee Hill. But the NAS study found there is "no science" establishing how to quantify the probability of a "match," and "no evidence of an existing scientific basis for identifying an individual to the exclusion of all others." NAS Report at 176 (emphasis added). According to the NAS, forensic odontologists lack "the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source," *id*. at 7 (of full NAS report)[9], and thus "[a]lthough forensic odontologists understand the anatomy of teeth and the mechanics of biting . . . the scientific basis is insufficient to conclude that bite mark comparisons can result in a conclusive match." *Id.* at 175 (emphasis added). There is no way to determine the probability of a match because "there is no established science indicating what percentage of the population or subgroup of the population could also have produced the bite." *Id.* at 174. There is no existing scientific basis for the bite-mark testimony that Dr. Mertz provided at Mr. Hill's trial.

[8] NAS Report at 176 ("A standard for the type, quality and number of individual characteristics required to indicate that a bite mark has reached a threshold of evidentiary value has not been established.") (Appendix A-6).
[9] https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf

Besides these substantial shortcomings and inherent flaws, the NAS also recognized the bias risk posed by a pressurized legal or judicial context in which biter-identification analysis takes place:

> [F]orensic odontology suffers from the potential for large bias among bite mark experts in evaluating a specific bite mark in cases in which police agencies provide the suspects for comparison and a limited number of models from which to choose in comparing the evidence. Bite marks often are associated with highly sensationalized and prejudicial cases, and there can be a great deal of pressure on the examining expert to match a bite mark to a suspect.

Id. at 175. In doing so, the NAS described Mr. Hill's prosecution – not only did the State and Dr. Mertz prey to these methodological issues, but the investigation and trial created a pressurized and sensationalized environment.

The NAS criticism did not go unnoticed by the ABFO. For decades, ABFO board-certified dentists have claimed (with no basis in science) the ability to identify "the Biter": the single individual responsible for a bite-mark to the exclusion of all other potential sources. No longer. In the wake of wrongful convictions and indictments, lawsuits against the dentists who proffered false and misleading testimony, the devastating conclusions of the NAS Report, and mounting criticism from independent researchers,[10] the ABFO, in August 2013, finally conceded that

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[10] The amount of research and analysis questioning the validity of bite-mark analysis since the NAS report in 2009 (and Mr. Hill's 1986 trial and conviction) is substantial. *See* Bush, M.A., Bush, P.J., and Sheets, H.D., *A Study of Multiple Bitemarks Inflicted in Human Skin by a Single Dentition Using Geometric Morphometric Analysis*, For. Sci. Int'l 211:1-8 (2011); Bush, M.A., Miller, R.G., Bush, P.J., and Dorion, R.B., *Biomechanical Factors in Human Dermal Bitemarks in a Cadaver Model,* J. Forensic Sci. 54(1):167-176 (2009); Sheets, H.D., Bush, P.J., Brzozowski, C., Nawrocki, L.A., Ho, P., and Bush, M.A., *Dental Shape Match Rates in Selected and Orthodontically Treated Populations in New York State: A Two Dimensional Study*, J. Forensic Sci. 56(3):621-626 (2011); Bush, M.A., Bush, P.J., and Sheets, H.D., *Similarity and Match Rates of the Human Dentition In 3 Dimensions: Relevance to Bitemark Analysis*, Int'l J. Leg. Med. 125(6):779-784 (2011); Bush, M.A., Bush, P.J., and Sheets, H.D., *Statistical Evidence for the Similarity of the Human Dentition,* J. Forensic Sci. 56(1):118-123 (2011); Bush, M.A., Thorsrud, K., Miller, R.G., Dorion, R.B.J., and Bush, P.J., *The Response of Skin to Applied Stress: Investigation of Bitemark Distortion in a Cadaver Model*, J. Forensic Sci. 55(1):71-76 (2010); Miller, R.G., Bush, P.J., Dorion, R.B., and Bush, M.A., *Uniqueness of the Dentition as Impressed in Human Skin: A Cadaver Mode*l, J.

