IN THE

SUPERIOR COURT OF PENNSYLVANIA

WESTERN DISTRICT

No. 1810	**WDA**	**2010**
No. 281	**WDA**	**2011**

COMMONWEALTH
(Respondent-Appellee)

v.

JOHN KUNCO
(Petitioner-Appellant)

PETITIONER-APPELLANT'S OPENING BRIEF

Appeal from the Denial of Writ of Habeas Corpus and for Collateral Relief from Criminal Conviction Pursuant to the Post-Conviction Relief Act, 42 Pa. C.S. § 9541 *et. seq.* and 42 Pa. C.S. § 9543.1 *et seq.* by the Honorable Rita Hathaway of the Court of Common Pleas of Westmoreland County, Pennsylvania, Criminal Division, No. 482 Crim. 1991, entered on October 28, 2010 and December 27, 2010

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I. Jurisdiction

Jurisdiction for this Appeal is provided for at 42 Pa. C.S. §742, relating to the exclusive appellate jurisdiction of the Superior Court from final Orders of the Courts of Common Pleas.

II. Order or Other Determination in Question

Under appeal are the Orders by the Honorable Rita D. Hathaway, of the Court of Common Pleas of Westmoreland County, Pennsylvania, Criminal Division, Case No. 482 C 1991, entered on October 28, 2010 and December 27, 2010.

Kunco filed a timely notice of appeal regarding Judge Hathaway's October 28, 2010 order. The Court docketed the case, assigning it the following case number: No. 1810 WDA 2010.

Kunco filed a timely notice of appeal regarding Judge Hathaway's December 27, 2010 order. The Court docketed the case, assigning it the following case number: No. 281 WDA 2011.

On March 9, 2011, Kunco filed a *Motion to Consolidate* requesting that Case Nos. 1810 WDA 2010 and 281 WDA 2011 be consolidated because his constitutional claims are premised on the collective impact of the newly-discovered bite mark and DNA evidence.

On March 11, 2011, the Court granted Kunco's *Motion to Consolidate*.

III. Standard and Scope of Review

The standard of review of a PCRA court's denial of a petition for post-conviction relief is "whether the record supports the PCRA court's determination, and whether the PCRA court's determination is free of legal error." *Commonwealth v. Williams*, 909 A.2d 383, 385 (Pa. Super. 2006). The scope of review is limited by the parameters of the post-conviction relief act. *See Commonwealth v. Heilman*, 867 A.2d 542, 544 (Pa. Super. 2005).

IV. Issue Presented

1. Whether the PCRA court erred in concluding that Petitioner-Appellant, John Kunco, could have filed his newly-discovered evidence PCRA petition, *see* 42 Pa. C.S. §§ 9545(b)(1)(ii), as early as 2001, when the facts supporting Kunco's newly-discovered evidence claim are premised on the findings and conclusions made by the National Academy of Sciences in its February 2009 Report entitled *Strengthening Forensic Science in the United States: A Path Forward* (*NAS Report*).

2. Whether the PCRA court erred in concluding that the *NAS Report*'s findings and conclusions do not constitute the generally accepted view of the scientific community pursuant to *Commonwealth v. Topa*, 369 A.2d 1277 (Pa.1977) and its progeny.
3. Whether the PCRA court erred in concluding that the criticisms and opinions of a few bite mark experts can constitute the generally accepted view of the scientific community pursuant to *Commonwealth v. Topa*, 369 A.2d 1277 (Pa.1977) and its progeny.
4. Whether the PCRA court erred in concluding that Pennsylvania prisoners can file newly-discovered evidence PCRA petitions, pursuant to 42 Pa. C.S. §§ 9545(b)(1)(ii), with inadmissible scientific evidence that is not generally accepted by the scientific community.
5. Whether the PCRA court erred in concluding that the collective impact of the *NAS Report* and newly-discovered exculpatory DNA results would not have compelled a different outcome had Kunco been granted a new trial.
6. Whether the PCRA court erred by not reaching the following meritorious issues – all of which were raised in Kunco's *Petition for Writ of Habeas Corpus and For Collateral Review from Criminal Conviction Pursuant to the Post-Conviction Relief Act, 42 Pa. C.S. § 9541 et seq.* and his *Memorandum of Law in Support of Supplemental Petition for Post-Conviction Relief Based Upon Newly-Discovered DNA Evidence Pursuant to 42 Pa. C.S. § 9543.1 et seq. and Writ of Habeas Corpus*:
    a. Whether the *NAS Report's* findings and conclusions regarding bite mark identification rendered Kunco's trial fundamentally unfair under state and federal law. *See* U.S. CONST. AMEND. VI, XIV; PA. CONST., Art. I, §§ 1, 9.
    b. Whether the *NAS Report's* findings and conclusions regarding bite mark identification establish that the Commonwealth presented inherently suggestive identification evidence in violation of Kunco's clearly established state and federal constitutional rights. *See Neil v. Biggers*, 409 U.S. 188 (1972).
    c. Whether the *NAS Report's* findings and conclusions regarding bite mark identification establish that the Commonwealth presented false evidence in violation of Kunco's clearly established state and federal constitutional rights. *See* U.S. CONST. AMENDS. VI, XIV; PA. CONST., Art. I, §§ 1, 9.

d. Whether the *NAS Report's* findings and conclusions regarding bite mark identification establish that the Commonwealth knew, or should have known, that Drs. Sobel's and David's trial testimony was invalid, misleading, and grossly unreliable in violation of Kunco's clearly established state and federal constitutional rights. *See* U.S. CONST. AMENDS. VI, XIV; PA. CONST., Art. I, §§ 1.

e. Whether the *NAS Report's* findings and conclusions regarding bite mark identification establish that Kunco's conviction violates his clearly-established state and federal constitutional rights to an impartial jury and to a jury verdict based solely upon properly-admitted evidence and argument that proves every element of an offense beyond a reasonable doubt. *See* U.S. CONST. AMENDS. VI, XIV; PA. CONST., Art. I, §§ 1, 9; *Apprendi v. New Jersey,* 530 U.S. 466, 477 (2000).

f. Whether the *NAS Report's* findings and conclusions regarding bite mark identification establish that Kunco's clearly established state and federal constitutional right to effective assistance of counsel was violated. *See* U.S. CONST. AMENDS. VI, XIV; *Strickland v. Washington*, 466 U.S. 668, 686 (1984); PA. CONST., Art. I, §§ 1, 9; *Commonwealth v. Pierce*, 786 A.2d 203, 213 (2001). Specifically, whether:

   i. Trial counsel acted ineffectively by not filing a motion to exclude the bite mark evidence in light of Drs. Sobel's and David's pre-trial bite mark reports, and if so, whether trial counsel's ineffectiveness prejudiced Kunco.

   ii. Trial counsel acted ineffectively by not retaining an independent bite mark expert to evaluate Drs. Sobel's and David's pre-trial bite mark reports and the bite mark evidence, and if so, whether trial counsel's ineffectiveness prejudiced Kunco.

   iii. Trial counsel acted ineffectively by not objecting to Drs. Sobel's and David's trial testimony, and if so, whether trial counsel's ineffectiveness prejudiced Kunco.

iv. Direct appeal counsel acted ineffectively by not raising these meritorious claims, and if so, whether direct appeal counsel's ineffectiveness prejudiced Kunco.

V. Statement of the Case

As the United States Supreme Court noted in its landmark decision in *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), "Scientific conclusions are subject to perpetual revision." *Id.* at 596-97. No other case proves this point more compellingly than John Kunco's case. The scientific community's understanding of bite mark identification has changed dramatically in the twenty years since Kunco's trial and conviction. In light of these dramatic changes, we now know that the bite mark testimony used to convict Kunco is not valid and no longer generally accepted by the scientific community. To protect the criminal justice system's integrity, and to maintain the public's confidence in the system, the Court must recognize and give significant credence to these new scientific developments. In so doing, the Court will immediately recognize that these new scientific developments undermine all confidence in Kunco's conviction warranting relief.

Kunco stands convicted of brutally raping Donna Seaman over an eight hour period on January 16, 1990. During the assault, the assailant shocked Seaman's vagina and anus with a lamp cord for nearly twenty minutes and bit the back of her left shoulder – leaving a noticeable bite mark. Seaman could not visually identify her assailant because he had immediately blindfolded her. Two days after her assault, however, Seaman told detectives that her assailant's voice sounded like that of Kunco – the former maintenance man at her apartment complex. Despite Seaman's voice identification, authorities did not immediately arrest Kunco.

The police finally arrested Kunco on January 26, 1991 – more than a month after Seaman's assault – when they learned that the bite mark on Seaman's shoulder could possibly be linked to him using bite mark identification.

Kunco asserted his innocence, claiming he was with his girlfriend and newborn child when the assault occurred. Investigators collected an abundance of physical evidence – none of which could be linked to Kunco via non-DNA forensic testing.

The Commonwealth's bite mark experts – Drs. Michael Sobel and Thomas David – examined the bite mark in May 1991 – *five months after* the bite was inflicted and the wound had healed. Despite the fact the bite mark was no longer visible under normal light conditions, Drs.

Sobel and David utilized a controversial and rarely used UV-lighting technique that allegedly re-exposed the bite mark's unique characteristics.. They then compared the UV-lighting photographs of the bite mark to Kunco's dentition and concluded that Kunco – and only he – could have inflicted the bite mark on Seaman's shoulder. In other words, Drs. Sobel and David *individualized* the unknown bite mark to Kunco to the exclusion of all other biters in the world.

At trial, the Commonwealth's premised its case on Drs. Sobel's and David's individualization testimony. Without the bite mark evidence, the Commonwealth had no case against Kunco – a point conceded by its own bite mark experts in a 1994 *Journal of Forensic Science* (*JFS*) article. In that article, Drs. Sobel and David wrote that the bite mark "was essential to establishing an evidentiary link between the victim and [Kunco]. Without this critical piece of evidence, it is unlikely that there would have been sufficient evidence to support a conviction for this vicious crime." Thomas J. David & Michael N. Sobel, *Recapturing a Five-Month-Old Bite Mark by Means of Reflective Ultraviolet Photography*, 39 J. FORENSIC SCI. 1560, 1567 (1994).

Drs. Sobel's and David's individualization testimony influenced how the jury assessed and weighed Seaman's voice identification by conclusively resolving any doubts the jury may have had as to whether Seaman correctly identified her assailant's voice as that of Kunco. Their testimony also destroyed Kunco's alibi defense and credibility. Not only was Kunco a rapist, he was a remorseless psychopath who forced his girlfriend, and the mother of his child, to testify falsely on his behalf.

That the jury convicted Kunco clearly indicates it found Drs. Sobel's and David's individualization testimony credible and critically important to the Commonwealth's case. More importantly, the jury's verdict means it interpreted their individualization testimony to stand for the following: (1) an individual's teeth and bite pattern are unique and remain unique throughout the course of his life; (2) when a perpetrator bites the victim's body, the unique characteristics of his teeth and bite pattern are transferred to the victim's body – regardless of the body part bitten; (3) the procedures utilized by qualified bite mark experts can accurately identify the unique teeth and bite pattern characteristics inflicted onto the victim's skin;[1] (4) the skin's natural healing

[1] The following terms will be used interchangeably throughout the brief: bite mark expert, forensic dentist, and forensic odontologist. They all refer to the type of expert at issue in this case – i.e., a person who examines an unknown human bite mark and compares it to a suspect's dentition/bite pattern to determine whether the suspect inflicted the unknown bite mark.

process did not remove the unique teeth and bite pattern characteristics inflicted on Seaman's left shoulder on December 16, 1991; (5) the unique teeth and bite pattern characteristics inflicted on Seaman's left shoulder on December 16, 1991 can be accurately re-exposed five months after the assailant inflicted the bite mark; (6) there is a valid scientific basis for conclusively associating an unknown bite mark from human skin to a known biter to the exclusion of all other biters in the world; and (7) qualified bite mark experts are capable of accurately linking an unknown bite mark from human skin to the known biter to the exclusion of all other biters in the world.

In 1991, when Kunco was tried and convicted, the scientific community generally accepted the aforementioned premises – particularly the premise that qualified bite mark experts could individualize an unknown bite mark to a known biter. Science, however, is an evolving enterprise as it continually seeks to refine, modify, and expand a body of knowledge. It is therefore inevitable that certain theories or techniques that were once considered valid, reliable, or generally accepted by the scientific community, will fall to the wayside as additional research is conducted and new facts and information are developed. New scientific research, for instance, eventually invalidated such widely accepted forensic techniques as voice print identification, comparative bullet lead analysis, gunshot residue (GSR) testing, and burn pattern analysis. Bite mark identification – or the technique used to individualize an unknown bite mark to a known biter – can now be added to this list thanks to new research by the National Academy of Science.

Questions about bite mark identification's validity and reliability surfaced during the earlier part of this decade thanks to post-conviction DNA testing. There were several cases where forensic dentists individualized an unknown bite mark to a suspect, but subsequent DNA testing conclusively proved that the suspect could not have been the assailant – or for that matter – the individual who inflicted the bite mark. In light of these conclusive misidentifications, a *very small fraction* of the scientific community began re-evaluating whether there was adequate empirical data to support bite mark identification's four fundamental premises: (1) the dental features of the biting teeth are unique (uniqueness); (2) this uniqueness remains constant throughout a person's lifetime (permanency); (3) the unique dental features are transferred and recorded every time the person bites into an impressionable object, such as human skin (transferability); and (4) trained forensic dentists can accurately determine whether a mark or wound on a person's body is a human bite mark, and link the unknown human bite mark to the one and only person who could have inflicted the bite mark (examiner accuracy). *See* C. Michael

Bowers, *The Scientific Status of Bitemark Comparisons*, in DAVID L. FAIGMAN, ET AL., MODERN SCIENTIFIC EVIDENCE: FORENSICS 483 (2008).

This *very small group* of bite mark experts suggested that *none* of the four premises were adequately supported by empirical research, and that the dearth of research prevented forensic dentists from individualizing an unknown bite mark to a known biter or opining as to the likelihood of a coincidental match. Unfortunately, because only a *very small group* of bite mark experts endorsed this controversial opinion, their views and opinions were not generally accepted by the scientific community.

That the opinions of these very few bite mark experts were not generally accepted is significant – especially in a *Frye* state, like Pennsylvania, where the admissibility of scientific evidence hinges entirely on general acceptance. Because the scientific community did not generally accept the controversial opinions of these very few bite mark experts, Pennsylvania prisoners could not file newly-discovered evidence PCRA petitions based on their opinions. Newly-discovered evidence is evidence that is *admissible* in court; if it is not admissible, it is not evidence, and, therefore, cannot be considered newly-discovered evidence. In other words, a prisoner must present new *admissible facts* – not simply a few experts whose controversial opinions fall outside the generally accepted views of the scientific community.

In 2006, Congress directed the National Academy of Science (NAS) – the preeminent scientific organization in the United States – to evaluate the forensic science community, particularly the non-DNA forensic identification fields such as bite mark identification. Congress' directive to the NAS was in response to the rising number of wrongful convictions related to improper, erroneous, and unvalidated forensic science testimony, including misidentified bite marks. The NAS held public hearings and studied the non-DNA forensic identification fields for two years. In February 2009, the NAS published its findings in a report entitled *Strengthening Forensic Science in the United States: A Path Forward* (*NAS Report*).

The *NAS Report* invalidated the four fundamental premises of bite mark identification when it concluded that: (1) there is no evidence of an existing scientific basis for identifying an individual to the exclusion of all others; (2) no thorough study has been conducted of large populations to establish the uniqueness of bite marks; (3) if a bite mark is compared to a dental cast, and the suspect providing the dental cast cannot be eliminated as a person who could have made the bite mark, there is no established science indicating what percentage of the population

or subgroup of the population could also have produced the bite mark; (4) bite mark examiners rarely undergo proficiency testing and the limited proficiency tests reveal a substantial error rate; and (5) the elasticity of the skin, the unevenness of the surface bite, and swelling and healing severely limit the validity of bite mark identification.

The *NAS Report* validated what the *very small minority* of bite mark experts had been preaching for nearly a decade – i.e., there is no scientific basis on which forensic dentists can individualize an unknown bite mark to a known biter. According to the *NAS Report*, the only forensic technique capable of individualization is nuclear DNA analysis. The *NAS Report*, therefore, represented a changing of the guards, where the minority view now represented the generally accepted view. Indeed, Pennsylvania courts, and courts across the country, have routinely held that where the NAS or National Research Council make findings of fact regarding a forensic technique, those factual findings constitute the generally accepted view of the scientific community.

Thus, the current and generally accepted view of the scientific community is that bite mark experts cannot individualize an unknown bite mark to a known biter to the exclusion of all other biters in the world. This is significant because Pennsylvania prisoners now have generally accepted and *admissible* evidence that can trigger 42 Pa. C.S. § 9545(b)(1)(ii)'s newly-discovered evidence exception. Kunco's initial newly-discovered evidence petition is premised entirely on the *NAS Report's* generally accepted findings and conclusions regarding bite mark identification.

The *NAS Report* invalidates Drs. Sobel's and David's individualization testimony, and, as a result, would likely compel a different outcome if Kunco is granted a new trial. To begin with, Drs. Sobel's and David's testimony is no longer admissible because individualization is not possible and not generally accepted by the scientific community. Moreover, as Drs. Sobel and David conceded in their 1994 *JFS* article, Kunco would likely not have been convicted without their individualization testimony.

Post-conviction DNA testing also undermines confidence in Kunco's conviction. In 1991, the Commonwealth did not perform pre-trial DNA testing. In 2009, however, a private DNA laboratory tested the lamp cord the assailant used and manipulated to shock Seaman's vagina and anus for twenty minutes. DNA testing identified two male DNA profiles – neither of which came from Kunco. Collectively, the *NAS Report* and DNA results prove that Kunco is

entitled to a new trial because this evidence is of such a nature and character that a different verdict would likely result if Kunco is granted a new trial.

VI. Statement of Facts

A. The Offense

On December 16, 1990, at approximately 5:00 a.m., Donna Seaman awoke to find a man standing in her bedroom.[2] Because she is blind in one eye and farsighted in the other, she was unable to get a good look at the man.[3] The man told her to be quiet and told her she was going to have "the fuckingest day of [her] life."[4] The man sexually assaulted her for several hours, during which time he bit the back of her left shoulder – leaving a visible bite mark.

The assailant also removed the electric cord from her bedroom lamp, exposed the wires from the cord, pushed them together to create an electrical current, and forced the wires inside Seaman's vagina and anus electrocuting her. Seaman stated he electrocuted her for approximately twenty minutes and that he did not wear gloves while doing so.[5]

B. Investigation

1. Voice Identification

Seaman said her assailant spoke with a lisp.[6] Two days after her assault, while still recovering in the hospital, Detective Dlubak interviewed Seaman. During his interview, Dlubak impersonated a person who spoke with a lisp. When Seaman heard Dlubak's voice impersonation, she said the voice sounded like that of the former maintenance man at her apartment complex – John Kunco. Kunco, she said, spoke with a lisp. Detective Dlubak made the following entries in his police report:

> **December 18, 1990, 11:30 a.m.**: victim reinterviewed at Hospital indicated actor's voice is deep and speaks with lisp... Victim identifies the ex-maintenance man as the person who attacked, tortured and raped her by the distinct voice and lisp that she had heard before when the actor worked at the apartment building.
>
> **January 22, 1991**, [no time] [reporting officer] spoke with Matt Huet landlord and former employer of Kunco. Mr. Huet stated that Mr. Kunco speaks with a notable lisp.

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[2] NT, Trial, at 57-58.
[3] *Id.* at 87
[4] *Id.* at 58
[5] *Id.* at 68, 324-325.
[6] *Id.* at 58, 79.

