

NON-PRECEDENTIAL DECISION - SEE SUPERIOR COURT I.O.P. 65.37

COMMONWEALTH OF PENNSYLVANIA	:	IN THE SUPERIOR COURT OF
	:	PENNSYLVANIA
	:	
v.	:	
	:	
PAUL AARON ROSS	:	
	:	
Appellant	:	No. 1738 WDA 2018

Appeal from the Order Dated November 6, 2017
In the Court of Common Pleas of Blair County Criminal Division at No(s):
CP-07-CR-0002038-2004

BEFORE: MURRAY, J., McLAUGHLIN, J., and COLINS, J.*

MEMORANDUM BY MURRAY, J.: **FILED NOVEMBER 21, 2019**

Paul Aaron Ross (Appellant) appeals from the order denying his request for a **Frye** hearing.¹ After careful consideration, we vacate the trial court’s order denying Appellant’s request for a **Frye** hearing and remand to the trial court for proceedings consistent with this decision.

This appeal arises from the June 27, 2004 murder of Tina Miller at Canoe Creek Lake in Canoe Creek State Park. Appellant was arrested and charged with Ms. Miller’s murder. On November 23, 2005, a jury found Appellant guilty

* Retired Senior Judge assigned to the Superior Court.

¹ A **Frye** hearing, named after the decision in **Frye v. United States**, 293 F. 1013 (D.C. Cir. 1923), “is a hearing held for the trial court to determine whether the general scientific community has reached a general acceptance of the principles and methodology used by the expert witness.” **Commonwealth v. Walker**, 92 A.3d 766, 769 n.1 (Pa. 2014).

of first-degree murder, aggravated assault, involuntary deviate sexual intercourse, unlawful restraint, simple assault, false imprisonment, and indecent assault.²

A prior panel of this Court summarized the post-trial procedural history:

At the sentencing phase of the trial, the jury rejected imposition of the death penalty. The trial court then proceeded to sentence [Appellant] to life in prison plus 24 to 48 years. [Appellant] filed post-trial motions, which the trial court denied on January 30, 2006. On February 10, 2006, [Appellant] filed a timely notice of appeal, but [Appellant's] counsel failed to file an appellate brief and the appeal was consequently dismissed. On September 26, 2008, [Appellant] filed a PCRA petition seeking the reinstatement *nunc pro tunc* of his direct appeal rights, which the trial court granted on August 14, 2009.

Commonwealth v. Ross, 57 A.3d 85, 90 (Pa. Super. 2012) (*en banc*).

On October 12, 2012, an *en banc* panel of this Court vacated Appellant's judgment of sentence and remanded for a new trial. ***Id.*** at 105. On November 17, 2015, the Pennsylvania Supreme Court denied the Commonwealth's petition for allowance of appeal.

On March 1, 2016, Appellant filed pre-trial motions in which he sought, *inter alia*, the exclusion of any expert evidence relating to bite mark identification and a ***Frye*** hearing. At trial, the Commonwealth intends to introduce the testimony of Dr. Dennis Asen (Dr. Asen) and Dr. Lawrence Dobrin (Dr. Dobrin). Dr. Asen and Dr. Dobrin are both dentists and practice

² 18 Pa.C.S.A. §§ 2501(a), 2702(a)(1), 3123(a)(1), 2902(a)(1), 2701(a)(1), 2903(a), 3126(a)(2).

in the field of forensic odontology (the study of the structure of teeth). Dr. Asen and Dr. Dobrin intend to testify that the mark on Ms. Miller's left breast was caused by a human bite, and when they compared five sets of teeth molds, including one from Appellant, Dr. Asen and Dr. Dobrin could exclude four of the molds from having made the bite mark, but not Appellant's.

On December 2, 2016, following the filing of several supplemental motions by Appellant and objections by the Commonwealth, the trial court heard oral argument on Appellant's request for a **Frye** hearing. On March 8, 2017, after the parties submitted additional briefs on Appellant's request for a **Frye** hearing, the trial court entered an order concluding that bite mark identification evidence is not novel and therefore a **Frye** hearing was not warranted. The court further provided that the Commonwealth's experts were to adhere to the guidelines set forth by the American Board of Forensic Odontologists (ABFO).

