July 22, 2015

Texas Forensic Science Commission
1700 North Congress Avenue, Suite 445
Austin, Texas 78701

Dear Commissioners:

Please accept this complaint, filed on behalf of our client, Steven Mark Chaney, and on behalf of the Innocence Project, Inc. We ask that the Texas Forensic Science Commission ("the Commission") exercise its statutory mandate to investigate and report on "the integrity and reliability" of bite mark evidence as used in criminal proceedings. Tex. Crim. Proc. Code Ann. § 38.01(4)(b-1)(1).¹

The Innocence Project is a national litigation and public policy organization dedicated to exonerating wrongfully convicted persons through DNA testing and improving the criminal justice system to prevent future miscarriages of justice. To date, 330 people in the United States, including 18 who served time on death row, have been exonerated by DNA testing. One lesson to be drawn from these exonerations is that the misapplication of forensic sciences is one of the leading causes of wrongful conviction, contributing to the original wrongful conviction in approximately half of the DNA exonerations. Some forensic techniques are more problematic than others, however, and of those disciplines currently in use, it is bite mark comparison evidence that poses the most acute threat to the reliability and fairness of Texas's criminal justice system. Indeed, despite the relative rarity of its application, no less than 24 people have been wrongfully convicted or indicted on the basis of bite mark evidence;² including at least

two in Texas to date. That this technique is responsible for so many miscarriages of justice is not surprising. As this complaint outlines, no validated and reliable science remotely supports bite mark evidence, and what science there is affirmatively disproves even the most basic assumptions which underlie it. Bite marks, moreover, “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,” see Ex. A at 175 (NATIONAL ACADEMY OF SCIENCES, Committee on Identifying the Needs of the Forensic Sciences Community, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD (2009) (“NAS Report”). This, along with the fact that bite mark analysis is entirely subjective, greatly increases the risk of wrongful conviction in bite mark cases.

Given the complete lack of science supporting bite mark analysis, and the grave risk of wrongful conviction use of the technique poses, bite marks represent an ideal and critical opportunity for this Commission to bring to bear its statutory mandate to “advance the integrity and reliability of forensic science” in Texas. See Tex. Crim. Proc. Code Ann. § art. 38.01(4)(a-l). We thus ask that this Commission undertake a thorough investigation of bite mark evidence. Our request is that this investigation include retrospective and prospective components. Retrospectively, we ask that this Commission audit those cases in which bite mark comparison testimony was offered. Prospectively, we ask this Commission declare a moratorium on the continued use of bite mark comparison evidence in criminal prosecutions until such time as the technique has been scientifically validated and proven reliable. Doing so will not only advance this body’s statutory mission, but also help ensure that no more innocent Texans are incarcerated as a result of this dangerously unreliable “science.”

Bite Mark Analysis Has Never Been Validated or Proven Reliable

The use of bite mark comparison evidence in criminal trials rests on a series of unproven assumptions. First, bite mark comparison evidence assumes that the biting surfaces of teeth (i.e., the dentition) are unique. Second, it assumes that human skin is capable of accurately recording the dentition’s unique features. Third, it assumes that forensic dentists can reliably associate a dentition with a bite mark. Finally, bite mark comparison assumes that, given all the foregoing, forensic dentists can provide a scientifically valid estimate as to the probative value of the association. But, as this letter will demonstrate, no science supports these assumptions, and thus no science supports the conclusion that a perpetrator can be identified from a bite mark in human skin.

The Dentition Has Never Been Scientifically Demonstrated to be Unique

The first assumption of bite mark comparison evidence is that the human dentition (i.e., the biting surfaces of teeth) is unique. But this proposition has never been demonstrated by science to be valid or reliable. In 2009, the National Academy of Sciences (“NAS”)—an organization made up of the nation’s most accomplished

---

3 For more on the exonerations of Calvin Washington and Joe Sidney Williams, and the probable wrongful convictions of Steven Mark Chaney and others in Texas, see infra.
scientists "charged [by an Act of Congress] with providing independent, objective advice to the nation on matters related to science and technology"—undertook the first examination by an independent scientific body of bite mark evidence. After nearly four years of work, including thorough literature reviews and extensive testimony from a vast array of scientists, law enforcement officials, medical examiners, crime laboratory officials, investigators, attorneys, and leaders of professional and standard-setting organizations, the NAS issued its groundbreaking and authoritative report. While the report criticized the scientific foundation for many forensic disciplines, the NAS reserved its most pointed and devastating critique for bite mark evidence, concluding that the technique lacks scientific validity and has never been proven reliable.