At the preliminary hearing, Seaman testified she did *not* immediately identify Kunco, but instead identified his voice two days after her assault when Detective Dlubak interviewed her at the hospital:

> Q: And from what you are saying is at that time you didn't indicate to them [the police]... you didn't indicate your suspicion of Mr. Kunco at that time [immediately after the rape]?
>
> A: No.
>
> Q: And it wasn't until later when Detective Dlubak came to your hospital bed and imitated a slurred lisping speech?
>
> A: Yes.
>
> Q: And that sounded like the person that attacked you?
>
> A: Right.
>
> Q: So, as far as that's concerned you made your identification based partly on what, on this voice that Sergeant Dlubak imitated for you?
>
> A: Yes.
>
> * * *
>
> Q: So, your identification then was only made known to the police after Sergeant Dlubak came in and talked to you and imitated that slurred speech?
>
> A: (Nods head affirmatively).
>
> * * *
>
> Q: How long after this took place did Detective Dlubak come in to talk to you in the hospital when he slurred his speech for you and you said I –
>
> A: About two days later.[7]

A statement by Wayne Gongaware, the prosecutor, immediately following the preliminary hearing, confirms that Seaman did not immediately identify Kunco as her assailant.

[7] NT, Prem. Hrg., at 38-39, 49.

On February 9, 1991, the *Valley News Dispatch* quoted Gongaware as stating: "It's no wonder the victim didn't make the identification immediately."[8]

Moreover, several police officers, who rushed to Seaman's apartment shortly after she contacted the police, drafted police reports that did not include a single reference indicating that Seaman recognized her assailant's voice as that of Kunco.

Once Seaman suggested that her assailant's voice sounded like Kunco, he became the only suspect the New Kensington Police focused on.

2. Physical Evidence

The police transported Seaman to the hospital where medical personnel performed a rape examination and collected rape kit samples that included pulled and combed head and pubic hairs, vaginal slides and swabs, and fingernail scraping.[9] Medical personnel turned over the evidence to the New Kensington Police Department (NKPD), which submitted it to the Pennsylvania State Police (PSP) Greensburg Regional Crime Laboratory.[10] Investigators also collected more than thirty pieces of physical evidence from Seaman's apartment that they submitted to the PSP crime laboratory,[11] including red hairs collected from the bed sheet on the bed where much of the assault occurred and the lamp cord the assailant used to shock Seaman's vagina and anus.

The PSP crime laboratory performed rudimentary serological tests on the rape kit items that did not detect semen or sperm.[12] The pubic and head hairs collected from Seaman were consistent with her hair samples.[13] The fingernail scrapings revealed human blood consistent with Seaman's blood.[14] For unknown reasons, the PSP crime laboratory did not test the lamp cord. In short, none of the physical evidence collected from Seaman could be linked to Kunco. None of the evidence, however, was subjected to DNA testing.

3. The Bite Mark

Shortly after being transported to the hospital, medical personnel and the police noticed the bite mark on Seaman's left shoulder. Cognizant of its potential forensic value, the police

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[8] The *Valley News Dispatch* article is part of Kunco's *Third Amended Post Conviction Petition* filed on May 26, 1998. It can be located in the Appendix at A93.

[9] NT, Trial, at 344, 346-47.

[10] Exhibit 3.

[11] *Id.*

[12] *Id.* at 4.

[13] *Id.*

[14] *Id.*

photographed the bite mark, but in doing so they did not place reference scales next to the bite mark.

4. Kunco is Arrested

Despite Seaman's December 18, 1990 voice identification, authorities did not arrest Kunco until January 26, 1991 – more than a month after the assault. Kunco was not arrested until the prosecutor was informed that the bite mark on Seaman's left shoulder could possibly be linked to Kunco. Indeed, during his PCRA deposition, Detective Dlubak conceded that Kunco was not arrested until late January 1991 because the Westmoreland County District Attorney's Office was evaluating the bite mark evidence:

> Q: ... Can you explain the reason for the delay in the arrest of Mr. Kunco?
>
> A. ... I think at that time we concentrated on the picture of the bite mark and I think during that period we had the picture blown up 8 x 10 and I think I brought it over to the District Attorney's Office.

See NT, Det. Dlubak Dep., at 28. After reviewing the blown-up picture, the District Attorney's Office finally approved the arrest warrant. *See id.* at 29.

5. The Commonwealth's Bite Mark Experts

The Commonwealth retained Drs. Michael Sobel and Thomas David to evaluate the bite mark. When Drs. Sobel and David reviewed the photographs taken by the police, they informed the prosecutor that they could not use the photographs because they had no reference scale. In their 1994 *JFS* article Drs. Sobel and David explained why they could not make an identification without a reference scale:

> This bite mark was photographed by law-enforcement officials. However, none of the photographs included a reference scale.... Subsequently, all evidence in the file was reviewed by the prosecutor. Dr. Sobel was then contacted and asked to examine the bite mark photograph obtained by the police. The prosecutor was informed that the photograph depicted a human bite mark, but because there was no reference scale, comparison with a potential suspect was not possible.

David & Sobel, at 1560.[15]

The lack of a reference scale, however, did not deter the Commonwealth. Instead, the prosecutor asked Drs. Sobel and David what could be done to adequately document the bite

[15] The article is attached hereto as Ex. 4.

mark. Drs. Sobel and David explained the prosecutor's request and their response in their 1994 *JFS* article:

> Since the other forensic evidence gathered was inconclusive, the bite mark now became crucial to the case. The prosecutor inquired as to what could be done to properly document the bite mark. The authors related that a case involving similar circumstances had been presented at a scientific meeting. Based on this information, the prosecutor authorized an examination of the victim with ultraviolet light in an attempt to "retrieve" and properly document the bite mark in question, which was already 3 to 4 months old.

Id. at 1561.

On May 19, 1991, *five months after* the assailant inflicted the bite mark, Drs. Sobel and David re-examined Seaman's shoulder with a UV-light source. According to their reports and *JFS* article, their examination revealed "a significant injury pattern" that "depicted... a human bite mark [that] could be compared with models of [Kunco's] teeth previously obtained by Dr. Sobel." *Id.* at 1561, 1562.

After comparing Kunco's bite pattern to the bite mark, Drs. Sobel and David opined that Kunco – and only he – could have inflicted the bite mark. For instance, in his July 8, 1991 report, Dr. Sobel concluded: "Within a reasonable medical certainty, the bite mark on the back shoulder area of Donna Seaman was made by the teeth of John Kunco."[16] Likewise, in his July 8, 1991 report, Dr. David concluded: "After careful consideration it is my opinion... to a reasonable degree of dental certainty that the bite mark found on the victim was produced by the teeth of John Kunco."[17]

C. The Late Disclosure of the Bite Mark Reports

The Commonwealth disclosed Drs. Sobel's and David's reports on the morning of July 9, 1991 – the *day before* trial was scheduled to start. Given the extremely short notice, trial counsel had the option of requesting a continuance to adequately review Drs. Sobel's and David's reports and the bite mark evidence, and then to possibly consult with and retain an independent bite mark expert. Shortly after receiving the reports, trial counsel informed the trial judge he would move for a continuance, but needed to consult with Kunco first. When trial counsel consulted with Kunco shortly thereafter, Kunco told him he wanted to exercise his speedy trial right and did not want a continuance. Subsequent to this conversation, the trial judge held a brief hearing

[16] Ex. 5.
[17] Ex. 6.

to discuss Kunco's – and trial counsel's – decision to forgo a continuance and to proceed to trial. During the hearing, the following colloquy occurred:

> The Court: For the record, as I understand it, the defendant and defense counsel have just been advised because of the recent receipt of a dental mark, I guess, bite mark, on the victim which matches the defendant's teeth, and they are unusual teeth, and this report has been given to defense counsel, and defense counsel initially advised me that he felt that in light of the recent receipt of this evidence, that he must have a continuance to review this material and perhaps even obtain an expert of your own; is that right?
>
> Mr. Caruthers: That is correct, Your Honor.
>
> The Court: And that you've discussed this with your client, and that he doesn't want to do that. He wants to proceed with a trial against your advice; is that right?
>
> Mr. Caruthers: That is correct, Your Honor.[18]

Trial counsel had Kunco testify so he could inform him on the record that proceeding to trial would not be in his best interest. During the colloquy, trial counsel asked the following questions or made the following statements:

> Mr. Caruthers: [O]ther than this dental evidence, there really isn't too much to identify you to the crime other than Ms. Seaman's voice identification of you; correct?
>
> . . .
>
> Mr. Caruthers: Now, John, you understand that these charges against you are very, very serious charges; correct?
>
> . . .
>
> Mr. Caruthers: So you understand that if you're convicted of these charges, you're going to very possibly go away for a long period of time?[19]

The trial judge made the following comments during the colloquy:

> The Court: Mr. Kunco, [trial counsel's] trying to explain to you... that in light of the, pardon the expression, of *damning evidence or serious evidence against you, very grievous evidence against you*, that it is his opinion that this case should be continued *so that he can be better prepared to defend you. . .* But if you want do [go to trial], the jury's downstairs, I'm ready, the DA is

[18] NT at 4-5.
[19] NT at 9.

> ready and defense counsel is ready, *but this will be difficult for your counsel to defend such damning evidence or serious evidence as – in effect, this is like fingerprints, but in this case it's a bite mark which they say matches you*... So with that evidence, that is not a trivial matter, that's a very serious piece of evidence which defense counsel feels he should contest. . .[20]

Despite the "grievous" evidence against Kunco, and the fact trial counsel had not adequately reviewed this evidence, trial counsel did not intervene and prevent Kunco from exercising his speedy trial right. Kunco, therefore, proceeded to trial with an attorney who: (1) had not reviewed the bite mark evidence; (2) had not retained an independent bite mark expert; and (3) allowed his uneducated client to make a significant legal decision that he was ill-equipped to make.

D. Trial

1. Commonwealth's Case

a. Bite Mark Evidence

The Commonwealth premised its case on the bite mark evidence. At trial, Dr. Sobel testified that:

> I could say that within a reasonable dental certainty, that the bite on the left back shoulder area of Donna Seaman *was in fact inflicted by the teeth of John Kunco* ... I felt comfortable about this decision because there were no inconsistencies that I could come up with at all and everything fit perfectly[.][21]

Dr. Sobel added that he had "no doubt" Kunco inflicted the bite mark and that, next to fingerprinting, "[d]ental identification... is the most accurate form of identification of an individual."[22] Dr. Sobel also stated that because

> dental identification is based on class and individual characteristics of an individual's teeth... I'd say we can be very certain that if all these characteristics match, *that it is uniquely related to an individual.* The size relationships, the shape of the teeth... the fractured portions of a tooth, the worn areas, all of these taken together create a fingerprint picture of the individual.[23]

The following colloquy with the prosecutor ended Dr. Sobel's direct examination testimony:

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[20] NT at 13-14 (emphasis added).
[21] NT at 187 (emphasis added).
[22] *Id.* at 188.
[23] *Id.* at 188-89 (emphasis added).

Prosecutor: Okay. And, again, your opinion is the bite mark originated where, Doctor?

Dr. Sobel: The bite mark originated from the teeth of John Kunco.[24]

Dr. David also testified that he individualized the unknown bite mark to Kunco:

> It is my opinion, to a reasonable degree of dental certainty, that the mark in question is indeed a human bite mark. It is also my opinion, to a reasonable degree of dental certainty, that the bite mark was made by the teeth of the defendant, John Kunco.[25]

b. Voice Identification

Contrary to her preliminary hearing testimony, Seaman said she *immediately* informed Sgt. Charles Korman – the first NKPD officer at the scene – that she recognized her assailant's voice as that of Kunco.[26] On cross-examination, Seaman acknowledged that her trial testimony was inconsistent with her preliminary hearing testimony.[27] Sgt. Korman corroborated Seaman's trial testimony, testifying that Seaman "immediately" identified Kunco once he arrived at her residence.[28]

Detective Frank Link testified that he assisted Sgt. Korman at the crime scene. He also testified that it was critically important to document the assailant's identity in his police report – if the assailant's identity is known at the time.[29] Despite Sgt. Korman's claim that Seaman immediately identified Kunco, Detective Link conceded that his investigative report mentioned nothing about Seaman's voice identification.[30]

2. Kunco's Defense

Kunco proclaimed in innocence and presented an alibi defense.[31] He testified that he was at home with his long-time girlfriend, Robin Turner, and their newborn baby at the time of the attack.[32]

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[24] *Id.* at 189.
[25] *Id.* at 265.
[26] *Id.* at 74-75.
[27] *Id.* at 95, 99.
[28] *Id.* at 111.
[29] *Id.* at 283.
[30] *Id.*
[31] During opening statements, trial counsel stated: "I'm going to tell you right now, Mr. Kunco maintains very strongly that it was not him, that he was home in bed with his girlfriend, Robin Turner, at the time." *Id.* at 44.
[32] *Id.*

Turner also testified on Kunco's behalf and said she was certain that he was home at the time of the attack because they had a newborn baby who slept with them and she woke up every few hours to feed the baby.[33] She said Kunco was asleep in their bed each time she woke up to feed the baby.[34]

Trial counsel also argued that, because Turner was herself a rape victim, it was unlikely she would lie about Kunco's whereabouts to protect a rapist.[35]

3. Commonwealth's Closing Arguments

During closing arguments, the Commonwealth hammered home the bite mark evidence, arguing that it proved Kunco's guilt beyond a reasonable doubt:

> [T]here's no way, no way on this earth, for Mr. Kunco to explain how his tooth marks got on Donna Seaman's shoulder unless you accept the fact that he's the one who attacked and brutalized Mrs. Seaman. That's the only explanation, ladies and gentlemen. That's why the evidence is better than fingerprints or hair samples ... [T]he bite mark on Danna Seaman's shoulder was as good as a fingerprint. And I submit to you it was that, ladies and gentlemen, for all intents and purposes. Ladies and gentlemen, I'd submit to you that John Kunco should have just signed his name on Donna Seaman's back, because the bite mark on Donna Seaman's shoulder belongs to John Kunco.[36]

4. Verdict and Sentencing

The jury convicted Kunco of involuntary deviate sexual intercourse by threat of forcible compulsion, rape by forcible compulsion, and aggravated assault causing bodily injury.[37]

The trial judge sentenced him to 45-90 years in prison.

E. Direct Appeal

On direct appeal, Kunco challenged Drs. Sobel's and David's qualifications, arguing that the American Dental Association (ADA) did not recognize forensic odontology as a specialty and that the forensic odontology field did not require board certification:

> [A]ppellant states that trial counsel should have informed the court that the American Dental Association (ADA) does not recognize forensic odontology as a specialty nor does there exist board certification in that field. Appellant reasons that had the court been made aware of this, the experts may have been held incompetent to testify or, at least, the jury may not have accorded their testimony much weight.

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[33] *Id.* at 401.
[34] *Id.* at 404.
[35] *Id.* at 441, 443-44.
[36] *Id.* at 453, 456.
[37] *Id.* at 504

Ex. 7, at 13. The trial court denied relief and this Court affirmed:

> We do not believe that had the court been made aware of the fact that the ADA does not recognize forensic odontology, the experts would have been permitted to testify. Our supreme court previously upheld the testimony of a forensic odontologist notwithstanding the lack of official acceptance by the ADA.

Id.

F. Initial Post-Conviction Proceedings

1. Bite Mark Evidence

In his *Third Amended Post Conviction Act Petition and Motion for New Trial*, Kunco challenged the UV-light technique Drs. Sobel and David used to expose and document the five-month-old bite mark:

> The trial court committed reversible error and prior counsel... was ineffective in failing to raise this error, when admitting the testimony of Drs. Sobel and David without proper determination of the acceptability in the scientific community of the *ultra-violent methodology* utilized by the Commonwealth's purported experts. In this regard, the lower court should have examined the effect such late "recapturing" of a bite wound would have on the ability of the experts to "match" the faded markings, with the necessary precision, to the Petitioner's teeth.
> ...
>
> Moreover, it should have been obvious to the lower court, that the techniques used by Dr. Sobel in evaluating the Petitioner's dental impressions to out of scale photographs of a bite mark was not a technique which was generally accepted in the scientific community.

Ex. 8, at ¶¶122, 130. (emphasis added).

Kunco also presented evidence discrediting Dr. Michael West, the individual who invented the UV-lighting technique and who taught Dr. David how to use the technique:

> Moreover, the "expert" upon whom the Commonwealth's experts relied in performing this "scientific technique" has been discredited as a fraud, creating voodoo evidence to earn convictions. This fabricator of evidence, Michael West, has been the subject of several documentaries and articles, one, the cover story of the American Bar Association Journal. Moreover, convictions have been overturned which relied upon his untrustworthy techniques.

Id. at ¶ 132; *see also id.* at ¶¶ 133-140. Finally, Kunco offered Dr. Gregory Golden at his first PCRA hearing, who testified that the UV-lighting technique was unreliable.

The PCRA court and this Court denied relief. This Court wrote that it had "already held that the [bite mark] technique used by the Commonwealth experts [was] scientifically recognized." Ex. 9, at 7.

Kunco did not challenge – on direct appeal or during his initial PCRA proceedings – the generally accepted notion that an unknown bite mark can be individualized to a known biter to the exclusion of all other biters in the world.

2. Voice Identification Evidence

Kunco also developed facts regarding Seaman's voice identification during his initial PCRA proceedings. In an April 20, 1995 interview, Seaman told Kathleen O'Boyle (Kunco's initial PCRA attorney) and her legal assistant, Elizabeth Guardasoni, that she did *not* immediately identify Kunco as the perpetrator, but instead identified him two days later at the hospital, when Detective Dlubak did his voice impersonation.[38]

Kunco also deposed several officers who investigated the case. For instance, Detective Dlubak testified that when he arrived at Seaman's apartment, Sgt. Korman told him that Seaman recognized her assailant's voice as that of Kunco. *See* NT, Dlubak Dep., at 12. He also testified that once he arrived he contacted the Pennsylvania State Police (PSP) for assistance in processing the scene, that once PSP Trooper Michael Jones arrived at the scene he told Trooper Jones what Sgt. Korman had relayed to him regarding Seaman's voice identification of Kunco, and that he and Detective Frank Link assisted Trooper Jones's team in processing the scene. *See id.* at 11 ("I told them [the PSP CSI team] what was passed on to me."); *id.* at 12 ("[Sgt. Korman] mentioned to me that [Seaman] said it was a maintenance man, something to that effect... He said she recognized his voice.").

During Trooper Jones's PCRA deposition, however, Kathleen O'Boyle asked him the following question: "Did you receive information from the New Kensington Police Department with regard to either the identity – let's start with the identity of the actor?" To which Trooper Jones replied: "No. I don't believe they had any idea who it was at that point." NT, Trp. Jones Dep., at 17.

Similarly, during Detective Link's PCRA deposition, he said he interviewed Seaman at the hospital directly after the assault, asked questions about how she knew Kunco, and drafted a

[38] Elizabeth Guardasoni memorialized Seaman's interview into an affidavit, which O'Boyle attached to Kunco's *Third Amended Post Conviction Petition, see* App. pp. A267-279.

report subsequent to his interview. Detective Link's report, like Detective Dlubak's initial report, did not mention a word about Seaman's alleged voice identification of Kunco. *See* NT, Det. Link Dep., at 19-20, 33. During his deposition, Detective Link said he was trained to incorporate all relevant and critical information into a comprehensive report. Detective Link agreed that if the victim identified her assailant immediately after the crime, such information would be relevant and critical for investigative purposes. *See id.* Despite his training and years of experience, however, Detective Link said he did not incorporate this critical information into his report because Sgt. Korman had already incorporated it into his report. *See id.* at 21. Moreover, Detective Link testified that he was with Detective Dlubak when he (Dlubak) performed his voice impersonation on December 18, 1990. When asked why Detective Dlubak conducted a voice impersonation that day, *two days after* Seaman had already identified her assailant's voice, Detective Link offered no explanation. *See* NT, Det. Link Dep., at 33-34.