individualization claims are invalid in “open” or “undefined population” cases – cases like Mr. Hill’s in which the universe of potential suspects (and thus potential biters) is unknown. Previously, “the Biter,” i.e., a single individual responsible for the bite-mark at issue, was the highest level of certainty sanctioned by the ABFO. That conclusion was authorized until August of 2013, when the ABFO Reference Manual was updated. *See* American Board of Forensic Odontology, Inc. Diplomates Reference Manual, 2013 ABFO Standards for Bite Mark Terminology at 117 (“The ABFO does not support a conclusion of ‘The Biter’ in an open population case(s)”).[11] And then president-elect of the ABFO, Dr. Peter Loomis, stated in July, 2013 that bite-mark evidence “shouldn’t be used to identify a suspect,” and that it should only “be used to either include or exclude a suspect,” rather than to individualize in open population cases. Jack Nicas, *Flawed Evidence Under a Microscope: Disputed Forensic Techniques Draw Fresh Scrutiny; FBI Says It Is Reviewing Thousands of Convictions*, Wall St. J., July 18, 2013. This dramatic and unprecedented change in the guidelines was a tragically overdue admission that this testimony is scientifically baseless. Both the relevant, and objective, scientific community and Dr. Mertz’s erstwhile peers in the ABFO have rejected as invalid – and as scientifically indefensible – the forensic opinions and conclusions proffered to the trial court and used to convict Mr. Hill and sentence him to death.

Forensic Sci. 54(4):909-914 (2009); Bush, M.A., Cooper, H.I., and Dorion, R.B., *Inquiry into the Scientific Basis For Bitemark Profiling and Arbitrary Distortion Compensation*, J. Forensic Sci. 55(4):976-983 (2010); Sheets, H.D., and Bush, M.A., *Mathematical Matching of a Dentition to Bitemarks: Use and Evaluation of Affine Methods*, Forensic Sci. Int’l 207(1-3):111-118 (2011); Sheets, H.D., Bush, P.J., and Bush, M.A., *Bitemarks: Distortion and Covariation of the Maxillary and Mandibular Dentition as Impressed in Human Skin*, Forensic Sci. Int’l (2012). Broadly speaking, this research scientifically establishes that, even assuming the uniqueness of human dentition, human skin is not capable of capturing that uniqueness with sufficient fidelity to identify a “biter,” as Dr. Mertz purported to do in this case.

[11] The relevant portions of the 2012 and 2013 Reference Manual are attached as Appendix A-8.

Other prominent studies have only reinforced these conclusions. In 2015, the Texas Forensic Science Commission, which operates as a forensic "watchdog" for the state of Texas, undertook an exhaustive six-month investigation into the scientific reliability of bite-mark comparison evidence.[12] On April 12, 2016, it released its report. Forensic Bitemark Comparison Complaint Filed by National Innocence Project on Behalf of Steven Mark Chaney (Appendix A-9).[13] Like the NAS report, the Construct Validity Study, and numerous other studies, its conclusions cut deep and directly implicate not just the validity of the bite-mark testimony at Mr. Hill's trial but the rhetoric the State used to present it:

> First, there is no scientific basis for stating that a particular patterned injury can be associated to an individual's dentition. Any testimony describing human dentition as **"like a fingerprint"** or incorporating similar analogies lacks scientific support. Second, there is no scientific basis for assigning probability or statistical weight to an association, regardless of whether such probability or weight is expressed numerically (*e.g.,* 1 in a million) or using some form of verbal scale (*e.g.*, highly likely/unlikely). Though these types of claims were once thought to be acceptable and have been admitted into evidence in criminal cases in and outside of Texas, it is now clear they have no place in our criminal justice system because they lack any credible supporting data.

Id. at 11-12 (emphasis added). The Commission was also greatly troubled by the ABFO's "glacial pace, reticence to publish critical data, and willingness to allow overstatements of science to go unchecked for decades" which, the report stated, earned it a "a barrage of well-founded criticism." *Id.* at 17. Because of its review, the Commission recommended "that bitemark comparison not be

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[12] Under Texas law, the Commission oversees the accreditation of all laboratories in Texas, but also investigates allegations of professional negligence or misconduct against any laboratory, facility or entity that provides scientific testimony at trial.

[13] Over 1200 pages of exhibits were also released in support of the report. Counsel have not attached all of the exhibits to the Report to this Petition, but will provide those upon request. The report and all of the exhibits are available online at https://www.txcourts.gov/media/1440871/finalbitemarkreport.pdf.
The TSFC issued a subsequent Bite Mark Case Review Report on November 3, 2017. https://www.txcourts.gov/media/1443538/bm-review-report.pdf

admitted in criminal cases in Texas unless and until" the scientific community establishes both the reliability of bite-mark comparison and sufficient proficiency and accreditation protocols to ensure that reliability. *Id.* at 15-16.