In particular, the NAS rejected the first assumption of bite mark analysis as baseless, finding that "[t]he uniqueness of the human dentition has not been scientifically established." Ex. A at 175-76 (NAS Report). Recent scientific research published largely after the NAS Report suggests that not only has this uniqueness not been scientifically established, but that it cannot be. This research indicates that the limited features of the biting surfaces of teeth, which are likely to involve only one narrow surface of less than eight teeth within a bite mark (as opposed to 32 teeth with five sides for a typical adult), may not actually be unique. Indeed, these studies have found there are "matches" between dentitions within certain populations. See Ex. E at ¶¶ 8, 14-15 (Affidavit of Dr. Mary and Peter Bush ("Bush Affidavit")). "Our results indicate that the biting surfaces of human anterior (front) teeth (i.e., the dentition) is not unique within measurement error. This is particularly true within a bitemark, in which only those anterior teeth may be involved.

Even if the Dentition Were Unique, Human Skin Is Not Capable Of Accurately Recording Those Unique Features

Even if there were scientific support for the proposition that the dentition is unique, there is no support for the proposition that human skin is capable of accurately recording those unique features. The NAS Report found that this assumption, too, was unsupported, concluding that "[t]he 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 ...." Ex. A at 175-76 (NAS Report).

Moreover, as with the supposed uniqueness of the dentition, a new body of science—much of which emerged after publication of the NAS Report—suggests that this ability will never be established. This peer-reviewed research indicates that due to its

---

6 See supra fn. 5.
anisotropic, viscoelastic, and non-linear properties, human skin cannot accurately record whatever uniqueness may be present in the human dentition. See Ex. E at ¶ 8 (Bush Affidavit). This work demonstrates that skin's natural tension lines and tissue movement distort bite marks, often dramatically. Bite marks from the same dentition may appear substantially different depending on the angle and movement of the body and whether the mark was made parallel or perpendicular to tension or Langer lines. Other studies indicate that skin is so unreliable as a medium that similarly aligned dentitions may create indistinguishable marks. Even more concerning, this research also revealed that dentitions may appear to best match marks they did not create.

Thus, current research strongly suggests that “even if the human dentition were unique . . . human skin is not capable of faithfully recording that uniqueness with sufficient fidelity to permit bitemark comparison.” Ex. E at ¶ 23 (Bush Affidavit); see also Ex. A at 174 (NAS Report) (“[B]ite marks on the skin will change over time and can be distorted by the plasticity of the skin, the unevenness of the surface bite, and swelling and healing. These features may severely limit the validity of forensic odontology.”).

Forensic Dentists Cannot Reliably Associate A Dentition With A Bite Mark

The third false assumption of bite mark analysis is that forensic dentists can reliably associate a dentition with a bite mark. But the NAS found that “[t]here 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.” Ex. A at 174 (NAS Report). Indeed, “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 176. This is an especially acute problem in bite mark comparison because the manner in which skin heals or decomposes over time is not predictable, and therefore there is no methodology to account for the distortion of the injury caused by these processes. As a result, experts attempting to associate a particular dentition with a bite mark made on human skin can, at best, make educated guesses.
Moreover, while the American Board of Forensic Odontology ("ABFO"), forensic odontology's only board certifying body, has issued "guidelines" for a range of conclusions concerning an association between a bite mark and a suspect, its members are not required to adopt the suggested terminology. Nor are they provided with any guidance on delineating between the various conclusions. More importantly, these guidelines were not arrived at scientifically but instead with nothing more than a show of hands of the members present at a meeting. See Ex. A at 174 (NAS Report) ("The [ABFO] guidelines, however, do not indicate the criteria necessary for using each method to determine whether the bite mark can be related to a person's dentition and with what degree of probability."). As the NAS found, "[e]ven when using the [ABFO] guidelines, different experts provide widely differing results . . ."

Ultimately, the NAS concluded that forensic odontologists lack "the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source." Id. at 7; see also id. at 175 ("[T]he scientific basis is insufficient to conclude that bite mark comparisons can result in a conclusive match." (emphasis added)).