G. Post-Conviction DNA Testing and Bite Mark Misidentifications

During the early 1990s, DNA testing was introduced into the criminal justice system. Although initially used as a law enforcement and prosecutorial tool to identify, prosecute, and convict guilty offenders, defense attorneys and prosecutors eventually used DNA testing to exonerate wrongly convicted prisoners, leading to twenty-seven DNA exonerations by 1996. *See* NAT'L INST. OF JUST., DEPT. OF JUST., CONVICTED BY JURIES, EXONERATED BY SCIENCE: CASE STUDIES IN THE USE OF DNA EVIDENCE TO ESTABLISH INNOCENCE AFTER TRIAL (1996) (hereinafter *NIJ 1996 Report*). In 1994, Dale Brison became the first Pennsylvania prisoner to be exonerated with post-conviction DNA testing. *See id.* at 38-39 (discussing Brison's case); *Commonwealth v. Brison*, 618 A.2d 420 (Pa. Super. 1992) (holding that Brison was entitled to post-conviction DNA testing). By 2002, the number of post-conviction DNA exonerations had jumped to more than one hundred. *See* www.innocenceproject.org/Content/Larry_Mayes.php; BARRY SCHECK ET AL., ACTUAL INNOCENCE (2000). During this period, many states enacted post-conviction DNA testing statutes, with Pennsylvania enacting its statute in 2002. *See* 42 Pa. C.S. § 9543.1; *see also* NAT'L COMM'N ON THE FUTURE OF DNA TESTING, POST CONVICTION DNA TESTING: RECOMMENDATIONS FOR HANDLING REQUESTS (1999).

The DNA exonerations revealed that various forms of evidence are inherently unreliable, including eyewitness testimony, jailhouse informant testimony, and forensic evidence. *See NIJ 1996 Report*, at 15. In terms of forensic evidence, several DNA exonerations involved

misidentified bite marks where a forensic dentist initially individualized a bite mark to a defendant, only to have post-conviction DNA testing conclusively establish the defendant's innocence. *See* C. Michael Bowers, *Problem-Based Analysis of Bitemark Misidentifications: The Role of DNA*, 159S FORENSIC SCI. INT'L. S104, S106 (2006) ("This advent of independent scientific [DNA] analysis is having a direct effect on the credibility of dental bitemark experts... The later 1990s showed the initial influence DNA profiling had on criminal justice proceedings containing bitemark testimony.").[39] Similarly, there were several cases where pre-trial DNA testing invalidated a forensic dentist's pre-trial conclusion that a suspect inflicted the unknown bite mark on the victim.[40]

H. The Bite Mark Community's Response to the Misidentified Bite Mark Cases

The great majority of bite mark experts disregarded these misidentifications, characterizing them as anomalies that rarely occur. More importantly, the bite mark community refused to re-examine the four fundamental premises of bite mark identification: (1) uniqueness; (2) permanency; (3) transferability; and (4) examiner accuracy. However, a *very small minority* of bite mark experts, including Drs. C. Michael Bowers and Iain Pretty, used these cases as an opportunity to re-examine these premises and the research that allegedly supported them.

For instance, in 2001, Drs. Pretty and David Sweet reviewed the scientific literature on bite mark identification and *independently* concluded that "[d]espite the continued acceptance of bitemark evidence in... North American Courts[,] the fundamental basis for bitemark analysis has never been established." Iain Pretty & David Sweet, *The Scientific Basis for Human Bitemark Analyses – A Critical Review*, 41 Sci. & Just. 85, 86 (2001).[41] In regards to the

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[39] *See Henry Weinstein, Death Penalty Foes Mark a Milestone*, L.A. TIMES, Apr. 10, 2002, at 1A (discussing Ray Krone's exoneration); http://www.innocenceproject.org/Content/Ray_Krone.php (discussing Krone's exoneration and the misidentified bite mark that led to his wrongful conviction); *O'Donnell v. State*, 782 N.Y.S.2d 603, 606 (N.Y. Ct. Cl. 2004) (discussing James O'Donnell's exoneration); http://www.innocenceproject.org/Content/James_ODonnell.php (discussing O'Donnell's exoneration and the misidentified bite mark that led to his wrongful conviction);

[40] A misidentified bite mark led to Edmund Burke's wrongful arrest, while pre-trial DNA testing ultimately exonerated him and identified the true perpetrator. *See Burke v. Town of Walpole et al.*, 405 F.3d 66 (1st Cir. 2005); Peter Schworm, *Conviction Brings Justice in Mother's Slaying, But Toll on Family Endures*, BOSTON GLOBE, Sept. 28, 2006, at 1. A misidentified bite mark also led to Dale Morris's wrongful arrest, while pre-trial DNA testing ultimately exonerated him and identified the true perpetrator. *See* Ian James, *Suspect in Girl's Murder Freed after Four Months*, ST. PETERSBURG TIMES 1A, Feb. 28, 1998, at 1A; Todd Leskanic, *9-Year-Murder Inquiry - Solved - Guilty Plea Ends Case With Multiple Twists*, TAMPA TRIB., Dec. 30, 2006, at 1. A misidentified bite mark led to Anthony Otero's wrongful arrest, while pre-trial DNA testing ultimately exonerated him. *See Otero v. Warnick*, 614 N.W.2d 177, 178 (Mich. App. 2000).

[41] A courtesy copy of the article is attached hereto as Exhibit 10.

transferability issue, Drs. Pretty and Sweet concluded that while the human dentition may be unique, there was no scientific research substantiating the claim that a detention's uniqueness is always transferred to human skin or another inanimate object. *See id.* at 90 ("[The question is] whether there is a representation of that uniqueness in the mark found on the skin or other inanimate object... The question of bitemark uniqueness [as compared to the uniqueness of the human dentition] remains unanswered.").

Similarly, in 2006, Dr. Bowers questioned the "examiner accuracy" assumption when he summarized the only four research projects aimed at measuring whether bite mark examiners can accurately link an unknown bite mark to a known biter. *See* C. Michael Bowers, *Problem-Based Analysis of Bitemark Misidentifications: The Role of DNA*, 159S FORENSIC SCI. INT'L. S104 (2006).[42] Each research project, he noted, produced "disturbingly high false-positive error rate[s]." *Id.* at S107.

The opinions expressed by Drs. Bowers, Pretty, and Sweet were *not* generally accepted by the bite mark community. Instead, despite the growing number of misidentifications exposed by DNA testing, the bite mark community continued to proclaim that the four fundamental premises of bite mark identification were valid and supported by empirical research. For instance, in 2003, Dr. Pretty surveyed the bite mark community regarding the four fundamental premises. *See* Iain Pretty, *A Web-Based Survey of Odontologists' Opinions Concerning Bitemark Analyses*, 48 J. FORENSIC SCI. 1117 (2003).[43] With respect to the uniqueness premise, 91% of the bite mark experts surveyed said they believe the human dentition is unique to each individual, while 78% believed that this uniqueness is transferred or "replicated" to the human skin during the biting process. *Id. at* 1118. Moreover, 70% believed that "suitably trained" bite mark experts can "positively" identify an individual from a bite mark on human skin. *Id.* Lastly, 96% of the American Board of Forensic Odontology membership believed that the human dentition was unique and that this uniqueness was transferred to the human skin during the biting process.[44] Dr. Pretty acknowledged the extraordinary support for bite mark identification and its underlying premises, but questioned whether scientific research supported the extraordinary support:

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[42] A courtesy copy of the article is attached hereto as Exhibit 11.

[43] A courtesy copy of the article is attached hereto as Exhibit 12.

[44] ABFO stands for the American Board of Forensic Odontology. The ABFO is the foremost bite mark association in the world. *See* www.abfo.org (last visited March 21, 2011).

> The uniqueness of human dentition and assertion that this uniqueness is replicated in bite marks forms the central dogma of bite injury analysis. It is generally that the arraignment of... [an individual's] is unique when measured with sufficient resolution; however, the fact that these features are replicated, in the most significant bitemarks, is far more contentious. A recent review of the literature demonstrated that there is little empirical evidence to support this claim. It was therefore interesting to note that the *overwhelming majority* of odontologists, despite these concerns, are quite satisfied that bitemarks demonstrate sufficient detail of the suspect's dentition.

Id. at 1119 (emphasis added).

I. Wrongful Convictions, Forensic Identification Evidence, and Increased Scrutiny of the Non-DNA Forensic Identification Techniques

By 2006, there were nearly 200 post-conviction DNA exonerations. *See* www.innocenceproject.org. While many of these wrongful convictions were attributable to eyewitness misidentification, nearly 60% involved improper or unvalidated forensic science testimony. *See* Brandon L. Garrett & Peter J. Neufeld, *Improper Forensic Science Testimony and Wrongful Convictions* 95 VA. L. REV. 1 (2009); Michael J. Saks & Jonathon J. Koehler, *The Coming Paradigm Shift in Forensic Identification Science*, 309 Sci. 892 (2005); Maurice Possley et al., *Scandal Touches Even Elite Labs: Flawed Work, Resistance to Scrutiny Seen Across U.S.*, CHI. TRIB., Oct. 21, 2004, at 1. Many state and federal courts acknowledged the growing problems associated with the non-DNA forensic identification techniques and the crime laboratories that performed these techniques. For instance, Sixth Circuit Court of Appeals Judge Boyce Martin called crime labs "unreliable." *Moore v. Parker,* 425 F.3d 250, 269 (6th Cir. 2005) (Boyce, J., dissenting). Elsewhere, Federal District Court Judge Jed Rakoff wrote: "False positives – that is, inaccurate incriminating test results – are endemic to much of what passes for 'forensic science.'" *United States v. Bentham*, 414 F. Supp. 2d. 472, 473 (S.D.N.Y. 2006). And Federal District Court Judge Nancy Gertner commented on the disturbing correlation between wrongful convictions and unreliable or invalid forensic science, noting that "recent reexaminations of relatively established forensic testimony have produced striking results." *United States v. Green*, 405 F. Supp. 2d 104, 109 n.6 (D. Mass. 2005). Government officials like the governors of Illinois and Massachusetts also expressed concern about the growing number of wrongful convictions associated with improper or unvalidated forensic science testimony. *See*

Report of the Governor's Council on Capital Punishment, 80 IND. L. J. 1, 23 (2005); REPORT OF THE GOVERNOR'S COMMISSION ON CAPITAL PUNISHMENT 42 (Apr. 2002).

J. Congress Directs the National Academy of Science to Study the Non-DNA Forensic Identification Techniques

Recognizing the "rising nationwide criticism of forensic evidence," *Ramirez v. State*, 810 So.2d 836, 853 (Fla. 2001), and "that significant improvements are needed in forensic science," *NAS Report*, at P-1, Congress directed the National Academy of Science (NAS) "to conduct a study on forensic science." *Id.* at S-1; P.L. No. 109-108, 119 Stat. 2290 (2005); H.R. Rep. No. 109-272, at 121 (2005). In the fall of 2006, the NAS established a committee to implement Congress' directive. The committee included research scientists, attorneys, and forensic practitioners. The committee met publicly on eight occasions between January 2007 and November 2008, hearing testimony on several issues relating to forensic science and the non-DNA forensic identification techniques. Between meetings, committee members reviewed "numerous published materials, studies, and reports related to the forensic science disciplines, engaged in independent research on the subject, and worked on drafts of the final report." *Id.* at S-2. The bite mark community, therefore, had two years to present the NAS Committee with empirical research substantiating bite mark identification's validity and reliability. The NAS Committee issued its final report on February 17, 2009. *See* STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD.[45]

K. The *NAS Report*'s Findings and Conclusions Regarding Bite Mark Identification

NAS Report invalidated the four fundamental premises of bite mark identification when it concluded that: (1) there is no evidence of an existing scientific basis for identifying an individual to the exclusion of all others; (2) no thorough study has been conducted of large populations to establish the uniqueness of bite marks; (3) if a bite mark is compared to a dental cast, and the suspect providing the dental cast cannot be eliminated as a person who could have made the bite mark, there is no established science indicating what percentage of the population or subgroup of the population could also have produced the bite mark; (4) bite mark examiners rarely undergo proficiency testing and the limited proficiency tests reveal a substantial error rate;

[45] The pre-publication copy of the *NAS Report* is attached hereto as Exhibit 13. All cites to the *NAS Report* refer to the pre-publication copy.

and (5) the elasticity of the skin, the unevenness of the surface bite, and swelling and healing severely limit the validity of bite mark identification.[46]

1. The Permanently Unique Assumption

The *NAS Report* debunked the first three assumptions (i.e., uniqueness, permanency, and transferability) when it concluded that:

> No thorough study has been conducted of large populations to establish the uniqueness of bite marks; theoretical studies promoting the uniqueness theory include more teeth than are seen in most bite marks submitted for comparison. There is no central repository of bite marks and patterns.

Id. at 5-36. The *NAS Report* also concluded that:

> Although the methods of collection of bite mark evidence are relatively noncontroversial, there is considerable dispute about the value and reliability of the collected data for interpretation. Some of the key areas of dispute include the accuracy of human skin as a reliable registration material for bite marks, the uniqueness of human dentition, the techniques used for analysis, and the role of examiner bias.

Id. at 5-37. The *NAS Report* added:

> Unfortunately, bite marks on the skin will change over time and can be distorted by the elasticity of the skin, the unevenness of the surface bite, and swelling and healing. These features may severely limit the validity of forensic odontology. Also, some practical difficulties, such as distortions in photographs and changes over time in the dentition of suspects, may limit the accuracy of the results.

Id. at 5-37.

2. Accuracy Assumption

The *NAS Report* invalidated the accuracy assumption when it commented:

> Failure to acknowledge uncertainty in findings is common [in forensic science]: Many examiners claim in testimony that others in their field would come to the exact same conclusions about the evidence they have analyzed. Assertions of a

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[46] The *NAS Report* repeatedly singled-out bite mark identification for its shoddy scientific foundation and its significant error rate. For instance, the *NAS Report* stated: "Much forensic evidence – including, *for example, bite marks*... is introduced in criminal trials without any meaningful scientific validation, determination of error rates, or reliability testing to explain the limits of the discipline." *NAS Report*, at 3-18 (emphasis added). The *NAS Report* also stated: "The fact is that many forensic tests – such as those *used to infer the source of... bite marks* – have never been exposed to stringent scientific scrutiny." *Id.* at 1-6 (emphasis added). Similarly, the *NAS Report* stated that "there are important variations among the disciplines relying on expert interpretation. For example, there are more established protocols and available research for fingerprint analysis *than for the analysis of bite marks*." *Id.* at S-5 and S-6 (emphasis added).

> "100 percent match" contradict findings of proficiency tests that find *substantial rates of erroneous results in some disciplines* (i.e., voice identification, *bite mark analysis*).

Id. at 1-9 and 1-10 (emphasis added). The *NAS Report* also commented on the "high percentage of false positive matches of bite marks using controlled comparison studies." *Id.* at 5-36.

3. Additional Pertinent Findings and Conclusions

a. Bite Marks Cannot Be Individualized

Bite mark experts cannot individualize an unknown bite mark to a known biter to the exclusion of all other biters in the world: "With the exception of nuclear DNA analysis, however, 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."*Id.* at S-5 (emphasis added); *id.* at 5-37 ("Bite mark testimony has been criticized basically on the same grounds as testimony by questioned document examiners and microscopic hair examiners. The committee received *no evidence of an existing scientific basis for identifying an individual to the exclusion of all others.*") (emphasis added); *id.* at 5-37 (noting that while "the majority of odontologists are satisfied that bite marks can demonstrate sufficient detail for positive identification, *no scientific studies support this assessment, and no large population studies have been conducted.*") (emphasis added). The *NAS Report* also added:

> More research is needed to confirm the fundamental basis for the science of bite mark identification. Although forensic odontologists understand the anatomy of teeth and the mechanics of biting and can retrieve sufficient information from bite marks on skin to assist in criminal investigations and provide testimony at criminal trials, *the scientific basis is insufficient to conclude that bite mark comparisons can result in a conclusive match.*

Id. at 5-36 (emphasis added).[47]

Moreover, bite mark experts cannot give an opinion as to the likelihood of a coincidental match because there is no base rate data regarding the characteristics of teeth and bite patterns:

> If a bite mark is compared to a dental cast using the guidelines of the ABFO, and the suspect providing the dental cast cannot be eliminated as a person who could have made the bite, *there is no established science indicating what percentage of the population or subgroup of the population could also have produced the bite.* This follows from the basic problems inherent in bite mark analysis and interpretation.

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[47] The *NAS Report* acknowledged that, "[d]espite the inherent weakness in bite mark comparison, it is reasonable to assume that the process can sometimes reliably exclude suspects." *NAS Report*, at 5-37.

Id. at 5-36 (emphasis added).

b. No Standards for Determining Individuality

There are no empirically validated standards and procedures that allow forensic dentists to associate an unknown bite mark to a known biter to the exclusion of all other biters in the world: "[T]here is still no general agreement among practicing forensic odontologists about national or international standards for comparison." *Id.* at 5-37. Even when guidelines have been developed, "there is no incentive or requirement that these guidelines be used in the criminal justice system." *Id.* at 5-36. Consequently, "there is no science on the reproducibility of the different methods of analysis that lead to conclusions about the probability of a match. This includes reproducibility between experts and with the same expert over time. Even when using the guidelines, different experts provide widely differing results and a high percentage of false positive matches of bite mark using controlled comparison studies." *Id.* at 5-35, 5-36.

c. Contextual Bias Issues

The *NAS Report* also acknowledged that bite mark identification, like all the forensic identification techniques, is very susceptible to context biases:

> As with other "experienced-based" forensic method, forensic odontology suffers from the *potential for large bias among bite mark experts* in evaluating a specific bite mark in cases in which polices agencies provide the suspects for comparison and a limited number of models from which to choose from 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 5-36.

4. Summary of Findings and Conclusions

The *NAS Report* summarized "the basic problems inherent" to bite mark identification:

> (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.
>
> i. The ability to analyze and interpret the scope or extent of distortion of bite mark patterns on human skin has not been demonstrated.
> ii. The effect of distortion on different comparison techniques is not fully understood and therefore has not been quantified.

(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.

Id. at 5-37.

L. Post *NAS Report* Litigation

Since its release in February 2009, there has been significant litigation regarding the *NAS Report's* impact on Kunco's conviction as well as litigation concerning Kunco's post-conviction DNA testing request.