On April 5, 2017, Appellant filed a motion to amend the March 8, 2017 order to include language relating to Pennsylvania Rule of Evidence 702(c), so that the trial court could address whether the expert methodology is generally accepted in the relevant field. Appellant also requested that the court certify for immediate appeal its decision not to hold a **Frye** hearing on the bite mark identification evidence. On November 6, 2017, the trial court entered an amended order once again denying Appellant's request for a **Frye** hearing.

The trial court also included in the order language addressing Rule 702(c) and granting Appellant's request for certification of immediate appeal.

On December 5, 2017, Appellant filed a petition for permission to file an interlocutory appeal with this Court, which we denied by *per curiam* order on May 7, 2018. On June 1, 2018, Appellant filed a petition for allowance of appeal to the Pennsylvania Supreme Court. On November 20, 2018, our Supreme Court granted Appellant's petition for allowance of appeal, vacated this Court's order denying Appellant's petition for permission to file an interlocutory appeal, and remanded the case to this Court for disposition.

On appeal, Appellant presents the following issues for review:

1) WHETHER THE SUBSTANTIAL EVIDENCE [APPELLANT] PROPOSED TO PRESENT AT A MOVED-FOR **FRYE** HEARING DISCREDITING BITE MARK ANALYSIS COMES FROM AND IS PART OF THE RELEVANT SCIENTIFIC COMMUNITY FOR **FRYE** PURPOSES THUS ENTITLING HIM TO A **FRYE** HEARING; OR WHETHER PENNSYLVANIA COURTS MUST LIMIT THEIR RELIABILITY INQUIRY TO THE VIEWS OF CURRENT PRACTITIONERS OF THE PARTICULAR TECHNIQUE AT ISSUE?

2) WHETHER THE SUBSTANTIAL EVIDENCE PROFFERED BY [APPELLANT] AT THE MOVED-FOR **FRYE** HEARING PRESENTED A LEGITIMATE DISPUTE REGARDING THE RELIABILITY OF BITE MARK ANALYSIS THUS ENTITLING HIM TO A **FRYE** HEARING; AND SUCH THAT THE TRIAL COURT'S ADMISSION OF THE SAME WITHOUT A FRYE HEARING WAS IN ERROR?

Appellant's Brief at 5.

Both of Appellant's issues related. Therefore, we address them together. We begin with our standard of review:

As a general rule, this Court's standard of review of a trial court's evidentiary ruling, including a ruling whether expert scientific

evidence is admissible against a **Frye** challenge, is limited to determining whether the trial court abused its discretion. **Grady v. Frito-Lay, Inc.**, 839 A.2d 1038, 1046 (Pa. 2003); **Zieber v. Bogert**, 773 A.2d 758, 760 n.3 (Pa. 2001) (citing **Commonwealth v. Miner**, 753 A.2d 225 (Pa. 2000)). “An abuse of discretion may not be found merely because an appellate court might have reached a different conclusion, but requires a result of manifest unreasonableness, or partiality, prejudice, bias, or ill-will, or such lack of support so as to be clearly erroneous.” **Grady**, 839 A.2d at 1046 (citing **Paden v. Baker Concrete Constr., Inc.**, 658 A.2d 341, 343 (Pa. 1995)).

Commonwealth v. Dengler, 890 A.2d 372, 379 (Pa. 2005) (citations modified).

Appellant argues that the trial court abused its discretion in denying his request for a **Frye** hearing on the admissibility of the Commonwealth’s bite mark identification evidence. This Court recently articulated the legal standards implicated by a **Frye** analysis:

The **Frye** standard originally was intended to prevent the situation in which a party would seek to introduce scientific evidence that was so new that it would be impossible to “produce rebuttal experts, equally conversant with the mechanics and methods of a particular technique.” [**U.S.**] **v. Addison**, 498 F.2d 741, 744 (D.C. App. 1974). **Frye** contemplated a judicial inquiry, informed by experts, into the general acceptance of the scientific methods used. The standard required that “the thing from which the [expert’s] deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.” **Frye, supra** at 1014. At issue in **Frye** was admissibility of the systolic blood pressure deception test, commonly known as the lie detector test. The trial court excluded the evidence, and the court affirmed that ruling on appeal, explaining:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and

while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.