In 2016, in what had become a recurrent ritual, the ABFO again revised its protocols, this time eliminating any conclusions beyond stating a suspect cannot be eliminated as a potential biter. (Appendix A-10, ABFO Reference Manual 2016 Excerpt). Today, the only permissible conclusions under the ABFO Guidelines are so broad and generic they bear no resemblance to the personalized dental "signature" identified by Dr. Mertz and invoked by both the prosecution and the state courts to justify and maintain Mr. Hill's conviction and death sentence.

The ABFO's attempts at self-correction once again failed to stem the flow of criticism, however. Five months later, on September 20, 2016, the President's Council of Advisors on Science and Technology (PCAST) issued yet another detailed critique of bite-mark evidence, titled Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods.[14] The PCAST identified a pervasive "need for clarity about the scientific standards for the validity and reliability of forensic methods," and a "need to evaluate specific forensic methods to determine whether they have been scientifically established to be valid and reliable." It explained:

> Bitemark analysis is a subjective method. Current protocols do not provide well-defined standards concerning the identification of features or the degree of similarity that must be identified to support a reliable conclusion that the mark could have or could not have been created by the dentition in question. Conclusions about all these matters are left to the examiner's judgment.

[14] The full report, created for the benefit of President Barack Obama, may be found at the PCAST website.
https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf

PCAST Report at 8-9. These intrinsic flaws, the PCAST concluded, did not merely call into question the validity of past and present bite-mark analysis, it also made it unlikely that the forensic odontologists would ever "develop[ ] bite-mark analysis into a scientifically valid method." *Id.* at 9. Today, over thirty years after his testimony was relied upon to convict Mr. Hill, scientific scrutiny has finally clarified that Dr. Mertz's testimony was no more scientific than phrenology, or the reading of tea leaves.

Besides falling prey to the methodological and epistemological failings of bite-mark analysis writ large, however, Dr. Mertz's analysis (and by extension, his testimony) also suffered from trial- and testimony-specific flaws so egregious, and so contrary to the scientific objectivity we demand of experts—particularly those operating as an extension of the State in a capital case—that they cast an overwhelming shadow over the prosecution's entire case.

C. Independent Experts Dr. Franklin Wright and Dr. Iain Pretty Agree that Dr. Mertz's Testimony Was Baseless, Unscientific, and Contrary to ABFO Standards.

Even if bite-mark identification had not fallen into broad and general disrepute, independent forensic odontologists, applying ABFO-approved methodology, have found that Dr. Mertz's opinions about the mark found on the victim amount to nothing more than inflammatory pseudoscience. As Drs. Wright and Pretty explain, Dr. Mertz's testimony cannot meet even the AFBO standards – a fact Dr. Mertz conceded in the years after Mr. Hill's trial, when he privately recanted his testimony to Dr. Wright.

Dr. Franklin D. Wright, a forensic dental consultant to the Hamilton County, Ohio Coroner's Office since 1986, is a Diplomate and past president of the ABFO. Over nearly thirty years in the field, Dr. Wright has investigated, consulted on, and reviewed hundreds of bite-mark cases. He has been proffered as a bite-mark expert on behalf of the State of Ohio in numerous

trials, including homicides. Wright Affidavit at ¶ 4 (Appendix A-11). At the behest of Mr. Hill's counsel, Dr. Wright analyzed the photographs, expert opinions, and expert testimony relating to the alleged bite-mark on the victim attributed to Mr. Hill. Wright Affidavit at ¶ 8.

According to Dr. Wright, Dr. Mertz served as his "mentor" and he considered Dr. Mertz "a respected teacher and scholar in the forensic odontology community." Wright Affidavit at ¶ 20. But during Dr. Wright's review of the materials, he revealed to Mr. Hill's counsel that Dr. Mertz had privately recanted the testimony he offered at trial, acknowledging that it was scientifically unsupportable and that, if asked to testify again that Mr. Hill bit the victim, he would not have given the same testimony. Wright Affidavit at ¶ 20, ¶ 22. The trial testimony he recanted included not only Dr. Mertz's identification of Mr. Hill as the source of the victim's injury, but even his conclusion that the injury could be classified as a human bite-mark. *Id.* at ¶ 22. Dr. Mertz related these doubts to Dr. Wright on two conversations, telling him he "regretted the testimony" against Mr. Hill. *Id.* at ¶ 20.