1. Bite Mark Evidence Litigation

a. Kunco's *NAS Report* PCRA Petition

On April 17, 2009, Kunco filed his *Petition for Writ of Habeas Corpus and For Collateral Relief from Criminal Conviction Pursuant to the Post-Conviction Relief Act, 42 Pa. C.S. § 9541 et seq* (*NAS Report Petition*). Kunco filed a *Memorandum of Law* in support of his *Bite Mark Petition* (*NAS Report Memo of Law*). Kunco filed *NAS Report Petition* and *NAS Report Memo of Law* pursuant to 42 Pa. C.S §9545(b)(1)(ii), arguing that the *NAS Report's* findings and conclusions regarding bite mark identification constituted newly-discovered evidence that undermined all confidence in his conviction warranting relief. He also raised several constitutional claims based on the *NAS Report*, including a false evidence claim, a fundamental fairness claim, an unduly suggestive identification claim, an actual innocence claim, a right to an impartial jury claim, and a reasonable doubt claim among others. *See NAS Report Memo of Law*, at 69-95.

b. Commonwealth's Brief in Opposition

On May 26, 2009, the Commonwealth filed its brief in opposition, presenting an assortment of arguments as to why the *NAS Report* did not warrant relief. First, it argued that the *NAS Report* did not constitute newly-discovered evidence. Second, it argued that the *NAS Report* was not applicable to Kunco's case because the NAS Committee did not intend for the *NAS Report* to be used to reverse existing convictions. Third, it argued that the *NAS Report* was inapplicable to Kunco's case because the NAS Committee did not evaluate Drs. Sobel's and David's testimony and work-product in Kunco's case. Fourth, it argued that Kunco could have challenged the validity and reliability of Drs. Sobel's and David's individualization testimony

long before the *NAS Report* was released. Fifth, it argued that the *NAS Report* constituted inadmissible hearsay.

c. Kunco's Reply Brief

On August 26, 2009, Kunco filed his *Reply Brief*. He first argued that the *NAS Report* constituted newly-discovered evidence pursuant to *Commonwealth v. Fisher*, 870 A.2d 864 (Pa. 2005). Second, he argued that the NAS Committee expressed no intention, one way or another, as to whether its findings and conclusions could or should be used to collaterally attack a conviction. Third, he argued that the *NAS Report's* findings and conclusions are directly applicable to Drs. Sobel's and David's individualization testimony – even if the NAS Committee did not specifically examine their testimony and work-product in Kunco's case. Fourth, he argued he could not have raised his current claims any earlier than February 19, 2009 because he did not have the requisite facts to successfully challenge the generally accepted notion that an unknown bite mark can be individualized to a known biter to the exclusion of all other biters in the world. Fifth, he argued that the Pennsylvania Supreme Court and this Court have applied the substantive findings of various NAS and NCR reports and have construed each report for the truth of the matter asserted.

d. Kunco's Bite Mark Experts' Affidavits

Kunco retained three well-credentialed and respected bite mark experts: (1) Dr. C. Michael Bowers; (2) Dr. Iain Pretty; and (3) Dr. David C. Averill. All three signed separate affidavits opining that the *NAS Report* invalidated Drs. Sobel's and David's individualization testimony. *See* Ex. 14, at 14; Ex. 15, at 13; Ex. 16, at 13. They also acknowledged that the *NAS Report* represented a "seismic shift" in the scientific community, where the minority view became the majority – and generally accepted – view. For instance, Dr. Bowers averred the following:

> At the time of Mr. Kunco's trial in 1991 and well before his trial, the bite mark and forensic science community firmly believed that adequately trained forensic dentists could accurately individualize a known bite pattern to an unknown bite mark. The bite mark community held firm to this belief well into the new millennium. Thus, in 1998, when Mr. Kunco received his last state post-conviction evidentiary hearing, the overwhelming majority of the bite mark community still firmly believed that trained forensic dentists could individualize a known bite pattern to an unknown bite mark. On the other hand, a growing segment of the bite mark community during this period began questioning the *techniques* used by forensic dentists to document or expose apparent or latent bite

marks. Thus, much of the litigation and controversy during this period focused on these *techniques*, rather than the underlying issue of whether forensic dentists could actually individualize bite marks. For instance, just as Mr. Kunco did in his previous state post-conviction petitions, several prisoners attacked the UV-lighting technique made famous by the now discredited Dr. Michael West. Again, these attacks focused on the *technique* used to expose latent bite marks and not on the underlying individualization issue. This is understandable because, at the time, there was little dissent regarding the belief that trained forensic dentists could individualize a known bite pattern and an unknown bite mark.

The prevailing view of bite mark identification slowly started to change during the earlier part of this decade when DNA testing began to expose bite mark identification's unreliability. During this period, there were several cases where forensic dentists linked a bite mark to a particular suspect, but subsequent DNA testing conclusively proved that the suspect could not be the assailant. In light of these misidentifications, a *small minority* of the bite mark community (myself included) set out to re-evaluate whether there is adequate empirical data to support bite mark identification's four fundamental premises: (1) uniqueness; (2) permanency; (3) transferability; and (4) accuracy.

The initial research suggested that *none* of these premises were adequately supported by legitimate, impartial, empirical research. More specifically, the research concluded what the NAS Report concluded: the dearth of empirical, peer-reviewed research in this area prevents forensic dentists from individualizing a known bite pattern to an unknown bite mark or opining as to the likelihood of a coincidental match. Regrettably, though, because the research represented a *small minority* of the bite mark community, the bite mark community and courts dismissed the research or gave it little weight and credibility.

Over the last decade, however, the mainstream scientific opinion regarding bite mark identification has slowly changed thanks in part to more research and to numerous additional DNA and non-DNA exonerations involving misidentified bite mark identifications.

The NAS Report's conclusions and findings, however, finally validated what this *small minority* of forensic dentists (myself included) have been preaching for nearly a decade now: given the current state of research in the forensic science and bite mark communities, there is no scientific basis on which forensic dentists can claim that they can individualize a known bite pattern to an unknown bite mark.

Ex. 14, at 11-13.[48]

[48] Drs. Averill and Pretty made similar assertions in their affidavits as well. *See* Exs. 15, at 10-13; 16, at 10-13.

2. Post-Conviction DNA Testing Litigation

On January 30, 2009, Judge Hathaway entered a *Stipulated Order for Post-Conviction DNA Testing Pursuant* to 42 Pa. C.S. § 9543.1 (*DNA Order*). *See* Ex. 23. Pursuant to the *DNA Order*, the Commonwealth forwarded two items of evidence to Orchid Cellmark Laboratories (Cellmark) in Dallas, Texas: (1) the lamp cord the assailant used to shock Seaman's vaginal area; and (2) Seaman's girdle. Cellmark did not detect male DNA (or biological fluid) on Seaman's girdle. DNA tests on the lamp cord, however, produced a partial, mixed DNA profile, including at least one unknown male. *See* Ex. 19. On June 8, 2009, the Innocence Project collected Kunco's DNA sample at SCI-Fayette and forwarded it to Cellmark. On June 30, 2009, Cellmark issued a report excluding Kunco as a contributor of the lamp cord mixture. *See* Ex. 20.

Pursuant to 42 Pa. C.S. § 9543.1(f)(1), after "the DNA testing conducted under this section has been completed, the applicant may, pursuant to section 9545(b)(2) (relating to jurisdiction and proceedings), during the 60-day period beginning on the date on which the applicant is notified of the test results, petition to the court for postconviction relief pursuant to section 9543(a)(2)(vi) (relating to eligibility for relief)." As a result, Kunco filed his *Supplemental Petition for Post-Conviction Relief Based Upon Additional Newly Discovered DNA Evidence Pursuant to 42 Pa. C.S. § 9543.1 et seq. and Writ of Habeas Corpus* (*Supplemental PCRA Petition*) on August 26, 2009, alleging that the newly-discovered exculpatory DNA results bolstered his claims presented in his *Bite Mark Petition* and *Bite Mark Memo of Law*. Kunco argued that the cumulative impact of the newly-discovered exculpatory DNA results and the *NAS Report* entitled him to a new trial because the evidence is of such a nature and character that a different verdict would likely result if he were granted a new trial.

3. The October 22, 2009 Hearing

Judge Hathaway held a hearing on October 22, 2009. Both parties argued the claims and facts presented in their respective pleadings (as discussed above). The transcripts of the hearing are attached as Exhibit 21. At the end of the hearing, Judge Hathaway did not rule on Kunco's petitions, granting both parties an opportunity to file post-hearing briefs before she issued a ruling. The Commonwealth filed its post-hearing brief on December 26, 2000, while Kunco filed his brief on January 29, 2010.

4. Judge Hathaway's October 28, 2010 Opinion

Judge Hathaway issued her opinion with respect to the *NAS Report* on October 28, 2010 – more than a year after the October 22, 2009 hearing. Her opinion is attached as Exhibit 1.[49] Judge Hathaway denied relief for two reasons.

First, according to Judge Hathaway's review of the *NAS Report* and the affidavits of Drs. Bowers, Pretty, and Averill, the *NAS Report* did not invalidate Drs. Sobel's and David's individualization testimony and its findings and holdings did not constitute the generally accepted view of the scientific community. *See* Ex. 1, at 15 ("The Report does not... conclude that the use of bite mark analysis and comparison has lost general acceptance in the scientific community of forensic odontology."); *id.* at 16 ("Therefore, the NAS Report... does not necessarily suggest that which the defendant herein alleges.").

Second, Judge Hathaway held that Kunco's current claims attacking Drs. Sobel's and David's individualization testimony were untimely pursuant to 42 Pa. C.S. § 9545(b)(1)(ii). According to Judge Hathaway, because Drs. Bowers and Pretty had "been preaching on this subject for nearly a decade," *id.* at 17, and because the *NAS Report* cited their publications that pre-dated the *NAS Report* by at least five years, *see id.* at 17-18, Kunco had the necessary facts to challenge Drs. Sobel's and David's individualization testimony as far back as 2001. *See id.* at 19 n.14 ("[A] review of the NAS report strongly suggests that the information has been available to the defendant since at least 2001."). For instance, Judge Hathaway wrote:

> It appears... that while the NAS Report itself was certainly not available to the defendant until February 2009, much of the information upon which the committee relied in drafting the NAS Report was available long before the release of the NAS Report, and could have been discovered by the defendant (or his counsel) through the use of due diligence.

Id. at 18. Judge Hathaway concluded by holding:

> Based upon the public information available and the contents of the NAS Report itself, this court determines that the information regarding studies indicating the lack of reliability of bitemark comparison insofar as they purport to identity a particular perpetrator to the exclusion of any other individuals was information

[49] Judge Hathaway's October 28, 2010 opinion deals strictly with the *NAS Report* issues – and not the DNA issues. In her opinion, Judge Hathaway said she would issue another opinion regarding the newly-discovered DNA evidence claims. *See* Ex. 1, at 1 n.1. Neither Kunco nor the Commonwealth requested two separate opinions – so Kunco is unsure why Judge Hathaway took the unusual – and complicated – path of issuing two separate opinions. Moreover, Kunco premised his constitutional claims on the collective impact of the *NAS Report* and the DNA results.

> that was available to the defendant long before the filing of [Kunco's] Writ of Habeas Corpus/PCRA in April 2009.

Id. at 19.

On November 5, 2010 Kunco filed a timely notice of appeal to this Court.

5. Judge Hathaway's December 27, 2010 Opinion

On December 27, 2010, Judge Hathaway entered her opinion denying relief with respect to the exculpatory DNA results. Her opinion is attached as Exhibit 2. Judge Hathaway denied relief because she found the evidence against Kunco to be sufficiently "compelling" to sustain his conviction:

> Even had the Commonwealth not presented any bitemark evidence in this case, the evidence against the defendant was compelling. The victim's identification of the defendant was solid and the defendant's alibi defense lacked a scintilla of credibility. The record in this case clearly establishes that, even if the defendant were granted a new trial, allowed to present the DNA evidence (or lack thereof), and even successfully lobbied against the introduction of the bitemark analysis testimony that was present in the defendant's trial, the outcome of the case would be no different. For this reason, the defendant has not carried his burden regarding after-discovered evidence, and he is not entitled to relief under the PCRA.

Ex. 2, at 18.

Kunco filed a timely notice of appeal with this Court on January 25, 2011.

VII. Arguments

According to 42 Pa. C.S §9545(b)(1), PCRA petitions must be filed within one year of the date the judgment becomes final. If a PCRA petition is untimely, a PCRA court has no jurisdiction over the petition. *See Commonwealth v. Murray*, 753 A.2d 201, 202-03 (Pa. 2000). The PCRA statute, however, provides exceptions to the one-year filing deadline. Section 9545(b) states:

(b) Time for Filing a Petition.

(1) Any petition under this subchapter, including a second or subsequent petition shall be filed within one year of the date the judgment becomes final, unless the petitioner proves that

(i) the failure to raise the claim previously was the result of interference by government officials with the presentation of the claim in violation of the constitutional laws of the Commonwealth or the Constitutional laws of the United States; or

(ii) the facts upon which the claim is predicated or known to the petitioner could not have been ascertained by the exercise of due diligence...

(2) Any petition invoking an exception provided in (1) shall be filed within *sixty (60) days of the date the claim could have been presented.*

(3) For purposes of this subchapter, a judgment is final at the conclusion of direct review, including discretionary review in the Supreme Court of the United States and the Supreme Court of Pennsylvania or the expiration of time for seeking the review.

The "exceptions are triggered by an event that occurs outside the control of the petitioner." *Commonwealth v. Bennett*, 930 A.2d 1264, 1267 (Pa. 2007). It is the petitioner's burden to allege and prove that one of the timeliness exceptions applies. *See Commonwealth v. Beasley*, 741 A.2d 1258, 1261 (Pa. 1999).

Kunco's current petition[50] is timely because the facts supporting his new constitutional claims are premised *entirely* on the *NAS Report* and the exculpatory DNA evidence – neither of which could have been uncovered prior to February 17, 2009 (*NAS Report*), or June 29, 2009 (DNA results). His current PCRA petition, therefore, falls squarely within the parameters of 42 Pa. C.S. § 9545(b)(1)(ii).

The primary issues for the Court are (1) whether Kunco could have raised his bite mark individualization claims earlier than February 17, 2009, and (2) if he could not have raised these claims sooner, and they are in fact timely under 42 Pa. C.S. § 9545(b)(1)(ii), whether the collective impact of the *NAS Report's* findings and conclusions and the exculpatory DNA evidence are of such a nature and character that a different verdict would likely result if a new trial is granted. *See Commonwealth v. D'Amato*, 856 A.2d 806, 823 (Pa. 2004).

Kunco could not have raised his new bite mark claims any sooner than February 19, 2009, and the collective impact of the *NAS Report* and the exculpatory DNA results eliminates all confidence in his conviction warranting relief.

A. Pronouncements by the NAS and the National Research Council Constitute the Generally Accepted View of the Scientific Community

Judge Hathaway held that the *NAS Report* did not constitute the generally accepted view of the scientific community. *See* Ex. 1, at 15-16. Nothing could be further from the truth. As the American Academy of Forensic Science acknowledged shortly after the release of the *NAS*

[50] For purposes of clarity – when Kunco refers to his "PCRA petition" he is referring to his *Bite Mark Petition* relating to the *NAS Report* filed on April 17, 2009 as well as his *Supplemental PCRA Petition* relating to the DNA evidence filed on August 26, 2009.

Report, the NAS represents "the most prestigious scientific organization in the United States."[51] State and federal courts, therefore, routinely give great deference to the findings and recommendations presented in *NAS* or National Research Council (*NRC*) *Reports*.[52] In fact, courts quite often defer to these recommendations when deciding legal questions regarding the admissibility or impact of forensic evidence. As one court wrote: "[E]ndorsement by the NRC of [a particular finding of fact] is *strong evidence of general acceptance within the relevant scientific community*." *State v. Johnson*, 922 P.2d 294, 335 (Ariz. 1996) (emphasis added). Another court wrote: "The courts have almost uniformly followed the recommendations of the National Research Council." *State v. Tester*, 968 A.2d 895, 906 (Vt. 2009). The Pennsylvania Supreme Court even acknowledged that "courts have traditionally deferred to pronouncements from the National Academy of Sciences." *Commonwealth v. Blasioli*, 713 A.2d 1117, 1119 n.3 (Pa. 1998) (citation omitted).[53] Four excellent examples are the two NRC reports pertaining to DNA testing, *see* NAT'L RESEARCH COUNCIL, DNA TECHNOLOGY IN FORENSIC SCIENCE (1992), NAT'L RESEARCH COUNCIL, THE EVALUATION OF FORENSIC DNA EVIDENCE (1996), the NRC report regarding comparative bullet lead analysis (CBLA) evidence, *see* NAT'L RESEARCH COUNCIL, FORENSIC ANALYSIS: WEIGHING BULLET LEAD EVIDENCE (2004) (*CBLA Report*), and the NRC report regarding firearms identification and ballistics imaging. *See* NAT'L RESEARCH COUNCIL, BALLISTICS IMAGING (2008).

1. *NRC I*

When the NRC formed the Committee on DNA Technology in Forensic Science to study the use of DNA testing for forensic purposes, resulting in the publication of NAT'L RESEARCH COUNCIL, DNA TECHNOLOGY IN FORENSIC SCIENCE (1992) (*NRC I*), several courts, including Pennsylvania courts, referred to the *NRC I* as the authoritative statement on DNA technology. Indeed, one court wrote:

> The [*NRC I*] is a distinguished cross section of the scientific community. . . Thus, that committee's conclusion regarding the reliability of forensic DNA typing, specifically RFLP analysis, and the proffer of a conservative method for

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[51] This is a direct quote from the President of the American Academy of Forensic Science (AAFS), Thomas L. Bohan. Bohan made this comment in a March 15, 2009 email to all the AAFS members. The original email, which was attached to Kunco's PCRA petition filed on April 17, 2009, is attached hereto as Exhibit 24.

[52] The "NRC is a private, nonprofit society of distinguished scholars that is administered by the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine." *Commonwealth v. Blasioli*, 713 A.2d at 1119 n.3.

[53] The Commonwealth should be familiar with *Blasioli* because Wayne Gongaware – the prosecutor currently litigating the case for the Commonwealth – litigated that case before the Pennsylvania Supreme Court.

> calculating probability estimates can easily be *equated with general acceptance* of those methodologies in the relevant scientific community.

United States v. Porter, 618 A.2d 629, 643 n. 26 (D.C. App. 1992) (emphasis added). Another court wrote: "We, too, believe that endorsement by the NRC of the modified ceiling method is *strong evidence of general acceptance* within the relevant scientific community." *State v. Johnson*, 922 P.2d at 335 (emphasis added); *accord State v. Cauthron*, 846 P.2d 502, 517 (Wash. 1993) (*NRC I's* adoption of ceiling method for calculating population statistics "indicates sufficient acceptance within the scientific community" for general acceptance purposes).

2. *NRC II*

The same reaction occurred when the NRC drafted a 1996 follow-up report entitled NAT'L RESEARCH COUNCIL, THE EVALUATION OF FORENSIC DNA EVIDENCE (1996) (*NRC II*). Courts across the country, including Pennsylvania courts, viewed the *NRC II* as the preeminent publication on DNA evidence, and relied on it to make pre-trial and post-conviction rulings regarding the admissibility and impact of DNA evidence. *See United States v. Davis*, 602 F.Supp.2d 658, 663 n.4 (D. Md. 2009) (noting that the *NRC 1996 Report* "is widely regarded as one of the definitive publications on the use of DNA evidence in the field of forensics."); *Huff v. Davis*, 2007 WL 313576 at *8 (E.D. Mich., Jan. 30, 2007) ("The courts have routinely found that statistical analyses performed pursuant to the standards set forth in *NRC II* are *reliable and generally accepted*, both as to probability statistics, and likelihood rations.") (emphasis added); *Coy II v. Renico*, 414 F.Supp.2d 744, 762 (E.D. Mich. 2006) ("The courts have routinely found that statistical analyses performed pursuant to the standards set forth in [the *NRC II*] *are reliable and generally accepted*, both as to probability statistics, and likelihood rations.") (emphasis added); *Commonwealth v. Gaynor*, 820 N.E.2d 233, 265 (Mass. 2005) ("We have treated the reports of the NRC as authoritative works for purposes of determining generally accepted standards within the scientific community for (a) the validity of the underlying scientific theory, or (b) the reliability of the underlying process for developing forensic DNA evidence."); *United States v. Trala*, 162 F.Supp.2d 336, 339 n.1 (D. Del. 2001) ("Both the government and the defendant agree that the *NRC II* is widely regarded as one of the definitive publications on the use of DNA evidence in the field of forensics."); *Lemour v. State*, 802 So.2d 402, 405 (Fla. 2001) ("Many courts have held that PCR analysis using STRs is a scientifically valid and reliable forensic technique *and is generally accepted* in the scientific community. In reaching this

conclusion, courts rely on relevant scientific and forensic literature including The National Research Council's report, THE EVALUATION OF FORENSIC DNA EVIDENCE.") (emphasis added).