Even If Bite Marks Could Be "Matched," There Is No Evidence Of The Probative Value Of That Association

Even if there were science to support the notion that an association could reliably be made between a dentition and a bite mark, bite mark analysis still fails in its final assumption—that a scientifically valid estimate of the probative value of that association can be made. But as the NAS concluded, there is no way to determine the probability of a match because "there is no established science indicating what percentage of the population or subgroup of the population could also have produced [a] bite." Id. at 174; see also Ex. E at ¶ 28 (Bush Affidavit) ("[S]tatistical evidence for the likelihood of a random match is, as yet, unsupportable.").

This Commission recently took action regarding precisely the same type of scientifically invalid testimony in cases involving microscopic hair comparison. After the FBI acknowledged that its hair examiners had been making improper individualization claims and otherwise exaggerating the probative value of an association between a known and a suspected hair for decades, it, along with the National Association of Criminal Defense Lawyers and the Innocence Project, undertook an unprecedented review of thousands of cases to search for testimony that went beyond the bounds of science.\

The FBI also trained hundreds of state and local examiners to give similarly flawed testimony, and so the Commission has undertaken a case audit to "determine whether the issues identified by the FBI are also present in the testimony provided by state, county

and municipal laboratories.” This case audit will consider whether 1) “the report or testimony contain[ed] a statement of identification”; 2) “the report or testimony assign[ed] probability or statistical weight”; 3) “the report or testimony contain[ed] any other potentially misleading statements or inferences.” As the Commission has concluded, a hair examiner cannot provide a scientifically valid estimate of the rareness or frequency of [an] association. The examiner’s testimony should reflect the fact that hair comparison cannot be used to make a positive identification of an individual. In other words, hair comparison can indicate, at the broad class level, that a contributor of a known sample could be included in a pool of people as a possible source of the hair evidence. However, the examiner should not give an opinion as to the probability or the likelihood of a positive association.

These same limitations apply to bite mark evidence. See Ex. A at 176 (NAS Report). (“ Bite mark testimony has been criticized basically on the same grounds as testimony by questioned document examiners and microscopic hair examiners.”). Indeed, bite mark evidence is even more circumscribed, as the distorting properties of skin discussed above mean that bite mark comparison experts cannot even validly make an association between a mark and a dentition.

**Bite Marks Are Prone to Serious Error**

Given its lack of scientific basis, it is no surprise that bite mark comparison evidence is prone to serious error. Indeed, “error rates by forensic dentists are perhaps the highest of any forensic identification specialty still being practiced.” Ex. N at 5 (Scientists’ Brief). Devastating new research highlighting these profound error rates, conducted in part by the Vice President of the ABFO’s own Executive Committee, has recently become public. This study, entitled *Construct Validity Bitemark Assessments Using the ABFO Bitemark Decision Tree* (“Construct Validity Study”), demonstrates that even the ABFO’s most experienced forensic odontologists cannot agree on whether an injury is a bite mark at all, to say nothing of whether it was caused by a particular individual.

As part of the Construct Validity Study, photographs of 100 patterned injuries were shown to 103 ABFO board-certified Diplomates. They were asked to decide three questions: first, whether there was sufficient evidence to render an opinion on whether the patterned injury was a human bite mark; second, whether consistent with the ABFO decision tree, the injury was, indeed, a human bite mark, not a human bite mark, or

---


13 Id.

14 Id.
suggestive of a human bite mark (the three options the ABFO’s guidelines currently provide); and third, whether, if a human bite mark, it had distinct, identifiable arches and individual tooth marks.\textsuperscript{15}Thirty-nine Diplomates—accounting for nearly 40% of practicing ABFO Diplomates—finished all 100 questions, resulting in nearly 4,000 decisions. Drs. Pretty and Freeman did not examine the results for ground truth—i.e., whether the diplomats accurately determined what type of injury they were looking at—but rather, on an even more basic level, whether the diplomats agreed with one another. The results were shockingly poor. Determinations were wildly inconsistent across forensic odontologists on the vast majority of marks. As The Washington Post reported, on the question of whether the injury provided sufficient information from which to make a determination as to origin—“the most basic question a bite mark specialist should answer before performing an analysis”—

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

These failures are deeply disturbing. As a group of distinguished scientists reviewing the study’s results concluded, “if dental examiners cannot agree on whether or not there is enough information in an injury to determine whether it is a bitemark, and cannot agree on whether or not a wound is a bitemark, then there is nothing more they can be relied upon to say.” Ex. N (Scientists’ Brief).