Frye, supra at 1014. Pennsylvania adopted the **Frye** standard in **Commonwealth v. Topa**, 369 A.2d 1277 (Pa. 1977), a case involving the propriety of the trial court's admission of voice print identification evidence through an expert, Lieutenant Nash, of the Michigan State Police. Our High Court, applying **Frye**, reasoned that

[t]he requirement of general acceptance in the scientific community assures that those most qualified to assess the general validity of a scientific method will have the determinative voice. Additionally, the **Frye** test protects prosecution and defense alike by assuring that a minimal reserve of experts exists who can critically examine the validity of a scientific determination in a particular case. Since scientific proof may in some instances assume a posture of mystic infallibility in the eyes of a jury of laymen, the ability to produce rebuttal experts, equally conversant with the mechanics and methods of a particular technique, may prove to be essential.

Topa, supra at 1282 (quoting **Addison, supra** at 744). The **Topa** Court went on to conclude that the testimony of one expert could not satisfy this standard, citing commentaries questioning the reliability of sound spectrographs and voiceprints and demonstrating that it was not generally accepted within the field of acoustical science.

Thus, the **Frye** standard originally was intended to prevent a party from introducing scientific evidence that was so new that it would be impossible to "produce rebuttal experts, equally conversant with the mechanics and methods of a particular technique." **Addison, supra** at 744. **Frye** contemplated a judicial inquiry, informed by experts, into the general acceptance of the scientific methods used.

In the years since the adoption of the **Frye** standard, this Court has clarified that "**Frye** only applies to determine if the relevant scientific community has generally accepted the principles and

methodology the scientist employs, not the conclusions the scientist reaches.” **Trach v. Fellin**, 817 A.2d 1102, 1112 (Pa.Super. 2003) (*en banc*).

Walsh v. BASF Corp., 191 A.3d 838, 842-43 (Pa. Super. 2018), **appeal granted**, 203 A.3d 976 (Pa. 2019).³

The above principles have been incorporated into Pennsylvania Rule of Evidence 702, which states:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

(a) The expert’s scientific, technical, or other specialized knowledge is beyond that possessed by the average layperson;

(b) The expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(c) The expert’s methodology is generally accepted in the relevant field.

Pa.R.E. 702 (emphasis added).

Appellant argues that the trial court erred in determining a **Frye** hearing was unnecessary in this case. Appellant asserts that the court wrongly

³ This case was argued before our Supreme Court on October 15, 2019, and is awaiting disposition. **See Walsh v. BASF Corp.**, 203 A.3d 976 (Pa. 2019). The issue before our Supreme Court is whether, in conducting a **Frye** analysis, “trial courts are not permitted to act as ‘gatekeepers’ to ensure the relevance and reliability of scientific studies offered by experts to support their opinions by scrutinizing whether those studies actually support their opinions.” **Id.** at 978. While the Supreme Court may overturn our **Walsh** decision, their disposition will have no bearing on the outcome of this case or the general standards triggering the necessity of a **Frye** hearing that were thoughtfully set forth in the **Walsh** decision.

concluded that the methodology employed by the Commonwealth's experts in conducting their bite mark identification analysis was generally accepted in the scientific community of forensic odontology. Additionally, Appellant contends that the trial court should have examined whether the expert's methodology for bite mark identification analysis was generally accepted in the broader scientific community, as opposed to limiting its examination to the field of forensic odontology. Appellant maintains that bite mark identification analysis has applications in several different scientific communities, and several of these communities have determined that bite mark identification analysis is not reliable and has little or no evidentiary value.