Dr. Wright also conducted his own review of the materials from the 1986 trial. His opinions help explain Dr. Mertz's post-trial recantation. According to Dr. Wright, Dr. Mertz's testimony and opinions are unsupported and unsupportable; Dr. Wright further states not only that – given the available evidence – "analysis and comparison to any suspected biter is not sanctioned [by ABFO-approved methodology]," but also that "the patterned injury on the victim . . . is not a human bitemark." Wright Affidavit at ¶¶ 11-12. According to Dr. Wright, Dr. Mertz's testimony was speculative and biased, and the underlying assumptions Dr. Mertz accepted to make his analysis coherent "suggest that, rather than objective, expert opinion, Dr. Mertz's testimony

suffered from predictive outcome bias and confirmation bias." Wright Affidavit at ¶ 18.[15] Further, Dr. Mertz selectively analyzed "only those aspects of the patterned injury that he felt he could link to Mr. Hill's dentition," and ignored "other aspects of the patterned injury that he could not link to Mr. Hill," which only makes this bias more apparent. Wright Affidavit at ¶ 19.

Dr. Wright's opinions are corroborated, and elaborated upon, by Dr. Iain Pretty, a British dental surgeon and forensic odontologist, and former president of the American Academy of Forensic Science's Odontology Section. Unlike Dr. Wright, Dr. Pretty has no personal connection to Dr. Mertz, the State of Ohio, or Mr. Hill's conviction. His review of the same materials likewise found that a "conclusion of a definite human bitemark cannot be reached" under current forensic standards and that:

> there is insufficient evidence to reach a conclusion at any level of certainty regarding the causation of the small circular wounds to the glans penis of [the victim]. Given this conclusion, any further analysis of the injury is inappropriate. Even if the evidence had supported a conclusion "suggestive of a bitemark" (which it does not) further analysis, according to the ABFO decision model, would still be considered inappropriate.

Pretty Affidavit at ¶ 3.6, Appendix A-12. According to Dr. Pretty, the bite-mark analysis used to convict Mr. Hill "offer[ed] little in the way of scientific justification" and was "not based on scientific principles or processes." *Id.* at ¶¶ 6.5-6.6. Further, Dr. Mertz was guilty of relying on "spurious data to account for inconsistencies in measurements." *Id.* at ¶ 6.7.

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[15] "Bias" as the term is used here is not a form of conscious prejudice. Rather, studies have increasingly shown that "contextual contamination" – the exposure of otherwise objective scientists to "contextual cues, irrelevant details of the case, prior experiences, expectations and institutional pressures," among other things – affects the interpretation and analysis of evidence. *See generally* Edmond, G. et al., *Contextual Bias and Cross-contamination in the Forensic Sciences: the Corrosive Implications for Investigations, Plea Bargains, Trials and Appeals*, Law Prob & Risk (2014); Page, M. et al., *Context Effects and Observer Bias-Implications for Forensic Odontology*, 57 J Forensic Sci., 108-111 (Jan. 2012).

D. Dr. Mertz's Bite-Mark Opinions Embody the Lack of Standards Criticized by the NAS.

The subjectivity and speculation in Dr. Mertz's opinions are even more troubling when viewed in light of the analysis and review of the field of bite-mark evidence by the NAS and the Texas Forensic Commission. At the core of the criticism by both entities is the need for standardized metrics, a validated measurement or comparison process, and a substantiated statistical basis for a reliable bite-mark identification to be feasible. As the NAS clarified, absent these elements, an expert's opinion is impossible to verify, reducing acceptance to an article of faith – a faith Mr. Hill's trial court far-too-readily extended to Dr. Mertz, who did not even bring his measurements and calculations with him to trial so they could be reviewed on cross-examination. *See* Appendix A-5, Page 128 ("I do not have the measurements here with me . . . And I do not have them from memory nor do I have a metal rule with me to give you the measurements."). Dr. Mertz's opinions and testimony – speculative, subjective, and unsupported – embody the fundamental flaws and limitations inherent in bite-mark comparison analysis.

The ability of skin to retain a reliable impression or injury so a match to human dentition can be ascertained has been questioned over the last several years. But even if human skin was not unreliable, "the location of the patterned injury in this case renders it impossible to make any positive association between a suspected biter and the patterned injury in question." Wright Affidavit at ¶ 18. According to Dr. Pretty, this is because

> [t]he tissue is highly distortable and it is, of course, impossible to assess if the penis was flaccid, erect or semi-erect during the infliction of the injury. The surface is curved, soft and the risk of postural distortion high.