Given the lack of a scientific basis for bite mark comparison evidence, the Construct Validity Study’s results are hardly surprising. Nor are they anomalous: a study published in the May 2013 Journal of Forensic Sciences largely presaged its findings.\textsuperscript{17} As that study noted, “[w]hile most odontologists would suggest they can determine with a reasonable degree of certainty what is and what is not a bitemark, there is little evidence to support this claim.”\textsuperscript{18} Looking to close this gap, researchers asked fifteen Australian forensic odontologists—who comprised the majority of those practicing forensic odontology in Australia—to examine six images of potential bite marks, five of which

\textsuperscript{16} Id.
\textsuperscript{17} Ex. P (Mark Page, et al., Expert Interpretation of Bitemark Injuries—A Contemporary Study, 58(3) J. Forensic Sci. 664, 664 (May 2013)).
\textsuperscript{18} Id.
were of marks confirmed by living victims to have been caused by teeth.\textsuperscript{19} The odontologists were then asked in narrative form whether the injuries were, in fact, bite marks. As with the Construct Validity Study, "conclusions between practitioners \textemdash [were] highly variable."\textsuperscript{20} Thus, "the qualitative data plainly verify[d] the fact that there is a wide range of opinion expressed over even the most basic assumption in bitemark analysis: that of the origin of the mark itself."\textsuperscript{21} The study further concluded that this "[i]nconsistency indicates a fundamental flaw in the methodology of bitemark analysis and should lead to concerns regarding the reliability of any conclusions reached about matching such a bitemark to a dentition."\textsuperscript{22}

The inability of bite mark analysts to properly identify human bite marks as such in the first instance are only compounded when they are asked to make conclusions regarding the perpetrator. Study after study has demonstrated a "disturbingly high false-positive error rate" in bite mark comparisons.\textsuperscript{23} For example:

- a 1975 study found that bite mark examiners made "incorrect identification[s] of . . . bites" on pig skin 24\% of the time even when the bites were made "under ideal laboratory conditions" and 91\% of the time when the bites were photographed 24 hours after being made;

- a 1999 American Board of Forensic Odontology Bitemark Workshop in which "ABFO diplomats attempted to match four bite marks to seven dental models" resulted in 63.5\% false positives;

- a 2001 study of "bites made in pig skin" resulted in between 11.9 and 22.0\% "false positive identifications . . . for various groups of forensic odontologists."\textsuperscript{24}

These studies demonstrate that bite mark evidence simply cannot do what its practitioners purport.

**Bite Marks Have Led to Many Miscarriages of Justice**

*Steven Mark Chaney*

Simply put, there is no science that confirms biting surfaces of teeth are unique, that these unique features can be accurately recorded in human flesh, or that practitioners can objectively and systematically measure this uniqueness—which is to say there is no

\textsuperscript{19} Id. at 665.
\textsuperscript{20} Id. at 671.
\textsuperscript{21} Id. at 668.
\textsuperscript{22} Id. at 670.
\textsuperscript{23} Ex. Q (C. Michael Bowers, Problem-Based Analysis of Bitemark Misidentifications: The Role of DNA, 1595 Forensic Sci. Int'l S104, S107 (2006)).
\textsuperscript{24} Id. at S106.
science whatsoever which “confirm[s] the fundamental basis for the science of bite mark comparison.” Ex. A at 175 (NAS Report). What science there is, moreover, affirmatively disproves it. See Ex. E at ¶ 30 (Bush Affidavit) (“The fundamental tenets of bite mark analysis are not supported by science. Our research, confirmed by the NAS report, suggests, moreover, that they cannot be.”). The practice of bite mark comparison is also prone to high rates of serious error. Yet our client, Steven Mark Chaney, and others like him, languish in prisons and jails in Texas and elsewhere, often on the basis of little more than subjective speculation masquerading as science.

On December 14, 1987, Mr. Chaney was convicted of the murder of John Sweek and sentenced to life in prison. The primary driver of his conviction was the testimony of two forensic odontologists that Mr. Chaney’s teeth matched an alleged bite mark on the body of one of the victims and that there was only a one-in-a-million chance that Mr. Chaney wasn’t the source of the mark. The prosecution told the jury that it was on this evidence alone that they should convict:

Most of all, we have the bite mark. I wouldn’t ask you to convict just based on the testimony of the tennis shoe, of the statements [Chaney] made to Investigator Westphalen, or the statements [Chaney] made to . . . [the informant]. But, by golly, I’m going to ask you to convict on that dental testimony. . . . And [Dr. Hales] said to you that only one in a million people could have possibly made that bite mark. What more do you need?25