In support of his argument, Appellant relies on our Supreme Court's decision in ***Betz v. Pneumo Abex, LLC***, 44 A.3d 27 (Pa. 2012). At issue in ***Betz*** was the admissibility of expert opinion evidence relating to the "any-exposure" theory of legal causation, *i.e.*, "that each and every exposure to asbestos – no matter how small – contributes substantially to the development of asbestos-related diseases." ***Id.*** at 30. As part of its analysis, the Supreme Court had to first address, as a threshold issue, whether the trial court was correct in concluding that a ***Frye*** hearing was necessary to determine the admissibility of the "any-exposure" evidence. ***Id.*** at 52-55.

In concluding that the trial court's decision to conduct a ***Frye*** hearing was correct, the Supreme Court explained:

There is inherent tension among the various measures for admissibility of expert testimony. The threshold common law test requires merely some reasonable pretension to specialized knowledge. **See, e.g., Miller v. Brass Rail Tavern, Inc.**, 664 A.2d 525, 528 (Pa. 1995). Our evidentiary rules, on the other hand, suggest trial courts may take a greater role in assessing whether the testimony will assist the trier of fact to understand the evidence or determine a fact in issue, **see** Pa.R.E. 702, and in screening evidence to avoid unfair prejudice, confusion of the issues, or misleading of the jury, **see** Pa.R.E. 403. For better or for worse, however, in the context of the more conventional realms of science, the Pennsylvania decisions tend to downplay the courts' screening function. **See, e.g., Commonwealth v. Nazarovitch**, 436 A.2d 170, 172 (Pa. 1981) ("[C]ourts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery[.]" (quoting **Frye**, 293 F. at 1014)). A manifestation of this trend is that challenges generally are vetted through the **Frye** litmus, which winnows the field of the attacks by application of the threshold requirement of novelty. **See Grady**, 839 A.2d at 1043-44.

Various reasons underlie the preference to limit the courts' involvement in determining the admissibility of scientific evidence. There is the concern that liberality in allowing challenges would substantially increase the number of challenges (and cases in which lengthy pre-trial proceedings would ensue). The competency of trial judges to accept or reject scientific theories remains a legitimate subject of controversy. Additionally, a claim or defense in many cases may rise or fall based upon expert testimony and, therefore, there is some reluctance on the part of courts to deprive litigants of their day in court.

On the other hand, this Court has recognized the influential nature of expert testimony on complex subjects, and the potential that distortions have to mislead laypersons. **See id.** at 1045; **Topa**, 369 A.2d at 1281-82. It would be naïve, in this regard, to assume that the possibility for distortion is limited to the very newest realms of science. **Cf. Grady**, 839 A.2d at 1045 (explaining that **Frye** applies not only to novel science, but also where scientific methods are utilized in a novel way).

We therefore agree with Appellants that a reasonably broad meaning should be ascribed to the term "novel." **Furthermore, we conclude that a Frye hearing is warranted when a trial**

judge has articulable grounds to believe that an expert witness has not applied accepted scientific methodology in a conventional fashion in reaching his or her conclusions. Accord id. We believe a narrower approach would unduly constrain trial courts in the appropriate exercise of their discretion in determining the admissibility of evidence. **See id.** at 1046.

Id. at 52-53 (emphasis added, footnote omitted, citations modified).

Additionally, in **Betz**, the Supreme Court rejected the notion that the defendants could not challenge the methodology of the plaintiff's expert pathologist with the testimony of risk assessors, toxicologists, and epidemiologists. **Id.** at 54. The Court reasoned that the expert pathologist's "any-exposure" opinion "was not couched in terms of a methodology or standard peculiar to the field of pathology[,]" and "was plainly grounded on risk assessment." **Id.** at 54-55. Thus, the Supreme Court determined that the subjects at issue "are not within the particular expertise of a pathologist, but, rather, are interdisciplinary in character." **Id.** at 55.

In this case, the trial court reached two conclusions in denying Appellant's request for a **Frye** hearing. First, the trial court determined that "[b]ite mark evidence is currently generally accepted in the relevant scientific community of forensic odontologists." Trial Court Opinion, 11/6/17, at 5. The court explained:

The American Board of Forensic Odontologists (ABFO) has promulgated guidelines regarding the approved methodology concerning bite mark evidence. This [c]ourt notes that the aforementioned methodology rejects the notion that human dentitions are unique to the individual. Any evidence proffered by the Commonwealth to suggest that an individual can be identified

by a bite mark, rather than merely excluded or not excluded as having made the mark, would be inadmissible.