In *Commonwealth v. Blasioli*, 713 A.2d 1117 (Pa. 1998), the Pennsylvania Supreme Court considered the issue of "whether evidence of statistical probabilities calculated using the product rule is admissible... to assist the trier of fact in assessing the probative significance of a [DNA] match." *Id.* at 1118. To answer this question, the court relied on the *NRC II's* findings and recommendations regarding the product rule and emphasized that "courts have traditionally deferred to pronouncements from the National Academy of Sciences," *id.* at 1119 n.3 (citing Rorie Sherman, *DNA Unraveling*, NAT'L L.J. Feb. 1, 1993, at 1), and that the NRC "has generated several primary sources cited almost universally in judicial decisions assessing DNA forensic analysis and the associated statistics." *Id.*

In holding that the product rule was generally accepted and admissible, the court relied primarily on the *NRC II's* findings and recommendations:

> The 1996 NRC Report reaffirmed the conclusion of the 1992 report that properly conducted DNA tests produce highly reliable results, and that DNA analysis, including the application of [product rule], is generally accepted in relevant scientific communities.

Id. at 1126. The court added that a "majority of jurisdictions have acknowledged... the 1996 NRC report... and have concluded that the controversy over the use of the product rule has been sufficiently resolved." *Id.* The court closed by saying: "[I]t is clear from the scientific commentary, the clear weight of judicial authority, and the evidence in this case that the product rule has gained general acceptance across the disciplines of population genetics, human genetics and population demographics." *Id.* at 1127.

3. ***CBLA Report***

Courts have also deferred to the *CBLA Report's* findings and recommendations. For instance, in *Ragland v. Commonwealth*, 191 S.W.3d 569 (Ky. 2006), the Kentucky Supreme Court held that the trial judge abused his discretion by admitting CBLA evidence. The critical factor in the court's analysis was the *CBLA Report*'s finding that "the conclusions drawn from CBLA do not meet the scientific reliability requirements of *Daubert/Kumho*." *Id.* at 578. The court also emphasized that the *CBLA Report* "made findings that seriously challenge the relevancy of CBLA evidence," *id.* at 579, and that the FBI discontinued its use of CBLA in September 2005. *See id.* ("Following a fourteen-month review of the findings and

recommendations of the NRC, the FBI Laboratory announced on September 1, 2005, that it would no longer conduct CBLA tests."). The court stated:

> The trial court erroneously confined its *Daubert* analysis to the ICP methodology of CBLA and failed to consider the scientific reliability of the conclusions drawn by Lundy *ipse dixit* from the CBLA results. However, there is no need to remand for a new *Daubert* hearing. The [*CBLA Report*], itself, raised questions about the reliability and relevancy of CBLA that were sufficiently serious to convince the [FBI] Laboratory to discontinue forthwith CBLA testing. If the FBI Laboratory that produced the CBLA evidence now considers such evidence to be of insufficient reliability to justify continuing to produce it, a finding by the trial court that the evidence is both scientifically reliable and relevant would be clearly erroneous and a finding that the evidence would be helpful to the jury would be an abuse of discretion.

Id. at 180.

4. *NAS Report*

A Pennsylvania PCRA court has already held that the *NAS Report's* findings and conclusions constitutes newly-discovered evidence pursuant to § 9545(b)(1)(ii). In *Commonwealth v. Edmiston*, Cambria County, Case No. 1025-88 (Cambria County Ct. Common Pleas), petitioner filed a newly-discovered evidence PCRA petition in light of the *NAS Report*, challenging the Commonwealth's hair evidence. After a August 2009 hearing, the PCRA court issued an opinion in December 2009,[54] holding that "the [NAS] Committee's more intensive investigations of the twelve specific areas contained in Part 5 of the [*NAS*] Report constitute new information for purposes of the [newly-discovered] exception." Ex. 22, at 34. The PCRA court added: "Applying the direction of the majority opinion in [*Commonwealth v. Fisher*, 870 A.2d 864 (Pa. 2005)], we conclude that the information relating to hair analysis contained in the Report constitutes new facts which only became available to Petitioner upon publication in February, 2009." *Id.* Consequently, because petitioner timely filed his petition within sixty days after the *NAS Report* was published, the PCRA court entered the following Order:

> Having concluded that the part of the Report entitled "Strengthening Forensic Science in the United States: A Path Forward ("Report") authored by the Forensic Science Committee of the National Academy of Sciences, related to hair analysis, qualifies as new information under the timeliness exception contained in 42 Pa. C.S.A. § 9545(b)(1)(ii), it is ORDERED that argument will be scheduled on the effect of our conclusion on the request for relief contained in [the] Supplemental Petition for Post-Conviction Relief Based Upon Newly Discovered Evidence insofar as based on that part of the Report related to hair analysis.

[54] A copy of the *Edmiston* opinion is attached hereto as Exhibit 22.

Id. at 36.

The U.S. Supreme Court relied on the *NAS Report* when it invalidated the conviction in *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527 (2009). *Melendez-Diaz* concerned whether the Sixth Amendment's confrontation right required prosecutors to produce forensic examiners and lab analysts at trial in lieu of submitting their laboratory reports. In holding that the Sixth Amendment requires prosecutors to produce forensic examiners and lab analysts, Justice Scalia identified several issues supporting the Court's holding, including examiner incompetence and the likelihood that lab analysts might manipulate or fabricate their results. *See id.* at 2537 ("Confrontation is designed to weed out not only the fraudulent analyst, but the incompetent one as well.").

As Justice Scalia noted: "Forensic evidence is not uniquely immune from the risk of manipulation." *Id.* at 2536. Justice Scalia referenced the *NAS Report* to support the Court's claim that the risk of manipulation is a very real problem, especially for forensic personnel working in laboratories annexed with a law enforcement agency:

> According to a recent study conducted under the auspices of the National Academy of Sciences, "[t]he majority of [laboratories producing forensic evidence] are administered by law enforcement agencies, such as police departments, where the laboratory administrator reports to the head of the agency." NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 6-1 (Prepublication Copy Feb. 2009)... And "[b]ecause forensic scientists often are driven in their work by a need to answer a particular question related to the issues of a particular case, they sometimes face pressure to sacrifice appropriate methodology for the sake of expediency." *Id.*, at S-17. A forensic analyst responding to a request from a law enforcement official may feel pressure – or have an incentive – to alter the evidence in a manner favorable to the prosecution.

Id. at 2536.

Justice Scalia also acknowledged that confrontation can expose incompetent lab analysts: "Serious deficiencies have been found in the forensic evidence used in criminal trials... [t]he legal community now concedes, with varying degrees of urgency, that our system produces erroneous convictions based on discredited forensics." *Id.* at 2537 (internal quotations and citation omitted). To hammer home this point, Justice Scalia once again referenced to the *NAS Report*:

> *"The forensic science system, encompassing both research and practice, has serious problems that can only be addressed by a national commitment to overhaul the current structure that supports the forensic science community in this country."*

Id. at 2537 (citing *NAS Report*, at P-1) (emphasis in pre-publication *NAS Report*).

Other courts have also relied on the *NAS Report* to make pre-trial admissibility rulings. For instance, a New Mexico federal court prohibited the Government's firearms expert from testifying "that there is a match to the exclusion, either practical or absolute, of all other guns," *United States v. Taylor*, 2009 WL 3347485 at *9 (D.N.M., Oct. 9, 2009), due to the *NAS Report's* findings and conclusions regarding firearms identification.

In another firearms case, a Maryland federal court found the *NAS Report* and *Ballistic Imaging* report "to be particularly credible in evaluating the scientific status, *vel non*, of firearms. . . identification methodology[.]" *United States v. Mouzone*, 2009 WL 3617748 at *15 (D. Md., Oct. 29, 2009). The court stated that "the latest scientific *consensus* [regarding firearms identification] is. . . expressed in the NRC Forensic Science Report." *Id.* at * 17 (emphasis added). With respect to the *NAS Report*, the court said:

> Nor have the courts been the only institution to acknowledge the growing concern regarding the reliability of long-accepted forensic methodology. In 2006, pursuant to a Congressional mandate, the National Academy of Sciences established a committee "'to conduct a study on forensic science,' " NRC Forensic Science Report, *supra*, at 2 (quoting P.L. No. 109-08, 119 Stat. 2290 (2005)), and the resulting report, published in 2009, heightens these concerns. The committee was charged with, *inter alia*, "'disseminat[ing] best practices and guidelines concerning the collection and analysis of forensic evidence to help ensure quality and consistency in the use of forensic technologies and techniques to solve crimes, investigate deaths, and protect the public.' " *Id.* (quoting S.Rep. No. 109-88, at 46 (2005)). It specifically addressed firearms examination, toolmarks, and "the use of forensic evidence in criminal. . . litigation," including "the manner in which forensic practitioners testify in court"; "cases involving the misinterpretation of forensic evidence"; and "judges' handling of forensic evidence."

Id. at 15. The court added:

> According to the NRC Forensic Science Report, other than 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.*" *Id.* at 8. The NRC Forensic Science Report pointed out that toolmark identification tests "have never

been exposed to stringent scientific scrutiny." *Id.* at 42. The Report noted that it is "challenging" for an examiner to determine "the extent of agreement in marks made by different tools, and the extent of variation in marks made by the same tool." *Id.* at 153. Moreover, it said that "these decisions involve subjective qualitative judgments by examiners," and "the accuracy of examiners' assessments is highly dependent on their skill and training," gained through "past casework" and/or "extensive training programs using known samples." *Id.* It emphasized that "the final determination of a match is always done through direct physical comparison of the evidence by a firearms examiner, not the computer analysis of images," and the examiner makes "a subjective decision based on unarticulated standards and no statistical foundation for estimation of error rates." *Id.* at 153-54.

Id. at *16 (emphasis added). The court also focused on the 2008 *Ballistic Imaging* report:

> The NRC's earlier report, the NRC Ballistic Imaging Report, identified similar concerns. The National Research Council assembled a committee to deter-mine whether a national ballistics database was feasible, and if so, whether it would be accurate and what its technical capabilities would be. NRC Ballistic Imaging Report, *supra*, at 1-2. Characterizing firearm toolmark identification as "part science and part art form," *id.* at 55, the committee found that "[t]*he validity of the fundamental assumptions of uniqueness and reproducibility of firearms-related toolmarks has not yet been fully demonstrated*," id. at 3. While explaining that it was "stopping short of commenting on whether firearm toolmark evidence should be admissible," the committee said: "Conclusions drawn in firearms identification should not be made to imply the presence of a firm statistical basis when none has been demonstrated." *Id.* at 82. Further, it stated that "*additional general research on the uniqueness and reproducibility of firearms-related toolmarks would have to be done if the basic premises of firearms identifications are to be put on a more solid scientific footing.*" *Id.* The committee concluded that a national ballistics database "of all new and imported guns is not advisable at this time." *Id.* at 5.

Id. at *16.

Based on the concerns and criticisms identified in the *NAS Report* and *Ballistics Imaging* report, the federal court prohibited the Government's firearms expert from opining that it is a "'practical impossibility' for any other firearm to have fired the cartridges other than the common 'unknown firearm' to which Sgt. Ensor attributes the cartridges." *Id.* at *24. It concluded by urging courts to give great deference to the findings and conclusions of the *NAS Report* and *Ballistics Imaging* report: "Suffice it to say that the concerns expressed by the *NRC* [and *NAS Report*] ought to be heeded by courts in the future regarding the limits of toolmark identification evidence, and courts should guard against complacency in admitting it just because, to date, no federal court has failed to do so." *Id.* at *19.

5. Application: The *NAS Report's* Findings and Conclusions Regarding Bite Mark Identification Represent the Generally Accepted View of the Scientific Community

In light of the aforementioned precedent, especially *Blasioli*, Judge Hathaway erred when she held that the *NAS Report's* findings and conclusions did not constitute the generally accepted view of the scientific community. It is generally accepted, therefore, that an unknown bite mark cannot be individualized to a known biter to the exclusion of all other biters in the world. *See NAS Report*, at S-5, 5-36, 5-37. Moreover, it is generally accepted that bite mark experts cannot opine as to the likelihood of a coincidental match due to the lack of base rate data regarding dental and bite pattern characteristics. *See id.* at 5-36. In short, the following findings and conclusions made by the NAS Committee are generally accepted by the scientific community:

> (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.
>
> i. The ability to analyze and interpret the scope or extent of distortion of bite mark patterns on human skin has not been demonstrated.
>
> ii. The effect of distortion on different comparison techniques is not fully understood and therefore has not been quantified.
>
> (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.

Id. at 5-37.

B. Judge Hathaway Erred by Misidentifying the Appropriate Newly-Discovered Fact

Judge Hathaway held that Kunco could have challenged Drs. Sobel's and David's individualization testimony in 2001 when Drs. Iain Pretty and David Sweet published an article in *Science and Justice* questioning whether the fundamental premises of bite mark identification were adequately supported by empirical research. *See* Ex. 1, at 18 (citing Iain A. Pretty & David Sweet, *The Scientific Basis of Bitemark Analysis – A Critical Review*, 41 SCI. & JUST. 85 (2001)). Judge Hathaway erred.

First, Judge Hathaway confused *facts* with *arguments*. Second, she incorrectly assumed that Drs. Pretty's, Sweet's, and Bowers's opinions would have been admissible prior to the *NAS Report's* publication in February 2009. Third, assuming *arguendo* the *NAS Report* does not

constitute the generally accepted view of the scientific community, the *NAS Report* still exposed the emergence of a legitimate and significant dispute within the scientific community as to whether trained forensic dentists can accurately individualize an unknown bite mark to a known biter. The emergence of a legitimate and significant dispute represents a newly-discovered fact. Fourth, if the *NAS Report* does not constitute newly-discovered facts, the Commonwealth had a constitutional duty to correct any materially false or invalid testimony presented at Kunco's trial that may have affected the jury's decision to convict Kunco.

1. The Newly-Discovered Fact is that the Scientific Community Has Found Drs. Sobel's and David's Individualization Testimony Invalid, Not that a Few Bite Mark Experts Criticized the Practice of Individualizing Unknown Bite Marks to Known Biters

Judge Hathaway confused facts with arguments. The fundamental issue under 42 Pa. C.S. § 9545(b)(1)(ii) concerns newly-discovered *facts* – not newly-discovered *arguments*. The newly-discovered *fact* that forms the foundation of Kunco's current constitutional claims is that the scientific community has now concluded – by way of the *NAS Report* – that Drs. Sobel's and David's individualization testimony is invalid and no longer generally accepted. The newly-discovered fact is *not* that a *very small group* of bite mark experts criticized the practice of individualizing an unknown bite mark to a known biter. Kunco, for instance, concedes that he could have *challenged* Drs. Sobel's and David's individualization testimony years ago based on Pretty and Sweet's *Science and Justice* article. His challenge, however, would have proved fruitless because he did not have the requisite *facts* to prove that the scientific community did not generally accept the notion that an unknown bite mark can be individualized to a known biter – to the exclusion of all other biters in the world. Contrary to Judge Hathaway's claim, simply because one, two, or three bite mark experts questioned the validity of individualizing bite marks does not mean that the scientific community reached the same conclusion. In other words, while Drs. Pretty, Sweet, and Bowers may have published several articles questioning the validity of bite mark identification, their views were never endorsed – or generally accepted – by the scientific community.

The NAS, however, is the nation's preeminent scientific organization, and its opinions are the authoritative statement of the scientific community. Consequently, when the NAS concludes that a forensic identification technique is invalid – such as individualizing an unknown bite mark to a known biter -- it becomes a *fact* that this is the scientific community's generally

accepted position. *See Commonwealth v. Gaynor*, 820 N.E.2d at 265 ("We have treated the reports of the NRC as authoritative works for purposes of determining generally accepted standards within the scientific community[.]"); *Commonwealth v. Blasioli*, 713 A.2d at 1119 n.3. And it is this *fact* that forms the foundation for Kunco's constitutional claims – a *fact* not made available until February 19, 2009.

Thus, a petitioner can argue that bite mark identification is invalid until the cows come home, but his *argument* will bear no fruit unless he supports it with legitimate empirical *facts* – produced by qualified scientists – establishing that the scientific community no longer generally accepts the validity of bite mark identification – or the technique used to link an unknown bite mark to a known biter to the exclusion of all other biters in the world. In other words, before a prisoner can mount a successful challenge against a forensic identification technique, there must be a *finding of fact* by the scientific community that that particular forensic identification technique is invalid or unvalidated. Merely relying on the claims, arguments, or criticisms of one, two, or three forensic experts is fundamentally different than relying on *findings of fact* made by the scientific community because it is the new *findings of fact* that triggers 42 Pa. C.S. § 9545(b)(1)(ii)'s newly-discovered evidence exception – not the criticisms of a few forensic experts whose views and opinions fall outside the generally accepted views of the scientific community.

2. Before the *NAS Report's* Publication in February 2009 the Views and Opinions of Iain Pretty, David Sweet, and Michael Bowers Could Not Constitute a New Fact Capable of Triggering 42 Pa. C.S. § 9545(b)(1)(ii)'s Newly-Discovered Evidence Exception Because Their Views and Opinions Were Not Generally Accepted by the Scientific Community

In holding that Kunco could have challenged Drs. Sobel's and David's individualization testimony as far back as 2001, based on the pre-*NAS Report* publications of Iain Pretty, David Sweet, and Michael Bowers, Judge Hathaway *assumed* that the opinions and criticisms of Drs. Pretty, Sweet, and Bowers would have been admissible prior to the *NAS Report's* publication in February 2009. Judge Hathaway's assumption was necessary because inadmissible evidence cannot trigger 42 Pa. C.S. § 9545(b)(1)(ii)'s newly-discovered evidence exception. *See Commonwealth v. Abu-Jamal*, 941 A.2d 1263, 1269-70 (Pa. 2008); *Commonwealth v. Yarris*, 731 A.2d 581, 592 (Pa. 1999). While necessary to deny Kunco relief, her assumption is

incorrect because the pre-*NAS Report* opinions and criticisms of Drs. Sweet, Pretty, and Bowers were not generally accepted by the scientific community and would not have been admissible under Pennsylvania law. *See Commonwealth v. Topa*, 369 A.2d 1277 (Pa.1977).

Had Kunco filed a PCRA petition in 2001 based on Drs. Pretty and Sweet's *Science and Justice* article, or a PCRA petition in 2002 based on Dr. Bowers's bite mark chapter in the SCIENCE IN THE LAW textbook, *see* Ex. 1, at 16-17 (Judge Hathaway referring to C. M. Bowers, *The Scientific Status of Bitemark Comparisons, in* DAVID L. FAIGMAN ET AL., SCIENCE IN THE LAW: FORENSIC SCIENCE ISSUES (2002)), or a PCRA petition in 2008 based on Dr. Pretty's *Dental Update* article, *see* Ex. 1, at 18 n.13 (Judge Hathaway referring to Iain Pretty, *Forensic Dentistry: 2. Bitemarks and Bite Injuries*, 35 DENTAL UPDATE 48 (Jan/Feb 2008)), he would have had the burden of establishing that 42 Pa. C.S. § 9545(b)(1)(ii)'s newly-discovered evidence exception applies. *See Commonwealth v. Beasley,* 741 A.2d at 1261. This exception, however, can only be triggered with admissible evidence. *See Commonwealth v. Abu-Jamal*, 941 A.2d at 1269-70; *Commonwealth v. Yarris*, 731 A.2d at 592. In other words, Kunco would have had to demonstrate that their *novel* opinion – that bite marks *cannot* be individualized – was generally accepted by the scientific community. *See Commonwealth v. Topa*, 369 A.2d at 1281; *Commonwealth v. Puksar*, 951 A.2d 267, 275 (Pa. 2008).

Kunco could not have satisfied this burden in 2001, 2002, 2006, or 2008 because the scientific community had yet to embrace – or generally accept – the notion that an unknown bite mark *cannot* be individualized to a known biter to the exclusion of all other biters in the world. Indeed, Drs. Pretty and Bowers acknowledged in their affidavits that, while their opinions and criticisms of bite mark identification date back to at least 2001, their opinions were not generally accepted by the scientific community until the *NAS Report* was released in February 2009. *See* Ex. 14, at 11-13; Ex. 15, at 11-13.