The prosecutor’s exhortations had their intended effect; as one juror testified in a post-verdict colloquy, “Do you want me to tell what made my decision? […] The bitemark.”26

Without the link provided by forensic odontology, the case against Mr. Chaney could not have been sustained. He was arrested in June of 1987, after the bodies of a drug dealer and his wife were found murdered in the apartment they shared in East Dallas.27 John Sweek and his wife Sally had had their throats slit, and both suffered many additional stab wounds.28 The Sweeks had been dealing cocaine from their apartment for at least two years prior to their deaths, and their family members immediately informed the police that the couple’s drug suppliers had threatened to kill John in the past for non-payment.29 The family believed these suppliers included a man named Juan Gonzalez, who they understood to be a member of the “Mexican Mafia” active in Dallas’s drug trade. Gonzalez had apparently been looking for John just before the murders, and the family accordingly suspected his involvement.30

---

25 Tr. II 801-02.
26 Tr. II Vol. 9, p. 6.
28 Id.
29 E.g., First Trial Tr. (“Tr. I”) 158-61, 167; Detective Westphalen Investigative Notes, Dallas Police Department File (“W. Notes”) 150.
30 E.g., W. Notes 185.
While this information originally led police to suspect Gonzalez, Mr. Chaney, a regular client and friend of the Sweeks, was ultimately arrested after a friend and fellow customer of the Sweeks informed police that he believed Mr. Chaney had a motive for the murders because he owed the Sweeks approximately $500 for drugs. Though Mr. Chaney had nine alibi witnesses who broadly confirmed his whereabouts the day of the murders (and no criminal history apart from two misdemeanor marijuana convictions), the state proceeded to trial against him.

As the prosecutor told the jury in closing, by far the most compelling evidence of Mr. Chaney’s guilt was the testimony of two forensic odontologists, Drs. Jim Hales and Homer Campbell, both of whom also played key roles in the wrongful Texas convictions of Calvin Washington and Joe Sidney Williams. Drs. Hales and Campbell each testified that the alleged bite mark on John’s forearm matched Chaney’s dentition. See Ex. R (Hales Testimony) at 359, 368, 373, 375, 384, 389; Ex. S at 480, 482 (Campbell Testimony). Dr. Campbell testified that Chaney made the alleged bite mark to a reasonable dental certainty. See Ex. S at 462, 482–83 (Campbell Testimony). Dr. Hales also testified that there was a “[o]ne to a million” chance that someone other than Mr. Chaney could have left the bite mark. See Ex. R at 433 (Hales Testimony).

Today, we know that the bite mark evidence offered against Mr. Chaney was not worthy of belief and should never have been proffered to a jury. Indeed the testimony proffered by Drs. Hales and Campbell is exactly the type that the NAS has recognized as unreliable and baseless and that substantial scientific evidence has disproved. As an initial matter, the testimony purporting to “match” Mr. Chaney to the marks, or otherwise to identify him as the biter, is unsupportable as a matter of science. See Ex. A at 175 (NAS Report) (“[T]he scientific basis is insufficient to conclude that bite mark comparisons can result in a conclusive match.” (emphasis added)); Ex. N at 25 (Scientists’ Brief) (noting that “the uniqueness assumption [regarding the dentition] has increasingly come to be recognized as unproved and unsound . . . .”); Ex. E at ¶ 29 (Bush Affidavit) (conclusions “that bitemark comparison evidence permitted an odontologist to determine that a particular dentition created a particular mark left in human skin (i.e., individualization) . . . are not supported by science. Indeed, we know from our research that the distorting effects of skin can result in random matches of non-biting dentitions to bitemarks”).

Dr. Hales’s assertion that there was a “[o]ne to a million” chance that someone other than Mr. Chaney made the mark further exemplifies the foundationless conclusions characteristic of bite mark testimony. See Ex. A at 174 (NAS Report) (“[T]here is no established science indicating what percentage of the population or subgroup of the population could also have produced the bite.”); Ex. N at 22 (Scientists’ Brief) (“Unfortunately, forensic dentists have very little information of the kind needed to make an informed assessment [as to the likelihood of a random match] . . . Actual probabilities are not known because no population studies have been carried out to determine what

---

31 E.g., Second Trial Transcript (“Tr. II”) 200-207; Tr. I 146-47; Chaney at 775 S.W.2d at 724.
32 E.g., Tr. II 530-41, 636-644, 644-58, 659-670, 711-723, 670-711, 740-46; 724-727; 727-730; Chaney at 775 S.W.2d at 724-25.
features to consider, much less the actual degree of variation in teeth shapes, sizes, positions, etc., that exist in the population.” (internal quotation marks omitted)); Ex. E at ¶ 29 (Bush Affidavit) (“Dr. Hales’s assertion that there was ‘one to a million’ chance that anyone other than Mr. Chaney created the mark has now been entirely discredited by our work and by the work of the NAS; there is simply no scientific support to offer that, or any other figure, regarding the likelihood of a random match.”). This proffer of statistical evidence without sufficient foundation, is, moreover, exactly the same as the flawed hair microscopy testimony on which this Commission recently took action.