Pretty Statement at ¶ 5.1. The injury on the victim was located on the *glans*, or "corona," of the penis. Rather than acknowledging the impossibility of drawing a reliable conclusion from the injury, however, Dr. Mertz instead relied on the variability in penile skin as an explanation for why

his measurements were off by "consistently about a third." Appendix A-5, Page 129; *id.* at 130. Indeed, Dr. Mertz accounted for this difference in scale by opining with no basis in science that (i) the victim's penis was erect at the time of the purported bite because of asphyxiation, and (ii) that the erection accounts for the "approximately" 33% size differential between the marks in the victim's skin and Mr. Hill's teeth. To be clear, Dr. Mertz's opinion rests <u>entirely</u> on these baseless assumptions, which were the only means Dr. Mertz could match the marks on the victim to Hill's teeth – no "direct measurements" with any "great accuracy" were otherwise feasible.

As Dr. Wright explains, Dr. Mertz's methods suggest serious confirmation bias – a bias Dr. Mertz implicitly conceded at trial when he explained that "the reason [he] went to [the medical] literature" was to find something to "explain[] the difference in the measured size of approximately a third less than in the measurements when teeth mark sizes are compared." Appendix A-5, Page 131; *id.* at 132; *id.* at 130 ("I didn't know anything about the 1.307 until after I had made all the measurements."). It is telling that Dr. Mertz expressed his confidence that "the bitemarks found on the penis of [the victim] match those of the models of the teeth of Danny Lee Hill" in a November 4, 1985 letter to prosecutor Dennis Watkins, nearly a month and a half before the December 19, 1985 date on the "notes" he "made in studying these cases." *Id.* at 133. Put plainly, contrary to the basic tenets of independent scientific analysis, Dr. Mertz sought obscure literature to concoct a theory that would allow him to "match" Mr. Hill to the injury.

The forensic odontologists and a pathologist who reviewed Dr. Mertz's testimony each characterized his opinions regarding asphyxiation, genital erection, and penis size as baseless and irresponsible. Dr. Wright characterizes this portion of Dr. Mertz's testimony as "nothing but a blind guess," impermissible under the ABFO guidelines. Wright Affidavit at ¶ 18. Dr. Pretty labels this testimony as "unscientific, unsubstantiated, and speculative." Pretty Statement at ¶ 7.2. And

Dr. Hua, an independent pathologist, has opined that "Dr. Mertz ignore[d] both biological reality and statistical methodology, rendering his opinion speculative, unscientific, and fatally flawed." Hua Affidavit at ¶ 21 (Appendix A-13).

Dr. Mertz cited just two sources in support of his foundational opinion that the victim "probably" sustained an erection while possibly being asphyxiated: the introduction to a chapter on asphyxiation from the 1968 edition of *Gradwohl's Legal Medicine* (Appendix A-14), and a 1971 article by L.G. Farkas, "Basic Morphological Data of External Genitals in 177 Healthy Central European Men," in the American Journal of Physical Anthropology (Appendix A-15)[16] This "review of the literature was cursory and inadequate, and the texts he relied upon inapposite and outdated." Hua Affidavit at ¶ 17. Dr. Mertz's testimony regarding these articles was inexpert to the point of fantasy and fabrication. In using the introduction to a chapter on various forms of asphyxiation in *Gradwohl's Legal Medicine*, Dr. Mertz:

> Selectively ignored the qualifications provided by his own authority, including the fact that there is 'undoubtedly great variation' and there are 'many factors [that] may interfere' with the symptoms listed, as well as the statement that 'it is usually difficult or impossible to predict the physiological results' of asphyxia 'with any accuracy at all.' No reliable opinion that a penile erection was 'probable' during manual strangulation could be based upon these limited findings.

Hua Affidavit at ¶ 18. Similarly, as to Dr. Mertz's "explanation" for his identification of Mr. Hill despite the absence of an actual match in size and scale, Farkas's *Basic Morphological Data of the External Genitals in 177 Healthy Central European Men*, also does not support his opinion:

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[16] To the extent that Dr. Mertz's entire opinion is based on the validity of medical literature authored by others, it should have been excluded at the time of his trial. *See Beard v. Meridia Huron Hosp.*, 834 N.E.2d 323, 326-327 (Ohio 2005) (*citing Piotrowski v. Corey Hosp.*, 173 N.E.2d 355 (Ohio 1961)) (exclusion required where expert relies on "statements from professional literature to prove the truth of the matter asserted in those statements [because] the witness would be acting as a conduit for the out-of-court statements of the authors of those literary works.").