In 1991 when Kunco was prosecuted and convicted, the scientific community firmly believed that an unknown bite mark could be individualized to a known biter to the exclusion of all other biters in the world.[55] Many courts, for instance, held that the underlying theory of bite

[55] *See Commonwealth v. Thomas*, 561 A.2d 699 (Pa. 1989); *People v. Milone* 356 N.E.2d 1350, 1358 (Ill. App. 1976) ("The concept of identifying a suspect by matching his dentition to a bite mark found at the scene of a crime is a logical extension of the accepted principle that each person's dentition is unique."); *People v. Smith*, 44 N.Y.S.2d 551, 556-57 (Cty. Ct. 1981) ("The basic premise is the unique nature of individual dentition... and the virtually infinite number of individual bite configurations"); *Commonwealth v. Cifizzari*, 492 N.E.2d 357, 360 (Mass. 1986); *State v. Sager*, 600 S.W.2d 541, 564, 569 (Mo. App. 1980) (describing bite mark identification as an

mark identification was so firmly established and generally accepted that it was admissible without a "preliminary determination of reliability[.]" *State v. Richards*, 804 P.2d 109, 112 (Ariz. App. 1990).[56] This firmly-held belief lasted until very recently, *see* Exs. 14-16,[57] until the NAS studied the practices and procedures of bite mark identification for two years and concluded that an unknown bite mark *cannot* be individualized to a known biter to the exclusion of all other biters in the world. Indeed, prior to the *NAS Report*, no court in the United States prohibited bite mark identification on the basis that the scientific community had rejected the individualization notion. Likewise, prior to the *NAS Report* there was no scientific study – generally accepted by the scientific community that invalidated the individualization notion.[58]

The *NAS Report's* findings and conclusions regarding bite mark identification represent the scientific community's *new* generally accepted view of bite mark identification. Consequently, Kunco could not have triggered 42 Pa. C.S. § 9545(b)(1)(ii)'s newly-discovered evidence exception until February 17, 2009.

3. The *NAS Report* Revealed the Emergence of a Legitimate and Significant Dispute in the Scientific Community as to Whether Forensic Dentists Can Individualize an Unknown Bite Mark to a Known Biter

Even if the Court finds that the *NAS Report* does not constitute the generally accepted view of the scientific community, the *NAS Report* still constitutes newly-discovered evidence because it exposed the emergence of a legitimate and significant dispute within the scientific

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"exact science"); *People v. Marsh*, 441 N.W.2d 33, 35 (Mich. App. 1989) ("[T]he science of bite mark analysis has been extensively reviewed in other jurisdiction"); Steven Weigler, *Bite Mark Evidence: Forensic Odontology and the Law*, 2 HEATH MATRIX 303, 312, 322-23 (1992) ("Bite mark evidence has been held admissible in every cited state, federal and military case... [N]o court has found bite mark evidence inadmissible, either using the *Frye* general acceptance test or the alternative relevancy test.").

[56] *See Spence v. State*, 795 S.W.2d 743, 752 (Tex. Crim. App. 1990) ("[W]e find that bite mark evidence has received sufficient general acceptance by recognized experts in the field of forensic odontology that it is unnecessary for us to consider the applicability of the *Frye* test to this cause"); *People v. Middleton*, 429 N.E.2d 100, 104 (N.Y. 1980) ("The reliability of bite mark evidence as a means of identification is sufficiently established in the scientific community to make such evidence admissible in a criminal case, without separately establishing scientific reliability in each case[.]").

[57] *See Verdict v. State*, 868 S.W.2d 443, 447 (Ark. 1993) (no error in admitting bite mark testimony because "evidence on human bite marks is widely accepted by the courts"); *Brooks v. State*, 748 So.2d 736 (Miss. 1999); *Carter v. State*, 766 N.E.2d 377, 280 (Ind. 2002) (admitting bite mark testimony because "defendant does not argue that it has become less reliable" than it was in 1977 when Indiana first admitted bite mark testimony); *State v. Timmendequas*, 737 A.2d 55, 114 (N.J. 1999) (finding bite mark testimony in a capital case reliable because "thirty states considering such evidence have found it admissible"); *State v. Blamer*, No. 00CA07, 2001 WL 109130 (Ohio Ct. App. Feb. 6, 2001) (holding, without analysis, that the challenged bite mark testimony was admissible).

[58] If such a report or reports exist, Kunco requests that the Commonwealth produce these reports and introduce them into the record.

community as to whether trained forensic dentists can accurately individualize an unknown bite mark on human skin to a known biter to the exclusion of all other biters in the world. For instance, the NAS Committee's diverse group of well-credentialed scientists – who had no stake whatsoever in the continued support or validity of bite mark identification – *unanimously* concluded that there was no scientific basis whatsoever for individualizing an unknown bite mark to a known biter to the exclusion of all other biters in the world. *See NAS Report*, at S-5, 5-36, 5-37.[59] Notwithstanding the NAS Committee's undisputed conclusion, "the majority of odontologists are [still] satisfied that bite marks can demonstrate sufficient detail for positive identification." *Id.* at 5-37 ("While the majority of odontologists are satisfied that bite marks can demonstrate sufficient detail for positive identification, *no scientific studies support this assessment, and no large population studies have been conducted.*") (emphasis added). Had the jury been informed of this legitimate and significant dispute, it is reasonably likely the outcome of Kunco's trial would have been different.

A recent case from the Wisconsin Court of Appeals regarding shaken baby syndrome supports Kunco's "emergence of a legitimate and significant dispute" argument. In *State v. Edmunds*, 746 N.W.2d 590 (Wisc. App. 2008), the State charged Edmunds with first-degree reckless homicide following the death of seven-month-old Natalie. At trial, the State presented numerous experts "who testified to a reasonable degree of medical certainty that the cause of Natalie's death was violent shaking or violent shaking combined with impact that caused a fatal head injury." *Id.* at 591. Edmunds presented one expert who "agreed with the State's witnesses that Natalie was violently shaken before her death but who opined that the injury occurred before Natalie was brought to Edmunds's home." *Id.* The State presented a rebuttal expert "who disagreed with the defense expert and who stated that the medical evidence established that Natalie was violently shaken immediately before reacting and could not have had a lucid interval." *Id.* at 592-93.

During post-conviction proceedings, Edmunds filed a post-conviction petition, claiming that newly-discovered scientific evidence warranted a new trial. Her new evidence consisted of two experts' reports that questioned "whether 'shaken baby syndrome' exists." *Id.* at 593. The two experts, however, only represented a *very small fraction* of the medical community. At the

[59] Kunco emphasizes the word *unanimously* because the NAS Committee did not issue a minority report. In other words, no NAS Committee members doubted – or called into question – the Committee's findings and conclusions regarding bite mark identification.

time, the *majority* of the medical community believed that shaken baby syndrome constituted a legitimate syndrome and that with adequate training medical doctors could accurately distinguish between shaken baby and non-shaken baby injuries.

In 2006 Edmunds filed another post-conviction petition, "asserting that there were significant developments in the medical community... in the ten years since her trial that amounted to newly discovered evidence." *Id.* at 593. The post-conviction court held a hearing, and Edmunds presented six experts "who explained that there is now a significant debate in the medical community as to whether Natalie's symptoms were necessarily indicative of shaking or shaking combined with head trauma in infants." *Id.* The experts also explained that "there was not a significant debate about this issue in the mid-1990s and that the opinions offered in Edmunds's first postconviction motion would have been considered minority or fringe medical opinions." *Id.* The State presented four experts, "who testified that the medical evidence available in 1996 was still valid, despite the emergence of a debate about shaking and traumatic head injuries in infants and small children." *Id.* The post-conviction court denied relief and Edmunds appealed.

On appeal, the Wisconsin Court of Appeals reversed and granted Edmunds a new trial, concluding that the emergence of a "significant and legitimate debate" regarding shaken baby syndrome constituted newly-discovered evidence, and that it was reasonably probable that had the jury known of this "significant and legitimate" debate, it would have had reasonable doubts as to Edmonds's guilt. According to the court:

> Edmunds presented evidence that was not discovered until after her conviction, in the form of expert medical testimony, *that 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, whether an infant may suffer head trauma and yet experience a significant lucid interval prior to death, and whether other causes may mimic the symptoms traditionally viewed as indicating shaken baby or shaken impact syndrome.

Id. at 596 (emphasis added). The court added:

> Edmunds could not have been negligent in seeking this evidence, as the 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.*

Id. (emphasis added). The court concluded that:

> [I]t is *the emergence of a legitimate and significant dispute within the medical community as to the cause of [the victim's head] injuries that constitutes newly discovered evidence*. At trial, and on Edmunds's first postconviction motion, there was no such fierce debate. Thus, the State was able to easily overcome Edmunds's argument that she did not cause Natalie's injuries by pointing out that the jury would have to disbelieve the medical experts in order to have a reasonable doubt as to Edmunds's guilt. *Now, a jury would be faced with competing credible medical opinions in determining whether there is a reasonable doubt as to Edmunds's guilt*. Thus, we conclude that the record establishes that there is a reasonable probability that a jury, looking at both the new medical testimony and the old medical testimony, would have a reasonable doubt as to Edmunds's guilt. Accordingly, we reverse and remand for a new trial.

Id. at 599 (emphasis added).

Kunco's newly-discovered evidence argument is analogous to and stronger than petitioner's argument in *Edmunds*. The critical difference between Kunco's newly-discovered evidence argument is that the most prestigious scientific organization in the United States – the National Academy of Science – unanimously concluded that forensic dentists cannot individualize an unknown bite mark on human skin to a known biter to the exclusion of all other biters in the world. This finding, more importantly, sparked a legitimate and significant dispute between the bite mark community and the scientific community. The petitioner in *Edmunds*, on the other hand, merely presented six independent experts who acknowledged that the scientific perspective on shaken baby syndrome had changed dramatically in the ten years since petitioner's conviction.

The NAS's objective and neutral findings of fact carry more weight and authority than the findings and conclusions of six medical experts working on a defendant's behalf. Indeed, unlike the petitioner in *Edmunds*, Kunco did not contact forensic dentists, asking them to testify on his behalf regarding bite mark identification's invalidity. Instead, Congress directed the NAS to study the non-DNA forensic identification fields such as bite mark identification. *See* P.L. No. 109-108, 119 Stat. 2290 (2005); *NAS Report*, at P-1 ("Recognizing that significant improvements are needed in forensic science, Congress directed the National Academy of Science to undertake the study that led to this report."). Thus, the NAS Committee – on its own accord and through its own research – independently concluded that, contrary to the long held belief of many forensic dentists, an unknown bite mark on human skin cannot be individualized to a known biter to the exclusion of all biters in the world.

Consequently, because Kunco's newly-discovered evidence claim is stronger than the petitioner's claim in *Edmunds*, he must be granted a new trial. For instance, at trial and during his initial PCRA proceedings, there "was no such fierce debate," *State v. Edmunds*, 746 N.W.2d at 596, regarding whether forensic dentists can individualize an unknown bite mark to a known biter. Now, however, a "jury would be faced with competing credible [scientific] opinions in determining whether there is a reasonable doubt as to [Kunco's] guilt." *Id.* Moreover, when the newly-discovered evidence of this "legitimate and significant dispute" is coupled with the fact that the only evidence linking Kunco to Seaman's assault is the bite mark, there can be little doubt as to whether the newly-discovered evidence would change the outcome of Kunco's trial. In other words, there is a reasonable likelihood that a jury, hearing both the *NAS Report's* findings and the testimony of Drs. Sobel and David, would have a reasonable doubt as to Kunco's guilt. The exculpatory DNA results from the lamp cord only reinforce this conclusion.

4. If the *NAS Report's* Findings and Conclusions Do Not Constitute New Facts – But Old Facts Readily Available to Kunco and the Commonwealth – the Commonwealth Had a Constitutional Duty to Correct any False or Invalid Evidence Presented at Kunco's Trial When it First Learned of the New Facts

In holding that Kunco could have challenged Drs. Sobel's and David's individualization testimony in 2001, Judge Hathaway determined that the *NAS Report's* findings and conclusions did not constitute "new" facts – but "old" facts that existed as far back as 2001. Assuming this is true – that the scientific community, in 2001, did *not* generally accept the notion that an unknown bite mark can be individualized to a known biter – this scientific finding of fact would have invalidated Drs. Sobel's and David's individualization testimony. Pursuant to *Napue v. Illinois*, 360 U.S. 264 (1959), the Commonwealth had a constitutional duty to correct Drs. Sobel's and David's false or invalid testimony. *See id.* at 269. The Commonwealth had to be aware of this new scientific fact because in its pleadings before Judge Hathaway, and at the October 2009 hearing, it argued that the *NAS Report* did not contain "new" facts – but "old" facts that had been readily available to Kunco prior to the *NAS Report's* publication in February 2009. *See* Exs. 24-25; Ex. 21, at 10, 11. However, despite knowing this "old" fact – one that invalidated Drs. Sobel's and David's individualization testimony – the Commonwealth never informed Judge Hathaway or Kunco that his conviction was premised on evidence that we now know to be invalid. The Commonwealth had a duty to correct Drs. Sobel's and David's false

testimony because it is reasonably likely that their individualization testimony may have affected the jury's decision to convict Kunco. *See Napue v. Illinois*, 360 U.S. at 271; *Giglio v. United States*, 405 U.S. 150, 154 (1972).

C. *Commonwealth v. Fisher* Supports Kunco's Argument that the *NAS Report's* Findings and Conclusions Constitute Newly-Discovered Evidence and that Kunco is Entitled to Relief Because the New Evidence Would Likely Compel a Different Outcome if He is Granted a New Trial

In *Commonwealth v. Fisher*, 870 A.2d 864 (Pa. 2005), the Pennsylvania Supreme Court recently addressed the impact of the NRC report entitled FORENSIC ANALYSIS: WEIGHING BULLET LEAD EVIDENCE (*CBLA Report*). The Pennsylvania Supreme Court unequivocally resolved the question of whether such a report constitutes newly-discovered facts – it does. *See Commonwealth v. Fisher*, 870 A.2d at 870 ("this information only became available to Petition... when it was reported."). The only reason the petitioner in *Fisher* lost was because, unlike *NAS Report's* findings and conclusions, the *CBLA Report* found the forensic technique at issue – comparative bullet lead analysis (CBLA) – "accurate and reliable." Here, on the other hand, the *NAS Report* invalidates – or better yet, destroys – the Commonwealth's bite mark evidence.

The petitioner in *Fisher* was twice convicted of murdering Linda Rowden and thrice sentenced to death.[60] At re-trial, the Commonwealth presented two lay witnesses who testified that they saw petitioner shoot and kill Rowden on July 10, 1980. *See Commonwealth v. Fisher*, 870 A.2d at 865-66. The Commonwealth also presented a witness who testified that petitioner admitted murdering Rowden because she [Rowden] was cooperating with detectives regarding an unsolved murder that petitioner likely committed. *See id.* Lastly, the Commonwealth introduced CBLA evidence through FBI Agent John Riley. *See id. at* 866. Agent Riley compared the bullet fragments recovered from Rowden's body to the bullets recovered from the apartment where petitioner fled to immediately after the murder. He concluded that six of the eight bullets found at the apartment were "analytically indistinguishable" from the fragments retrieved from Rowden's body, while the other two had minor compositional differences. *Id.* Agent Riley opined that "bullets that are analytically indistinguishable or of close compositional association typically come from the same box of ammunition." *Id.* He qualified his finding by

[60] The Pennsylvania Supreme Court overturned petitioner's conviction once and death sentence twice. *See Commonwealth v. Fisher*, 591 A.2d 710 (Pa. 1991); *Commonwealth v. Fisher*, 681 A.2d 130 (Pa. 1996).

saying that these bullets could have also come from another box of ammunition, but that box most likely would have had to be manufactured by Remington Peters and packaged on or about the same date as the box recovered from the apartment where petitioner fled to immediately after the murder. *See id.*

On January 15, 2004, petitioner filed a newly-discovered evidence petition based on the November 2003 *CBLA Report*, arguing that CBLA was "imprecise and flawed." *Id.* at 868. The petitioner "also contended that Agent Riley's CBLA testimony was critical to his conviction and the [*CBLA Report*] refute[d] the underlying theory that bullets from the same batch of lead share a common 'chemical fingerprint.'" *Id.*

The primary issue before the Pennsylvania Supreme Court was whether the *CBLA Report* triggered 42 Pa.C.S. § 9545(b)(1)(ii)'s newly-discovered evidence exception. The *Fisher* court first concluded that the information contained in the *CBLA Report* constituted unknown facts that could not have been ascertained by the exercise of due diligence: "[W]e agree with the PCRA court to the extent that this information only became available to Petitioner in November of 2003 when it was reported[.]" *Id.* at 870. Despite this holding, the *Fisher* court still ruled that petitioner was not entitled to relief for two reasons.

First, the *CBLA Report* did not "provide a basis upon which [petitioner] [could] predicate an untimely claim because the study [did] not support [petitioner's] contention that the methods utilized by Agent Riley (and the FBI in general) were so imprecise and flawed as to render Agent Riley's expert opinion unreliable." *Id.* at 870. The *Fisher* court stated:

> Contrary to [petitioner's] assertions, the National Academies Press article calls the technique the FBI uses for chemical analysis in CBLA cases accurate and reliable. Specifically, the article states that the FBI technique is the best currently available technology for analyzing bullet fragments, while making suggestions for even more precise results. The article concludes that CBLA is a reasonably accurate way of determining whether two bullets came from the same compositionally indistinguishable volume of lead, although it states that the value and reliability of CBLA can be enhanced further if the report's recommendations are implemented.

Id. As the court emphasized, "[t]his language hardly supports [petitioner's] claim that the NAS study establishes that the methods utilized by the FBI in CBLA cases were 'imprecise and flawed.'" *Id.*

Second, petitioner failed to establish that the *CBLA Report's* findings and conclusions "would likely compel a different verdict." *Id.* at 871. The court emphasized that petitioner's "argument that Agent Riley's CBLA testimony was critical to his conviction vastly overstate[d] its importance at trial." *Id.* The court rattled off the mountain of direct evidence implicating petitioner as the assailant who shot and killed Rowden:

> Richard Mayo watched in the car as [petitioner] shot Ms. Rowden twice at close range. Ms. Sambrick, who knew [petitioner] for eleven years, also testified that she watched from the street as Appellant did the shooting. Additionally, Ms. Walker testified that [petitioner] confessed to her that he killed Ms. Rowden, and she provided a compelling motive because [petitioner] complained to Ms. Walker that Ms. Rowden "was running her face to the detectives" about the Anderson murder.

Id. at 871. The court concluded by stating:

> [E]ven if [petitioner] could have completely discredited the CBLA theory, and [petitioner] could have proven that the bullets recovered from the victim's body did not come from the box of ammunition found in Ms. Walker's apartment, it is still uncontroverted that the victim died as a result of two bullet wounds inflicted by [petitioner]. [Petitioner] could have gotten the ammunition from anywhere. Thus, discrediting the Commonwealth's expert witness with new criticism of his scientific technique does not exculpate [petitioner].

Id. at 872.

Fisher supports Kunco's claim that the *NAS Report* triggers 42 Pa. C.S. § 9545(b)(1)(ii)'s newly-discovered evidence exception and that he is entitled to relief based on the *NAS Report's* findings and conclusions.

1. Kunco's Constitutional Claims Are Based on the *NAS Report's* Finding and Conclusion that an Unknown Bite Mark Cannot Be Individualized to a Known Biter to the Exclusion of All Biters in the World

Like the petitioner in *Fisher*, Kunco filed his newly-discovered petition in response to an NAS report. Moreover, neither Kunco nor his attorneys could access the *NAS Report* until the NAS released it on February 17, 2009. Consequently, as the Pennsylvania Supreme Court held in *Fisher*, this Court must conclude that the information contained in the *NAS Report* only became available to Kunco and his attorneys on February 17, 2009 when the NAS released it to the general public. *See Fisher v. Commonwealth*, 870 A.2d at 870; *accord Commonwealth v.*

Kretchmar, 971 A.2d 1249, 1253 (Pa. Super. 2009). Moreover, all of Kunco's constitutional claims are premised on the *NAS Report's* findings and conclusions.