Mr. Chaney is currently in the process of challenging his conviction pursuant to Texas’s new discredited science statute, Article 11.073. Whether or not Mr. Chaney ultimately obtains relief from the courts, it is clear that the continued incarceration of a person like Mr. Chaney on what we now know to be utterly unreliable testimony, without basis in science, is an injustice that this Commission can and should ensure that Texas avoids repeating.

**Bite Mark Evidence Has Led to Many Wrongful Convictions**

Bite mark evidence has also been directly responsible for the wrongful conviction or indictment of at least two dozen people. (A complete list of these known wrongful convictions is attached as Ex. D). Ray Krone’s case is the paradigmatic example such a wrongful conviction. Mr. Krone was wrongfully convicted and sentenced to death after a bartender at a bar he frequented was kidnapped and murdered. Police had a Styrofoam impression made of Mr. Krone’s apparently distinctive teeth for comparison to injuries found on the victim’s body; he thereafter became known in the media as the “Snaggle Tooth Killer” due to his crooked teeth. Mr. Krone was convicted in two trials, both times largely on the testimony of Dr. Raymond Rawson, a board-certified ABFO Diplomate, that a bite mark found on the victim matched Mr. Krone’s teeth. Mr. Krone served ten years in prison, some of this time on death row before being exonerated by DNA testing. This testing excluded Mr. Krone but inculpated another man, who had lived near the victim and who was then serving a sentence for an unrelated sexual assault. A picture of the bite mark found on the victim along with Mr. Krone’s dentition (appearing on page 46 of Ex. N (Scientists’ Brief)) is a powerful demonstration of how well-matched an innocent person’s dentition may appear to be to a mark in fact made by another person.

Robert Lee Stinson, too, served more than two decades in prison for the rape and murder of an elderly woman he did not commit. Mr. Stinson became a suspect after police officers, who had been informed by a forensic odontologist that the perpetrator

---

34 Ex. D (List of Bite Mark Exonerations).
was missing a tooth, told him a joke, causing him to laugh and expose his teeth. 36 Mr. Stinson’s ultimate conviction rested largely on the testimony of a forensic dentist that bite marks found on the victim “had to have been made by teeth identical” to Mr. Stinson’s. The dentist testified that there was “no margin for error” in his conclusion. 37 DNA later demonstrated that, despite the odontologists’ certainty, Mr. Stinson was innocent. 38 Mr. Krone and Mr. Stinson’s stories represent only a few of the injustices borne from the use of this so-called science. 39

In addition to the decades stolen from innocent people, bite mark evidence has also been responsible for at least one needless death, after a real perpetrator was left free to rape and kill. 40 Levon Brooks was wrongfully convicted of the rape and murder of a three-year old girl after bite mark comparison not only wrongly included him, but also excluded the actual perpetrator, Justin Albert Johnson. After Johnson evaded punishment for this terrible crime, he raped and murdered another three-year old child. 41 After this second child was killed, bite mark evidence was used again to inculpate another innocent man, Kennedy Brewer. Mr. Brewer was convicted of capital murder and sexual battery and sentenced to death, based in part on testimony that the supposed bite marks found on the victim were “indeed and without a doubt” made by him. 42 DNA evidence ultimately proved Mr. Brewer’s innocence and Johnson’s guilt. 43

---

36 Innocence Project, *Know the Cases: Robert Lee Stinson*, http://www.innocenceproject.org/Content/Robert_Lee_Stinson.php (another dentist also testified that the bite mark evidence was “high quality” and “overwhelming”).