Id.

Second, the trial court rejected Appellant's reliance on ***Betz***, finding that case distinguishable:

It is true that the Pennsylvania Supreme Court allowed the ***Betz*** defendants to address the methodology of a pathologist through the testimony of risk assessors, toxicologists, and epidemiologists. However, ***Betz*** can be distinguished from the instant case. The ***Betz*** Court found that the pathologist's opinion was not "couched in terms of a methodology or standard peculiar to the field of pathology." [***Betz***, 44 A.3d at 54]. Rather, the pathologist's opinion was "plainly grounded on risk assessment" and was "interdisciplinary in character." ***Id.*** at 55. The ***Betz*** Court based its decision not upon the role of pathologists generally, but upon the specific methodology employed by the individual pathologist in question. ***Betz*** does not make a broad assertion that Pennsylvania law "mandates a broader definition of the relevant scientific community" where the methodology of a pathologist is at issue. Here, the Commonwealth does not seek to offer the kind of broad-scale scientific testimony that was at issue in ***Betz***.

Id. at 6.

After careful consideration, we find support for Appellant's position that a ***Frye*** hearing was warranted in this case. First, with respect to the trial court's conclusion that bite mark identification analysis has general acceptance in the field of forensic odontology, Appellant offered evidence indicating that there is a lack of consensus among forensic odontologists on whether bite mark identification analysis is reliable and valid. While there is no dispute that the ABFO has established standards and a methodology for conducting bite mark identification analysis, ***see*** Commonwealth's Third Brief

in Opposition to Appellant's Request for a **Frye** Hearing, 2/21/17, Exhibit B, Appellant presented numerous reports to the trial court indicating that practitioners within the community of forensic odontology question whether this methodology reliably enables forensic odontologists to identify an injury as a human bite mark.

For example, Appellant presented evidence from a presentation by Dr. David Senn, DDS, Vice-President of the American Board of Forensic Odontology, to the National Academies: Committee on Identifying the Needs of the Scientific Community. **See** Defendant's Post-Argument Supplement to "Defendant's Motion in *Limine*: **Frye** Test – Bite Mark Evidence" (hereinafter Defendant's Post-Argument Supplement), 1/17/17, Exhibit 4 (Presentation to the National Academies: Committee on Identifying the Needs of the Forensic Science Community – Forensic Odontology Bite Marks (hereinafter Senn Presentation), 4/23/07, at 31-34). While Dr. Senn opined that bite mark identification analysis was important to the investigation and adjudication of certain crimes, *id.* at 45, Dr. Senn identified several "major problems" with bite mark identification analyses, including: "[t]he uniqueness of the human dentition has not been scientifically established"; "[t]he ability of the dentition, *if unique*, to transfer a unique pattern to human skin and maintain that uniqueness has not been scientifically established"; "[a] clear statement of the type, quality, and number of class and individual characteristics or other features required to indicate that a bite mark has reached a threshold of

evidentiary value has not been established”; and “Forensic Odontology certifying organizations have not created or administered bite mark analysis proficiency tests for their board certified members.” *Id.* at 31-34.

Likewise, Appellant presented a report by the President’s Council of Advisors on Science and Technology, which revealed the following:

Empirical research suggest that forensic odontologists do not consistently agree even on whether an injury is a human bitemark at all. **A study of the American Board of Forensic Odontology (ABFO)** involved showing photos of 100 patterned injuries to ABFO board-certified bitemark analysts, and asking them to answer three basic questions concerning (1) whether there was sufficient evidence to render an opinion as to whether the patterned injury is a human bitemark; (2) whether the mark is a human bitemark, suggestive of a human bitemark, or not a human bitemark; and (3) whether distinct features (arches and toothmarks) were identifiable. Among the 38 examiners who completed the study, it was reported that there was unanimous agreement on the first question in only 4 of the 100 cases and agreement of at least 90 percent in only 20 of the 100 cases. Across all three questions, there was agreement of at least 90 percent in only 8 of the 100 cases.