> First, there is no scientific basis for extrapolating the size differential between the erect and flaccid penis of a post-pubescent adult and that of a twelve-year old child. Second, there is no scientific basis for applying an average measurement of that differential to a singular case. Third, none of the cited healthy men were under the extreme suffering of Raymond Fife, with fatal head trauma, strangulation and sexual assault.

Hua Affidavit at ¶ 21.

As Dr. Hua concludes, Dr. Mertz's opinion is "post-hoc guesswork" and "do[es] not constitute reliable scientific opinion." Hua Affidavit at ¶ 22. Among his errors, Dr. Mertz ignored that the Farkas study was based on circumference measured at "the mid portion of the penile shaft," Farkas at 325, while the injury in this case was on the *glans*. Dr. Mertz provided no evidence that the increase of the size of the *glans* occurs in the same proportion as the increase in the size of the shaft, nor did he look at any medical literature discussing studies of the growth of the glans during erection. Further, Dr. Mertz's calculations – the statistical manipulations to match the injury to Mr. Hill – are erroneous. Even assuming some scientific foundation for these calculations existed (and none did), Dr. Mertz ignored the lack of uniformity in the underlying data: the Farkas study actually indicates flaccid-to-erect size differential can range between 1.307 and 1.5.[17] Dr. Mertz's attempt to extrapolate an "average" increase in erect state is rebutted by his own evidence.

E. Conclusion

As demonstrated, the newly discovered evidence that the bite-mark comparison testimony was debunked false science was critical and significant part of the prosecution's case against Mr. Hill. When that evidence is properly eliminated from the case, no direct evidence connects Mr. Hill to the brutal attack on the victim and insufficient evidence upon which to sustain an aggravated

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[17] The underlying study on which Farkas relied for his 20-30mm increase actually found a "medium measurement" of 90 mm after that 20-30 mm increase in circumference, for an average flaccid circumference of 60-70mm. This indicates that the ratio of flaccid-to-erect circumference can range up to 1.5. *See* Farkas at 327.

murder conviction. No direct evidence supports that the ultimate punishment of death should be imposed on Mr. Hill. Instead, the case was based on Dr. Mertz's pre-determined, biased testimony that depicted an abhorrent act on a little boy and thoroughly infected all of the proceedings. The prosecutor utilized the inherent repulsive nature of this act when he insisted that Mr. Hill had "devoured" the victim before murdering him. At the very least, Mr. Hill's constitutional rights to due process and a fair adjudication of his significant claims have been undermined. The Court should grant certiorari and either remand for a new trial, or remand for a hearing on whether there is a strong probability that Mr. Hill would be convicted of aggravated murder and sentenced to death sans the bite-mark comparison evidence.

Issue Two: The Remaining Evidence After Exclusion Of The Bite-Mark Evidence From The State's Case Does Not Rise To A Modicum Of Evidence Sufficient To Sustain A Capital Murder Conviction And Death Sentence.

Absent the bite-mark evidence, the State would not have enough evidence to sustain a conviction for the murder, rape, and kidnapping of the victim. Even when viewing the evidence in a light most favorable to the prosecution, the Court cannot find that the State's evidence is sufficient to convict Mr. Hill and condemn him to death.

This Court laid out the foundational framework of an insufficiency of the evidence claim in *Jackson v. Virginia*, 443 U.S. 307 (1979). There the Court held that the Constitution requires more to sustain a criminal conviction than merely a jury properly instructed on the state's burden of proof. Instead, the *Jackson* Court explained, the state must present some "evidence [that] could reasonably support a finding of guilt beyond a reasonable doubt." *Id.* at 318. To safeguard this constitutional guarantee on appeal from a criminal conviction, the *Jackson* Court articulated the proper test to which a reviewing court must subject the state's evidence: "[T]he relevant question is whether, after viewing the evidence in the light most favorable to the prosecution, *any* rational

trier of fact could have found the essential elements of the crime beyond a reasonable doubt." *Id.* at 319 (emphasis in original). The Court chose this standard because it struck a balance between impinging on the jury's role as factfinder and affording the criminal defendant fundamental due process of law.