37 Id.

38 Id.

39 In addition to Ex. D, the Innocence Project’s list of known bite mark wrongful convictions and indictments, more about other wrongful convictions can be found in T. the Washington Post’s exhaustive four-part series on bite mark evidence. See, e.g., Radley Balko, *How The Flawed ‘Science’ Of Bite Mark Analysis Has Sent Innocent People To Prison*, Washington Post, Feb. 13, 2015, available at http://www.washingtonpost.com/news/the-watch/wp/2015/02/13/how-the-flawed-science-of-bite-mark-analysis-has-sent-innocent-people-to-jail/ (“[T]he scientific community has declared that bite mark matching isn’t reliable and has no scientific foundation for its underlying premises, and that until and unless further testing indicates otherwise, it shouldn’t be used in the courtroom.”).


42 Id.

43 Id. In a similar story, Dane Collins was wrongfully charged with the rape and murder of his stepdaughter based largely on bite mark evidence. Though the state ultimately did not proceed against Mr. Collins, “the DA gave several public interviews stating that while there was not enough evidence to try the case, he believed Collins was guilty of the crime.” Ex. D (List of Bite Mark Exonerations). Fifteen years later, DNA from a databank was found to match DNA left at the crime scene; the real perpetrator was already serving a sentence of life imprisonment for the kidnapping and rape of another woman. See Jeremy Pawlowski, *Plea in ’89 Slaying Eases Parents’ Pain*, Albuquerque Journal, August 14, 2005, available at http://abqjournal.com/news/state/3807651.htm?r=0-14-05.htm.
Wrongful Convictions in Texas: Calvin Washington and Joe Sidney Williams

Texas has not escaped the scourge of wrongful bite mark convictions. Calvin Washington and his codefendant, Joe Sidney Williams, were exonerated after spending years in prison for a murder they did not commit. On March 1, 1986, the body of Juanita White was discovered beaten, raped, and murdered in her home. A bite mark was found on her body. The prosecution produced evidence that Mr. White and Mr. Williams were in possession of Ms. White’s car the day after the murder and had sold some of her belongings the night she was killed. Originally, forensic odontologist Jim Hales told police that Mr. Washington made the mark, but by the time of trial, another forensic odontologist, Homer Campbell, had concluded that Mr. Williams was the source of the mark. Campbell testified at both trials that Mr. Washington’s teeth were consistent with the mark found on Ms. White’s body, thus linking both men to the crime.

44 Ms. White was also the mother of David Wayne Spence, another person possibly wrongfully convicted and executed in Texas on the basis of bite mark evidence. See Michael Hall, The Murders at the Lake, Texas Monthly, April 2014, http://www.texasmonthly.com/story/investigating-the-lake-waco-murders/fullpage=1 (Hall, Murders). Mr. Spence, along with three co-defendants, was convicted in 1985 of the murders of three teenagers in Waco, Texas. Id. The prosecution’s theory was that Muneer Deeb, the 23 year-old operator of a convenience store, had hired Mr. Spence and brothers Tony and Gilbert Melendez to kill an employee on whom, like all his employees, he had taken out a life insurance policy. The state theorized that Mr. Spence killed another woman by mistake, along with two other teenagers who had witnessed the crime. See National Registry of Exonerations, Muneer Deeb, https://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3168 (Deeb Registry). The state’s major evidence of guilt was the testimony of Dr. Homer Campbell that “Spence was the only individual to a ‘reasonable medical and dental certainty’ who could have bitten the women.” Hall, Murders supra.

Mr. Deeb and Mr. Spence were both convicted at trial in 1985, with Mr. Spence sentenced to death; the Melendez brothers pleaded guilty. In 1992, Texas Criminal Court of Appeals overturned Mr. Deeb’s conviction on the basis of improperly admitted informant testimony; he was then acquitted on retrial. See Deeb Registry supra. Despite substantial doubts about his guilt, Mr. Spence was executed in 1997. See Bob Herbert, The Wrong Man, N.Y. TIMES, July 25, 1997, available at (“Mr. Spence was almost certainly innocent. This is not a hypothesis conveniently floated by death-penalty opponents. Those who believe that David Spence did not commit the crime for which he died include the lieutenant, now retired, who supervised the police investigation of the murders; the detective who actually conducted the investigation, and a conservative Texas businessman who, almost against his will, looked into the case and became convinced that Mr. Spence was being railroaded.”). Both Gilbert Melendez and Mr. Deeb have since passed away from natural causes. Tony Meldenez, who remains incarcerated, has recently sought and obtained DNA testing on, among other items, shoelaces used to tie up the victims; results of these tests have yet to be made public. See Cindy V. Culp, Evidence From Lake Waco Murders Case To Be Sent To Arkansas Lab, WacoTrib.com, April 4, 2013, available at http://www.wacotrib.com/news/courts_and_trials/evidence-from-lake-waco-murders-case-to-be-sent-to/article_f971525-8aad-5375-b583-d0ab1b7717bf.html.