Defendant’s Post-Argument Supplement, 1/17/17, Exhibit 5 (PRESIDENT’S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY, REPORT TO THE PRESIDENT: FORENSIC SCIENCE IN CRIMINAL COURTS: ENSURING SCIENTIFIC VALIDITY OF FEATURE-COMPARISON METHODS (hereinafter PCAST Report) 84-85 (2016)) (emphasis added).

The studies proffered by Appellant challenge the trial court’s conclusion that the ABFO’s methodology for using bite marks to eliminate persons as suspects is generally accepted in the field of forensic odontology. These reports reflect that individuals within the forensic odontology community

question not only whether the ABFO's methodology can reliably aid experts in using bite marks to validly identify or exclude individuals as criminal actors, but also whether the methodology enables experts to identify a wound as a human bite mark. Therefore, Appellant provided the trial court with articulable grounds that the Commonwealth's expert witnesses on bite mark identification analysis have not applied accepted scientific methodology in reaching their conclusions. **See Betz**, 44 A.3d at 53. Accordingly, we conclude that the trial court abused its discretion in denying Appellant's request for a **Frye** hearing.

We are likewise persuaded by Appellant's argument that the trial court should not have limited consideration of the general acceptance of the experts' methodology in this case to the field of forensic odontology. As several of the reports Appellant cites reflect, bite mark identification analysis implicates numerous scientific fields. **See generally** Defendant's Post-Argument Supplement, 1/17/17, Exhibit 2 (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), Exhibit 5 (PCAST Report), Exhibit 11 (Michael J. Saks, *et al.*, *Forensic bitemark identification: weak foundations, exaggerated claims*, 3(3) J. LAW BIOSCI. 1 (2016)). As these studies indicate, bite mark identification analysis not only involves concepts relating to forensic science generally, but also pathology, biology, statistics, and metrology. **See** Defendant's Post-Argument

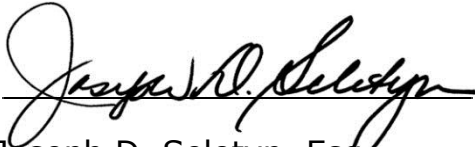
Supplement, 1/17/17, Exhibit 11 (Michael J. Saks, *et al.*, *Forensic bitemark identification: weak foundations, exaggerated claims*, 3(3) J. LAW BIOSCI. 1 (2016)) (noting that the forensic identification process is “fundamentally probabilistic” and that it involves the interplay of different scientific disciplines including blood (pathology), skin (biology and dermatology), and measurements (metrology)). Because the act of biting a human involves not only the biter’s teeth, but also the skin, muscle, tissue, and blood with which the teeth make contact, the notion that bite mark identification analysis involves scientific disciplines beyond forensic odontology is reasonable.

Finally, we emphasize that our decision in no way represents a determination as to the general acceptance of the methodology underlying bite mark identification analysis utilized by the Commonwealth’s experts in this case. We make no judgment as to the admissibility of the bite mark identification evidence at issue. Rather, we simply conclude that Appellant provided the trial court with articulable grounds to believe that the Commonwealth’s expert witnesses on bite mark identification analysis may not have applied generally accepted scientific methodology in reaching their conclusions, and consequently, the trial court erred in concluding that a **Frye** hearing was not necessary. While Appellant’s evidence expresses negative opinions on bite mark identification analysis, we cite it only to support our conclusion that a **Frye** hearing is proper for the resolution of these discrepancies, and to afford both parties the opportunity to present evidence

in support of their positions. Therefore, we vacate the order denying Appellant's request for a **Frye** hearing and remand this matter to the trial court for a hearing in accordance with **Frye**.

Order vacated. Case remanded. Jurisdiction relinquished.

Judgment Entered.

A handwritten signature in black ink, appearing to read "Joseph D. Seletyn". The signature is written in a cursive style with a horizontal line underneath it.

Joseph D. Seletyn, Esq.
Prothonotary

Date: 11/21/2019