2. The *NAS Report's* Findings and Conclusions Invalidate Drs. Sobel's and David's Individualization Testimony

Unlike the *CBLA Report* in *Fisher*, which described CBLA as "accurate and reliable," *Fisher v. Commonwealth*, 870 A.2d at 870, and a "reasonably accurate [method] of determining whether two bullets came from the same compositionally indistinguishable volume of lead," *id.*, the *NAS Report* repeatedly criticized bite mark identification for its inadequate scientific foundation and significant error rate, concluding that bite mark experts cannot individualize an unknown bite mark in human skin to a known biter, nor can they opine as to the likelihood of a coincidental match because there is no base rate data regarding teeth and dentition characteristics. *See NAS Report*, at S-5, S-6, 1-6, 1-9, 1-10, 3-18, 5-36, 5-37. In other words, and contrary to Judge Hathaway's holding, the *NAS Report's* findings and conclusions invalidate Drs. Sobel's and David's individualization testimony. Drs. Pretty, Bowers, and Averill all agreed that the *NAS Report* invalidated Drs. Sobel's and David's individualization testimony. *See* Ex. 14, at 14; Ex. 15, at 13; Ex. 16, at 13.

Judge Hathaway held that the *NAS Report's* findings and conclusions regarding bite mark identification did not "entirely" invalidate bite mark identification. *See* Ex. 1, at 15.[61] She selectively incorporated statements from Drs. Bowers's, Pretty's, and Averill's affidavits, taking them completely out of context, to support her conclusion that because the *NAS Report* did not "entirely" invalidate bite mark identification – the *NAS Report* could not have invalidated Drs. Sobel's and David's individualization testimony. *See id.* at 16 ("Therefore, the NAS Report... does not necessarily suggest that which the defendant alleges herein.'). Judge Hathaway's reasoning and holding miss the boat entirely.

[61] The NAS Committee made only one comment that could remotely be interpreted as being favorable to bite mark identification. That comment was on page 5-37, wherein the NAS Committee acknowledged that the "majority of forensic odontologists" still believe "positive identification" is possible. This acknowledgement, however, must be placed in the proper context. Here is the entire passage: "While the majority of odontologists are satisfied that bite marks can demonstrate sufficient detail for positive identification, *no scientific studies support this assessment, and no large population studies have been conducted.*" (emphasis added). When analyzed in this context, it is clear why the NAS Committee referenced the "majority of odontologists." It did so to emphasize the absurdity – or unreasonableness – of the forensic odontology community's continued support for, and belief in, positive identification (or individualization) even when there is no scientific basis for positive identification.

Kunco concedes that the *NAS Report* did not completely invalidate bite mark identification. As the *NAS Report* acknowledged, "[d]espite the inherent weaknesses involved in bite mark comparison, it is reasonable to assume that the process can sometimes *reliably exclude* suspects." *NAS Report*, at 5-37 (emphasis added).[62] While the *NAS Report* may not have entirely invalidated bite mark identification, it surely invalidated the four fundamental premises underlying Drs. Sobel's and David's individualization testimony: (1) uniqueness; (2) permanency; (3) transferability; and (4) examiner accuracy. *See NAS Report*, at S-5, S-6, 1-6, 1-9, 1-10, 3-18, 5-36, 5-37. Had Judge Hathaway not disregarded significant paragraphs of Drs. Bowers's, Pretty's, and Averill's affidavits, she would have realized – quite easily and quickly – that all three opined that the *NAS Report* invalidated Drs. Sobel's and David's individualization testimony, even though the *NAS Report* did not invalidate bite mark identification entirely. *See* Ex. 14, at 10, 14; Ex. 15, at 9, 13; Ex. 16, at 9, 13.

3. The *NAS Report's* Findings and Conclusions Would Likely Compel a Different Result

In her December 27, 2010 opinion, Judge Hathaway concluded that – even without the bite mark evidence – Kunco would still have been convicted because there was sufficient "compelling" evidence to sustain his conviction:

> Even had the Commonwealth not presented any bitemark evidence in this case, the evidence against the defendant was *compelling*. The victim's identification of the defendant was solid and the defendant's alibi defense lacked a scintilla of credibility. The record in this case clearly establishes that, even if the defendant were granted a new trial, allowed to present the DNA evidence (or lack thereof), and even successfully lobbied against the introduction of the bitemark analysis testimony that was present in the defendant's trial, the outcome of the case would be no different. For this reason, the defendant has not carried his burden regarding after-discovered evidence, and he is not entitled to relief under the PCRA.

Ex. 2, at 18 (emphasis added). Judge Hathaway erred.

[62] Drs. Bowers, Pretty, and Averill each made a similar statement in their affidavits. See Ex. 14, at 10; Ex. 15, at 9; Ex. 16, at 9.

a. The Proper Standard is Whether the Newly-Discovered Evidence Undermines Confidence in Kunco's Conviction, Not Whether There is Sufficient Evidence to Sustain His Conviction

To obtain relief under the newly-discovered evidence standard, Kunco must demonstrate that the *NAS Report's* findings and conclusions "would likely compel a different verdict." *Commonwealth v. Fisher*, 870 A.2d at 871. This standard is similar to the "materiality" or "reasonable probability" standard for *Brady* and ineffectiveness claims. *See Kyles v. Whitely*, 514 U.S. 419 (1995); *Commonwealth v. Burke*, 781 A.2d 1136 (Pa. 2001). The standard, which asks whether "there is a reasonable probability that, had the evidence been disclosed to the defense, the result of the proceeding would have been different," *United States v. Bagley*, 473 U.S. 667, 682 (1985), has two unique features relevant to the present issue.

First, Kunco is not required to demonstrate, by a preponderance of the evidence, that the *NAS Report's* findings and conclusions would ultimately result in his acquittal. *See Kyles v. Whitley*, 514 U.S. at 434. The critical question, therefore, "is *not* whether [Kunco] would more likely than not have received a different verdict with the [*NAS Report*] evidence, but whether in its absence he received a fair trial, understood as a trial resulting in a verdict worthy of confidence." *Kyles v. Whitley*, 514 U.S. at 434. This threshold is satisfied when newly-discovered evidence "undermines confidence in the outcome of the trial." *Id.* (quoting *United States v. Bagley*, 473 U.S. at 678). In Kunco's case, the *NAS Report* eliminates all confidence in the Kunco's conviction because it invalidates the linchpin of the Commonwealth's case – the bite mark evidence.

Second, contrary to Judge Hathaway's formulation, the "reasonable probability" standard "is not a sufficiency of evidence test." *Kyles v. Whitley*, 514 U.S. at 434, 435 n.6 ("This rule is clear, and none of the *Brady* cases has ever suggested that sufficiency of evidence (or insufficiency) is the touchstone."). Thus, the issue is *not* whether the Commonwealth has sufficient "compelling" evidence – outside the bite mark evidence – to sustain Kunco's conviction, but whether the *NAS Report's* findings and conclusions "could reasonably be taken to put the whole case in such a different light as to undermine confidence in the verdict." *Id.* at 435. Because the bite mark testimony enhanced the viability and credibility of Seaman's voice identification, while destroying Kunco's alibi defense, there can be no question that the *NAS Report* puts the Commonwealth's case "in such a different light as to undermine confidence in

[Kunco's] verdict." *Id.* The Commonwealth *implicitly* conceded this point when it went to extreme lengths to identify at least one item of physical evidence linking Kunco to Seaman's assault, while it *explicitly* conceded this point when Drs. Sobel and David published their 1994 *JFS* article.

b. The Bite Mark Evidence Was the Linchpin of the Commonwealth's Case

The Commonwealth's insistence on identifying at least one item of physical evidence linking Kunco to Seaman's assault speaks volumes as to how the Commonwealth viewed the bite mark evidence – as well as Seaman's voice identification. The Commonwealth contacted Drs. Sobel and David once it determined that the "other forensic evidence gathered was inconclusive[.]" *David & Sobel*, at 1561. The Commonwealth so desperately wanted to link Kunco to the crime with physical evidence that it authorized Drs. Sobel and David to perform a controversial, seldom used, and untested UV-lighting technique to recapture a five-month-old bite mark. Indeed, Drs. Sobel and David acknowledged that they were familiar with *only one case* in the United States that used the UV-lighting technique to expose an old bite mark. *See id.* ("The authors related that a case involving similar circumstances had been presented at a scientific meeting."). If the Commonwealth felt so confident about its case without the bite mark evidence, it would not have gone to such great lengths to procure physical evidence linking Kunco to the crime.

Furthermore, according to Sgt. Korman, Detective Dlubak, and Detective Link, the Commonwealth knew the assailant's identity shortly after Sgt. Korman arrived at the scene because Seaman (supposedly) recognized her assailant's voice as Kunco's voice. The New Kensington Police Department, however, did not arrest Kunco until January 26, 1991 – more than a month after Seaman's assault. If the Commonwealth and the New Kensington Police Department believed so firmly in Seaman's voice identification, why did they wait more than a month to arrest the person responsible for this vicious assault? The answer is simple: the Commonwealth did not believe that Seaman's voice identification – alone – would produce a conviction. It needed a smoking gun – it needed the bite mark evidence.

In fact, during his PCRA deposition, Detective Dlubak admitted that Kunco was not arrested until late January 1991 because the Westmoreland County District Attorney's Office was evaluating the bite mark evidence:

Q: ... Can you explain the reason for the delay in the arrest of Mr. Kunco?

A. ... I think at that time we concentrated on the picture of the bite mark and I think during that period we had the picture blown up 8 x 10 and I think I brought it over to the District Attorney's Office.

See NT, Det. Dlubak Dep., at 28. After reviewing the blown-up picture, the District Attorney's Office finally approved Kunco's arrest warrant. *See id.* at 29. The bite mark evidence, therefore, triggered Kunco's arrest and prosecution. If the Commonwealth viewed the bite mark evidence with such great importance, it does not take much of a cognitive leap to believe that the jury viewed it with similar importance.

Unlike other forms of non-DNA forensic identification evidence, like fingerprints or firearms identification, bite marks on the victim's skin are highly probative of guilt. A vintage law review article explained the danger of using bite mark evidence in these terms:

> Bite mark evidence is more persuasive on the ultimate issue of guilt than other analogous forms of evidence. For example, fingerprints tend to be circumstantial or associative; that is, they rarely decide a case alone, but tend to link a defendant to the scene of the crime or an object involved in the crime. By contrast, bite marks, in the usual case, will be conclusive of the guilt issue: the logical distance between the fact of biting and the ultimate issue of guilt is short. Thus, admission of irrelevant bite mark evidence may be particularly prejudicial to the defendant.

Adrienne Hale, *The Admissibility of Bite Mark Evidence*, 51 S. CAL. L. REV. 309, 326 (1978). What makes the impact of the bite mark evidence even more damaging in Kunco's case is Drs. Sobel's and David's claim that they *individualized* the bite mark to Kunco to the exclusion of all other biters in the world. It strains credulity to think that a jury hearing Drs. Sobel's and David's individualization testimony would not immediately place Kunco at the scene of Seaman's assault, *if only his teeth*, and not those of any other human being on earth, were linked to the bite mark on Seaman's shoulder.

The bite mark testimony not only provided a direct link between Seaman and Kunco, it enhanced the credibility of Seaman's voice identification, while completely destroying Kunco's alibi defense and credibility. The jury had to choose between two stories: one allegedly supported by valid scientific evidence (the Commonwealth's story); and one supported by the defendant's live-in girlfriend (Kunco's story). Given the impact of scientific evidence, *see Daubert v. Merrell Dow Pharmaceutical, Inc.*, 509 U.S. at 595 ("Expert evidence can be...

powerful[.]"); *United States v. Hines*, 55 F.Supp.2d 62, 69-70 (D. Mass. 1999) ("a certain patina attaches to an expert's testimony unlike any other witness; this is 'science,' a professional's judgment, the jury may think, and give more credence to the testimony than it may deserve."), it is easy to understand why the jury chose the story supported by what it believed to be valid scientific evidence. Moreover, in destroying Kunco's alibi defense, Drs. Sobel's and David's individualization testimony obliterated Kunco's credibility because he was not only a liar and a rapist, he was a remorseless psychopath who tried to evade conviction by forcing his girlfriend – and the mother of his child – to lie on his behalf.

During closing arguments, the Commonwealth emphasized the critical importance of Drs. Sobel's and David's individualization testimony, claiming that bite mark identification was far superior than fingerprint evidence, that Drs. Sobel's and David's individualization testimony was valid, and that Kunco should have just signed his name to Seaman's back:

> [Defense counsel] mentioned we don't have hair samples that match. We don't have fingerprints. Now, ladies and gentlemen, what we have is better than hair samples or fingerprints. Because... if we had found a hair in the apartment that matched that of John Kunco, that could be explained. Mr. Kunco was a maintenance man. He had been in Mrs. Seaman's apartment. If we had a fingerprint of John Kunco that could be explained for the same reason.... But... there's no way, no way on this earth, for Mr. Kunco to explain how his tooth marks got on Donna Seaman's shoulder unless you accept the fact that he's the one who attacked and brutalized Mrs. Seaman. That's the only explanation... That's why the evidence is better than fingerprints or hair evidence.
>
> ...
>
> [Defense counsel] attempted to attack Dr. David's [and Sobel's] credibility and techniques... [Dr. David] showed you measurements that he made... Dr. David told you that the defendant's teeth had numerous unique characteristics, one of which was that he was missing certain teeth in various places in his mouth.... Now, ladies and gentlemen, any one of these details wouldn't necessarily conclusively determine who made a bite mark. But I believe that what Dr. David and Dr. Sobel testified to was when you take all this evidence together, each one, taken together as a whole, shows, as Dr. Sobel testified, that the bite mark on Donna Seaman's shoulder was as good as a fingerprint. And I submit to you it was that, ladies and gentlemen, for all intents and purposes. Ladies and gentlemen, I'd submit to you that John Kunco should have just signed his name on Donna Seaman's back, because the bite mark on Donna Seaman's shoulder belongs to John Kunco.

NT at 455, 456.

In the end, without the bite mark evidence the Commonwealth had no case – and the Commonwealth explicitly conceded this when Drs. Sobel and David published their 1994 *JFS* article. In that article, the good doctors said that their testimony "was *essential* to establishing an evidentiary link between the victim and [Kunco]" and that "*[w]ithout* this *critical* piece of evidence, it is *unlikely* that there would have been sufficient evidence to support a conviction for this vicious crime." *David & Sobel, supra*, at 1567 (emphasis added).[63]

c. The Collective Impact of the Newly-Discovered Exculpatory DNA Evidence and the *NAS Report*

If Kunco was the actual perpetrator who shocked Seaman for twenty minutes with the lamp cord (with his bare hands), a jury could reasonably expect DNA testing to identify his DNA on the lamp cord. If Kunco's DNA is not on the lamp cord, however, a reasonable jury could easily conclude that he is not the assailant or that there is significant and reasonable doubt as to whether he is in fact the assailant. Moreover, the reasonable doubt harbored by the jury in light of the exculpatory DNA results could easily affect the jury's credibility assessment of Drs. Sobel's and David's bite mark testimony. The jury, for instance, could have easily given little

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[63] Drs. Sobel's and David's statements constitute an admission by a party-opponent because their statements are offered against the Commonwealth and are statements of which the Commonwealth impliedly adopted by failing to deny the truth of the statements when one would expect the Commonwealth to do so under the circumstances – if they were in fact untrue. *See Commonwealth v. Coccioletti*, 425 A.2d 387 (Pa. 1981) (party impliedly adopted statement by failing to deny the truth of a statement that party would be expected to deny under the circumstances); Pa.R.E. 803(25)(B). The Commonwealth has known about Drs. Sobel's and David's statements since 1994. Since then, however, the Commonwealth has never asked Drs. Sobel and David to retract or modify their statements. Moreover, the Commonwealth has never contacted the *JFS*, protesting that Drs. Sobel's and David's statements misrepresented the importance of the bite mark evidence or the weight of the non-bite mark evidence. If the Commonwealth disagreed with Drs. Sobel's and David's assessment of the bite mark evidence – as it related to the Commonwealth's overall case – the Commonwealth could have easily written a brief letter to the *JFS* explaining why Drs. Sobel's and David's assessment was incorrect and why Kunco still would have been convicted without the bite mark evidence. The Commonwealth could have also asked the *JFS* to publish its letter, which is a common practice in scientific journals, especially the *JFS*.

Parties are presumed not to make statements against their interests unless the statements are true. *See State v. Gibson*, 413 S.E.2d 120 (W. Va. 1991). Indeed, a party's admission is considered to have special evidentiary value when offered against the party making the admission because that party is discredited, like a witness impeached by contradictory statements, by the party's own statements inconsistent with his or her present claim or position. *See Burlington Northern R. Co. v. Hood*, 802 P.2d 458 (Colo. 1990). Furthermore, a statement by a party may qualify as an admission regardless of the circumstances in which it was made. *See United States v. Rios Ruiz*, 579 F.2d 670 (1st Cir. 1978) (grand jury testimony and arrest report). Thus, simply because Drs. Sobel and David made their statements in a forensic science journal, rather than a court of law, is irrelevant.

Consequently, Drs. Sobel's and David's 1994 *JFS* statements are admissible for any inference the Court can reasonably draw from the statements regarding any issues involved in Kunco's case. *See United States v. Matlock*, 415 U.S. 164, 172 (1974). Thus, the Court need look no further than Drs. Sobel's and David's *JFS* statements when addressing the issue of whether the outcome of Kunco's trial would have likely been different without the bite mark evidence. Thanks to Drs. Sobel's and David's 1994 *JFS* article, the Commonwealth already answered this question, and the answer is – YES.

credibility and weight to the bite mark evidence and more credibility and weight to Kunco's alibi evidence – especially if the jury also knew about the *NAS Report's* findings and conclusions. Likewise, the jury could have given little weight and credibility to Seaman's voice identification in light of the exculpatory DNA results from the lamp cord.

Kunco is entitled to a new trial so a new fact-finder – be it a judge or jury – can accurately assess, in light of the exculpatory DNA results and *NAS Report*, Seaman's voice identification and Drs. Sobel's and David's bite mark testimony. As discussed *infra*, Drs. Sobel's and David's individualization testimony would be inadmissible at retrial. *See infra*, § VII.3-(d), pp. 61-66 However, assuming *arguendo* their testimony is admissible, the *NAS Report* and DNA results would significantly undermine their credibility, and the "jury's estimate of the truthfulness and reliability of a given witness [or witnesses] may well be determinative of guilt or innocence[.]" *Napue v. Illinois*, 360 U.S. at 269, especially when it comes to scientific experts because "[t]estimony emanating from the depth and scope of specialized knowledge is very impressive to a jury. The same testimony from another source can have less effect." *Ake v. Oklahoma*, 470 U.S. 68, 82 n.7 (1985) (citation omitted).

d. If the Commonwealth Retried Kunco, Drs. Sobel's and David's Individualization Testimony Would Be Inadmissible Under State and Federal Law

Contrary to Judge Hathaway's holding, *see* Ex. 1, at 15 nn. 11-12, if the Commonwealth re-tried Kunco today, Drs. Sobel's and David's individualization testimony would not be admissible under state and federal law.