46 Id.

47 Hall, Murders, supra note 44.

48 Id.
In 1992, the Texas Court of Criminal appeals set aside Mr. Williams’s conviction, determining that alleged statements by Mr. Washington were improperly admitted at Mr. Williams’s trial. The charges against Mr. Williams were ultimately dismissed, and he was released in 1993. Mr. Washington, who remained imprisoned, continued to seek DNA testing. In 2001, he obtained tests which proved that blood on a shirt found at his home was not the victim’s, as the prosecution had claimed at trial. Later DNA tests excluded both Mr. Washington and Mr. Williams from semen found inside the victim; DNA in the semen was matched to an original suspect in the crime, who committed a similar crime shortly after Ms. White was killed.

The Need for This Commission’s Intervention

Bite mark evidence is unscientific and unreliable, and thus grossly unfit for use in criminal proceedings. See Ex. E at ¶ 30 (Bush Affidavit) (“Unless and until these premises [regarding the uniqueness of the dentition and the ability of human skin to record that uniqueness] can be scientifically demonstrated, bitemark comparison evidence should not be admitted in criminal proceedings.”); Ex. N at 45 (Scientists’ Brief) (“[T]he foundations of bitemark identification are unsound.”). It thus presents a perfect opportunity for this Commission to exercise its statutory mandate to evaluate and report on the discipline’s “integrity and reliability.” Tex. Crim. Proc. Code Ann. § art. 38.01(4)(b-1)(1). A thorough review of the state of bite mark science and an audit of the cases premised upon it would ameliorate some of the damage this technique has already done to the Texas criminal justice system; a moratorium on its use would prevent it from doing any further harm. See Tex. Crim. Proc. Code Ann. § art. 38.01(4)(b-1)(3) (“the investigation may include the preparation of a written report that contains: . . . other recommendations that are relevant, as determined by the commission”); Tex. Crim. Proc. Code Ann. § art. 38.01(4)(a)(3).

Not only is such a report and audit well within this Commission’s statutory authority, but action by an independent body like this one may well be necessary to ensure that bite marks are no longer used to convict innocent people in Texas. A series of articles published earlier this year by The Washington Post (appended as Ex. T) revealed the ABFO’s longstanding pattern and practice of suppressing dissent and punishing scrutiny. The articles reveal that most recently, the ABFO sought to silence one of its most prominent critics, Dr. C. Michael Bowers, by filing a retaliatory ethics complaint against him in front of the American Academy of Forensic Sciences (“AAFS”). See Ex. T at 27-38. In addition to this “transparent attempt to purge someone who has been a problem for [the ABFO],” id. at 29 (internal quotation marks omitted), The Washington Post stories also reflect efforts by the ABFO to silence Dr. Mary and Peter Bush, who have conducted the most substantial (and indeed, largely the only) scientific research into the fundamental assumptions underlying bite mark analysis. Id. at 27-38. The Washington Post reveals that the Bushes’ basic research was welcomed and supported by the ABFO until they “began to come back with results that called the entire discipline

50 Id.
into question...” Id. at 38-46. Once the Bushes’ results made plain that there is no scientific basis for bite mark comparisons, the forensic dentistry community undertook “a nasty campaign to undermine [their] credibility.” Id. at 40. These campaigns by bite mark adherents to silence their critics and suppress science showing the invalidity of their claims are all the more reason for this Commission, as an independent body not subject to capture or intimidation, to intervene.

On behalf of Mr. Chaney and others like him, we ask that this Commission take action and reverse the damage bite mark comparison and its disciples have done to the integrity of criminal justice in Texas. By conducting an investigation and audit, and in calling for a moratorium, this Commission can not only take a stand for reliability and integrity in forensic science in Texas, but also ensure that wrongful convictions like those of Calvin Washington and Joe Sidney Williams remain things of the past.

Very Truly Yours,

Barry Scheck
M. Chris Fabricant
Dana M. Delger
Innocence Project, Inc.
40 Worth Street, Suite 701
New York, New York 10013
(212) 364-5997

Julie Lesser
Exoneration Attorney
Dallas County Public Defender’s Office
133 N. Riverfront Blvd., LB 2, 9th Floor
Dallas, Texas 75207
214-653-3564