When reviewing the trial record here in the light most favorable to the prosecution and excluding the debunked bite-mark evidence, Mr. Hill's convictions and death sentence cannot stand. First the bite-mark evidence constituted the only direct, uncontradicted evidence of Mr. Hill's guilt. Without it, the evidence the State presented is too attenuated and riddled with conflict to support a conviction for aggravated felony murder.

To be convicted of rape in Ohio, courts have required more than mere speculative evidence to link a defendant to the victim. In *State v. Lee*, No. 03AP-436, 2004 WL 2341716 (Ohio Ct. App. Oct. 19, 2004), the coroner who performed the autopsy observed the victim's injuries and testified they were consistent with anal penetration. *Id.* at *5. However, the Ohio Court of Appeals found there were no fluids or other physical evidence linking the defendant with actual penetration required by Ohio Rev. Code § 2907.01. *Id.* The Court held that absent any physical evidence specifically linking the defendant to actual penetration, a finding of rape is merely speculative, "even when the physical findings concerning the victim's body are considered in conjunction with the 'thumping' sounds and the position of the victim's body." *Id.*

Here, the trial court's finding that Mr. Hill raped the victim is equally speculative; the only evidence that links Mr. Hill to the actual penetration of the anus is circumstantial - Mr. Hill's statement that he was at the scene and Allgood's testimony stating that Mr. Hill was seen throwing a stick near the scene. While Dr. Adelman testified that the broom handle the state found was consistent with the victim's injuries, the State's own laboratory technician testified regarding the

impossibility of it being an instrument of rape because there was no blood or other human tissue on it or in its fibers. The State's evidence created neither a link between Mr. Hill and the broom handle nor the broom handle and the victim. Allgood could not identify the broom handle the State introduced into evidence as the object Mr. Hill possessed. Even when viewing this evidence in a light most favorable to the State, no rational factfinder could use it to support a felony rape/murder conviction.

Also contradictory is the State's evidence regarding blood stains on Mr. Hill's pants. Mr. Hill's brother testified during trial he saw Mr. Hill wash dark red stains out of his pants. Yet when the State examined the pants for traces of blood evidence, they found none. This undercuts the State's assertion that the crime was "bloody." No rational factfinder could find that Mr. Hill's brother who "believed" he saw Mr. Hill washing his pants that contained red stains was sufficiently established evidence of Mr. Hill's guilt. As with the broom handle, there simply is no scientific evidence to support a connection with Mr. Hill. The other charges (arson and kidnapping) are also lacking in sufficient evidence to sustain the convictions. There is no evidence that Mr. Hill was responsible for the arson and no evidence that he detained the victim. No rational factfinder could find this evidence, which was based on conjecture, could prove beyond a reasonable doubt Mr. Hill's guilt of capital murder.

After discounting all the evidence based on mere speculation alone, a jury would be left with testimony that placed Mr. Hill in the area four hours before the victim's body was found and Mr. Hill's "confession." These facts cannot support Mr. Hill's convictions. Mr. Hill's own statements and that of the two boys, Allgood and Hunter who saw Mr. Hill in the area where the victim's body was found, do nothing to establish his participation in the murder. While Mr. Hill provided police with a statement that he witnessed co-defendant Combs rape and murder the

victim, mere presence at the scene of a crime is not sufficient to convict a defendant of capital murder. *See In re Winship*, 397 U.S. 358, 364-65 (1970) ("[A] society that values the good name and freedom of every individual should not condemn a man for commission of a crime when there is reasonable doubt about his guilt."). Without the bite-mark evidence that links Mr. Hill to these criminal acts, no rational factfinder could convict him of the capital murder charges. "[I]t could not seriously be argued that such a 'modicum' of evidence could by itself rationally support a conviction beyond a reasonable doubt." *Jackson v. Virginia*, 443 U.S. at 320. The Court therefore should grant Mr. Hill relief because the admissible evidence is insufficient to sustain his convictions and death sentence.

CONCLUSION

For the reasons presented in this Petition for Writ of Certiorari, Mr. Hill requests the Court grant this writ and order and that he be afforded a new trial sans the bite-mark comparison evidence. In the alternative, Mr. Hill requests the Court remand and order the State of Ohio to afford him an evidentiary hearing on the Motion for New Trial.

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