(1). State law

Pursuant to *Commonwealth v. Topa*, 369 A.2d 1277 (Pa.1977), trial judges must determine whether the theory and technique that buttress an expert's opinion(s) are generally accepted by the scientific community. *See Commonwealth v. Blasiloi*, 713 A.2d at 1119 ("This Court has generally required that both the theory and technique underlying novel scientific evidence must be generally accepted."); *Commonwealth v. Crews*, 640 A.2d 395, 402 (Pa. 1994). The four fundamental premises (or theories) of bite mark identification are (1) uniqueness, (2) permanency, (3) transferability, and (4) examiner accuracy. The *NAS Report* concluded that there is no scientific evidence supporting these premises. *See NAS Report*, at S-5, S-6, 1-6, 1-9, 1-10, 3-18, 5-36, 5-37. Most importantly, the *NAS Report* concluded that the *only* forensic

identification technique that has the capacity to individualize is nuclear DNA analysis. *See id.* at S-5. It also emphasized bite mark identification's "substantial" error rate. *See NAS Report*, at 1-9, 1-10, 5-36. Consequently, because the *NAS Report* constitutes the generally accepted view of the scientific community, *see supra*, § VII-A, pp. 34-42, Drs. Sobel's and David's individualization testimony would not be admissible because it is *now* generally accepted by the scientific community that an unknown bite mark in human skin *cannot* be individualized to a known biter to the exclusion of all other biters in the world.

Judge Hathaway also erred by narrowly defining the relevant scientific community. Contrary to Judge Hathaway's holding, the relevant scientific community is *not* the "community of forensic odontologists," Ex. 1, at 15 n.11, but rather the global scientific community – or the diverse group of distinguished and well-credentialed scientists that comprised the NAS Committee.

According to the Pennsylvania Supreme Court, the "requirement of general acceptance... assures that *those most qualified* to assess the general validity of a scientific method will have the *determinative voice*." *Commonwealth v. Topa*, 369 A.2d at 1281 (emphasis added). The Pennsylvania Supreme Court reinforced this point in *Grady v. Frito-Lay, Inc.*, 839 A.2d 1038 (Pa. 2003), when it stated:

> We believe now, as we did then, that requiring judges to pay deference to the conclusions of *those who are in the best position* to evaluate the merits of scientific theory and technique when ruling on the admissibility of scientific proof, as the *Frye* rule requires, is the better way of insuring that only reliable expert scientific evidence is admitted at trial.

Id. at 1045 (emphasis added).

Frye's general acceptance test, therefore, is based on three premises. First, the relevant scientific community has the resources and motivation to rigorously and soundly assess the validity of a scientific theory and/or technique. Second, the relevant scientific community is comprised of adequately trained scientists who can conduct comprehensive research to assess the validity of a scientific theory and/or technique. And third, the scientists in the relevant scientific community are actually assessing the validity of the scientific theory and/or technique by conducting rigorous research.

Based on the *NAS Report's* findings and conclusions, there is no evidence whatsoever that the forensic odontology community has the necessary resources, motivation, or training to

adequately assess the validity of whether an unknown bite mark on human skin can be individualized to a known biter to the exclusion of all other biters in the world. Had the forensic odontology community adequately assessed the validity of bite mark identification's four fundamental premises two things would have occurred. First, Congress would not have ordered the NAS to independently assess the validity of bite mark identification. Second, the forensic odontology community would have easily convinced the NAS Committee that the fundamental premises of bite mark identification are valid and supported by comprehensive empirical research. Indeed, the forensic odontology community had two years to convince the NAS Committee that bite mark identification is based on valid premises supported by empirical research. Despite ample time to present evidence in support of its empirical (or testable) claim, that qualified bite mark experts can accurately individualize an unknown bite mark in human skin to a known biter to the exclusion of all other biters in the world, the forensic odontology community came up woefully short.

More importantly, perhaps, is that, unlike the NAS Committee, forensic odontologists have a personal and economic stake in the continued use and admissibility of bite mark identification. There is no marketplace for bite mark identification outside the courtroom; to enter the courtroom, however, bite mark experts must demonstrate that their testimony is based on a valid theory (or theories) and technique. Thus, if one – or all four – of the fundamental premises of bite mark identification are invalid, the courthouse doors will be closed to bite mark experts, preventing them from financially capitalizing on their proclaimed expertise. The lack of marketability outside the courtroom, therefore, incentivizes the forensic odontology community to continually proclaim that individualization is possible, and that bite mark identification is supported by valid empirical research, even though the *NAS Report* clearly establishes that these claims are invalid. No passage from the *NAS Report* captures this protectionary and biased mindset better than the following: "While the majority of odontologists are satisfied that bite marks can demonstrate sufficient detail for positive identification, *no scientific studies support this assessment, and no large population studies have been conducted.*" *NAS Report*, at 5-37 (emphasis added).

The forensic odontology community, in other words, is *not* the "most qualified," *Commonwealth v. Topa*, 369 A.2d at 1281, and is *not* "in the best position," *Grady v. Frito-Lay, Inc.*, 839 A.2d at 1045, "to assess the general validity," *Commonwealth v. Topa*, 369 A.2d at

1281, of bite mark identification. The NAS Committee, on the other hand, is in the "best position" and is "the most qualified" to assess general validity of bite mark identification.

First, the NAS and NRC have comprehensively evaluated the validity of voice print identification, DNA analysis, comparative bullet lead analysis, and firearms identification over the last three decades. *See* NAT'L RESEARCH COUNCIL, ON THE THEORY AND PRACTICE OF VOICE IDENTIFICATION (1979); NAT'L RESEARCH COUNCIL, DNA TECHNOLOGY IN FORENSIC SCIENCE (1992), NAT'L RESEARCH COUNCIL, THE EVALUATION OF FORENSIC DNA EVIDENCE (1996), NAT'L RESEARCH COUNCIL, FORENSIC ANALYSIS: WEIGHING BULLET LEAD EVIDENCE (2004); NAT'L RESEARCH COUNCIL, BALLISTICS IMAGING (2008). These all-inclusive assessments resulted in comprehensive findings and recommendations that state and federal courts have relied on to make pre-trial and post-conviction decisions relating to scientific evidence. *See supra*, § VII-A, pp. 34-42. Law enforcement crime laboratories have also relied on these reports in determining whether to continue using a particular forensic technique.[64]

Second, NAS Committee members have far more experience in developing, implementing, and conducting empirical research, as well as evaluating other scientists' empirical research and conclusions. *See NAS Report*, at App. A (listing NAS Committee members and their educational and professional backgrounds). Practicing odontologists, on the other hand, have little training, education, and experience in developing, implementing, and conducting rigorous empirical research. The *NAS Report* overwhelmingly reinforces this point because, according to the report, the forensic odontology community conducted very little empirical research aimed at assessing the validity of bite mark identification's fundamental premises. The lack of empirical research strongly suggests that the forensic odontology community is ill-equipped to conduct such research, and thus, ill-equipped to adequately gauge the validity of bite mark identification's fundamental premises.

Third, the NAS Committee's sole concern was to evaluate the (limited) bite mark research and to determine whether the fundamental premises of bite mark identification were valid and supported by sound empirical research and data. It was not concerned with whether its conclusions would negatively impact bite mark identification's continued usage and

[64] For instance, following a fourteen-month review of the NRC's findings and recommendations regarding CBLA, the FBI Laboratory announced on September 1, 2005, that it would no longer conduct CBLA tests. *See* Press Release, U.S. Dep't of Justice, Fed. Bureau of Investigation, Sept. 1, 2005; Eric Lichtblau, *F.B.I. Abandons Disputed Test for Bullets from Crime Scenes*, N.Y. TIMES, Sept. 2, 2005, at A12.

admissibility. Thus, unlike practicing bite mark experts, financial and personal considerations did not affect its evaluation, findings, and conclusions.

Fourth, and finally, that Congress requested assistance from the NAS speaks volumes about the NAS's objectivity, credibility, and scientific excellence.

(2). Federal Law

In regards to *Daubert v. Merrell Dow Pharmaceutical*, 509 U.S. 579 (1993), the U.S. Supreme Court articulated the legal framework for distinguishing between reliable science and "science that is junky." *Kuhmo Tire Co. v. Carmichael*, 526 U.S. 137, 159 (1999) (Scalia, J., concurring). This framework requires a district court to consider five (non-exhaustive) factors. First, whether the "theory or technique... can be (and has been tested)." *Daubert v. Merrell Dow Pharmaceutical*, 509 U.S. at 593. Second, "whether the theory or technique has been subjected to peer review and publication." *Id.* Third, whether the technique has a "known or potential rate of error." *Id.* at 594. Fourth, whether there exists any "standards controlling the technique's operation." *Id.* Fifth, whether the technique is "generally accepted" by the scientific community. *Id.* These factors should assist district courts in determining "whether the reasoning or methodology underlying the testimony is... valid and whether that reasoning or methodology properly can be applied to the facts in issue." *Id.* at 592-593.

Relying on these five factors, Drs. Sobel's and David's individualization testimony would not be admissible under *Daubert*. First, bite mark identification's error rate is "substantial." *NAS Report*, at 1-10. The *NAS Report* commented on the "high percentage of false positive matches of bite marks using controlled comparison studies." *Id.* at 5-36. Second, there are no standards for conducting a bite mark analysis or rendering a conclusive identification. *See id.* at S-17, 5-35, 6-4. As currently practiced, bite mark identification is entirely subjective. *See id.* at 5-35. Third, Drs. Sobel's and David's individualization testimony is no longer generally accepted by the scientific community. *See supra*, § VII-A, pp. 34-42. Fourth, there is no research identifying the base rates for the different types of teeth and bite pattern characteristics. *See id.* at 5-36. With no base rate data, forensic dentists cannot opine as to the likelihood of a coincidental match. This in turn creates a Rule 403 issue, which permits the exclusion of relevant evidence "if its probative value is outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence." Pa.R.E. 403. If a forensic dentist

testifies that an unknown bite mark "matches" or is "consistent with" a defendant's dentition, this is by all means relevant evidence. However, if the forensic dentist cannot inform the fact finder as to the likelihood of a coincidental match, the probative value of this evidence is greatly outweighed by the danger of unfair prejudice because, as the *NAS Report* acknowledged, the terms "match" and "consistent with" are routinely "misunderstood to imply individualization." *NAS Report*, at 5-25. Individualization, as we already know, is not possible. *Id.* at 5-37 ("The committee received no evidence of an existing scientific basis for identifying an individual to the exclusion of all others.").

D. Kunco's State and Federal Constitutional Claims are Meritorious

Judge Hathaway refused to consider Kunco's state and federal constitutional claims once she concluded that his newly-discovered evidence petition was untimely under state law. His unadjudicated state and federal constitutional claims are meritorious.

1. Kunco Was Denied Due Process Because Invalid, False, and Inherently Suggestive Bite Mark Identification Testimony Rendered His Trial Fundamentally Unfair

The exculpatory DNA evidence and *NAS Report* prove that Drs. Sobel's and David's individualization testimony is invalid and "so extremely unfair that its admission violate[d] fundamental concepts of justice." *Dowling v. United States*, 493 U.S. 342, 352 (1990); U.S. CONST. AMEND. VI, XIV; PA. CONST., Art. I, §§ 1, 9. Similarly, the DNA evidence and *NAS Report* prove that the Commonwealth introduced "inherently suggestive" identification evidence in violation of *Manson v. Brathwaite*, 432 U.S. 98 (1977). Furthermore, the DNA evidence and *NAS Report* establish that the Commonwealth introduced invalid and false evidence and that it is reasonably likely this evidence may have affected the jury's decision to convict Kunco. *See* U.S. CONST. AMENDS. VI, XIV; PA. CONST., Art. I, §§ 1, 9; *Giglio v. United States*, 405 U.S. at 155; *Napue v. Illinois*, 360 U.S. at 271.

2. The Commonwealth's Evidence and Argument Violated Kunco's Sixth Amendment Right to a Jury that Must Find His Guilt Beyond a Reasonable Doubt

The exculpatory DNA results and the *NAS Report* make it clear that there is insufficient evidence that proves each and every element of rape, indecent deviate sexual intercourse, simple assault, indecent assault, aggravated assault, unlawful restraint, and recklessly endangering another person beyond a reasonable doubt. *See* U.S. CONST. AMENDS. VI, XIV; PA. CONST., Art.

I, §§ 1, 9, 13; *In re Winship*, 397 U.S. 358, 364 (1970); *Commonwealth v. Miller*, 208 A.2d 867, 870 (Pa. Super. 1965).

3. The *NAS Report* and Exculpatory DNA Results Prove that the Commonwealth Convicted an Innocent Man in Violation of the Fundamental Concepts of Due Process

The exculpatory DNA results and *NAS Report* establish that Kunco is actually innocent. *See* U.S. CONST. AMENDS. VI, XIII, XIV; PA. CONST., Art. I, §§ 1, 9. As the Pennsylvania Supreme Court has noted, "[c]olorable claims of actual innocence hold a favored place in the law." *Commonwealth v. Williams*, 594 Pa. 366, 388 (Pa. 2007); *accord Schlup v. Delo*, 513 U.S. 298, 325 (1995) ("[C]oncern about the injustice that results from the conviction of an innocent person has long been at the core of our criminal justice system."). Although 42 Pa. C.S. § 9543 does not use the term "actual innocence" in enumerating cognizable claims, the PCRA specifically states that it is intended to "provide[ ] for an action by which persons convicted of crimes they *did not commit*... may obtain collateral relief." 42 Pa. C.S. § 9542 (emphasis added); *accord Commonwealth v. Abu-Jamal*, 833 A.2d 719, 728 (Pa. 2003). Thus, Kunco's actual innocence claim is cognizable under the PCRA.

The U.S. Supreme Court's decision in *Schulp v. Delo*, 513 U.S. 298 (1995), emphasized that an actual innocence determination must be made "in light of *all* the evidence." *Id.* at 328 (emphasis added); *House v. Bell*, 547 U.S. 518, 538 (2006) ("*Schlup* makes plain that the habeas court must consider 'all the evidence,' old and new, incriminating and exculpatory, without regard to whether it would necessarily be admitted under 'rules of admissibility that would govern at trial.'") (citation omitted). "[A]ll the evidence," was intended to include categories of evidence not normally considered by judges, including "evidence tenably claimed to have been wrongly excluded or to have become available only after the trial." *Id.* "[A]ll the evidence" also includes all forms of evidence, including all reliable evidence "whether it be exculpatory *scientific evidence*, trustworthy eyewitness accounts, or *critical physical evidence*." *Id.* at 324 (emphasis added). Moreover, the Supreme Court acknowledged that "newly presented evidence" of actual innocence "may indeed call into question the credibility of the witnesses presented at trial," requiring that the post-conviction court "make some credibility assessments." *Id.* at 330.

Using *Schlup* and *House* as guides, the Court must consider all the newly-discovered "exculpatory" evidence presented in the *NAS Report* as well as the exculpatory DNA evidence In light of the new exculpatory evidence, "it is more likely than not that no reasonable juror would have found [Kunco] guilty beyond a reasonable doubt." *Schlup v. Delo*, 513 U.S. at 327.

4. Kunco's Conviction Must Be Overturned Because of the Cumulative Prejudice from All the Constitutional Errors in His Case

Constitutional claims of error are to be considered cumulatively as well as individually, and cumulative error – or the cumulative effect of prejudice from a range of different claims – may collectively provide a basis for relief whether or not the effect of individual deficiencies warrants relief. *See Commonwealth v. Sattazahn*, 952 A.2d 640, 670-71 (Pa. 2008) (conducting review of cumulative prejudice from individual errors); *Commonwealth v. Wallace*, 455 A.2d 1187 (Pa. 1983) (new trial granted for effect of multiple *Brady* violations); *accord Kyles v. Whitley*, 514 U.S. at 436-37 (cumulative prejudice from state's failure to reveal multiple pieces of exculpatory evidence undermined fairness of trial and entitled defendant to relief); *Taylor v. Kentucky*, 436 U.S. 478, 488 (1978) (cumulative prejudicial effect of prosecutor's misstatements and improper jury instructions undermined fairness of trial, necessitating relief); *Donnelly v. DeChristoforo*, 416 U.S. 637, 639 (1974). Individually and cumulatively, each constitutional error substantially prejudiced Kunco and deprived him of his clearly established state and federal constitutional rights. *See* U.S. Const. Amends. VI, XII, XIV; PA. CONST., Art. I, §§ 1, 9, 13.

VIII. Conclusion and Prayer for Relief

WHEREFORE, Kunco respectfully requests the Court to vacate his conviction and to grant him a new trial.

Respectfully submitted this the 29th day of April 2011.

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Filed: April 29, 2011

EXHIBITS

1. *Commonwealth v. John Kunco*, Case No. 482 CR 1991, Opinion and Order of Court, October 28, 2010.

2. *Commonwealth v. John Kunco*, Case No. 482 CR 1991, Opinion and Order of Court, December 27, 2010.

3. Pennsylvania State Police Crime, Request for Laboratory Analysis, December 17, 1990

4. Thomas David & Michael Sobel, *Recapturing a Five-Month-Old Bite Mark by Means of Reflective Ultraviolet Photography*, 39 J. FORENSIC SCI. 1560 (1994).

5. Dr. Michael Sobel's July 9, 1991 Bite Mark Identification Report

6. Dr. Thomas David's July 9, 1991 Bite Mark Identification Report

7. *Commonwealth v. John Kunco*, Case No. 995 Pittsburgh 1992, Superior Court Opinion, Filed July 8, 1993

8. *Commonwealth v. John Kunco*, Case No. 482 C 1991, *Third Amended Post Conviction Act Petition and Motion for New Trial*, Filed May 26, 1998

9. *Commonwealth v. John Kunco*, Case No. 1584 Pittsburgh 1998, Superior Court Opinion, Filed May 24, 1999

10. Iain Pretty & David Sweet, *The Scientific Basis for Human Bitemark Analyses – A Critical Review*, 41 Sci. & Just. 85 (2001)

11. C. Michael Bowers, *Problem-Based Analysis of Bitemark Misidentifications: The Role of DNA*, 159S FORENSIC SCI. INT'L. S104 (2006)

12. Iain Pretty, *A Web-Based Survey of Odontologists' Opinions Concerning Bitemark Analyses*, 48 J. FORENSIC SCI. 1117 (2003)

13. STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD

14. C. Michael Bowers's Affidavit

15. Iain Pretty's Affidavit

16. David Averill's Affidavit

17. *The National Academy of Science Report on Forensic Sciences: What it Means for the Bench and Bar*, Statement of Honorable Harry T. Edwards at the Superior Court of the

District of Columbia's Conference on The Role of the Court in an Age of Developing Science & Technology, May 6, 2010

18. Thomas L. Bohan, *Review of: Strengthening Forensic Science in the United States: A Path Forward*, 55 J. FORENSIC SCI. 560 (2010)

19. Cellmark's DNA Report, March 31, 2009

20. Cellmark's DNA Report, June 30, 2009

21. *Commonwealth v. John Kunco*, Case No. 482 CR 1991, Transcripts of October 22, 2009 Hearing

22. *Commonwealth v. Edmiston*, Cambria County, Case No. 1025-88

23. *Commonwealth v. John Kunco*, Case No. 482 CR 1991, *Stipulated Order for Post-Conviction DNA Testing Pursuant to 42 Pa. C.S.A. § 9543.1*, Filed January 30, 2009

24. Email from Thomas Bohan to Members of the American Academy of Forensic Science, Dated March 15, 2009, 8:47 PM

25. *Commonwealth v. John Kunco*, Case No. 482 CR 1991, Commonwealth's Answer to Defendant's Petition for Post-Conviction Collateral Relief Pursuant to 42 Pa. C.S.A. § 9541 et seq., Filed May 26, 2009

26. *Commonwealth v. John Kunco*, Case No. 482 CR 1991, *Commonwealth's Response to Defendant's Petition for Post-Conviction Relief Based Upon Newly-Discovered Evidence*, Filed December 29, 2009

Certificate of Service

Undersigned counsel certifies, under penalty of perjury, that on April 29, 2011 he mailed, via standard United States mail, a copy of *Petitioner's Opening Brief*, including exhibits, to the following address:

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Dated: April 29, 2011