Circuit Court for Prince George's County
Case No. CT-12-1375X

UNREPORTED

IN THE COURT OF SPECIAL APPEALS

OF MARYLAND

No. 2176

September Term, 2018

KOBINA EBO ABRUQUAH

v.

STATE OF MARYLAND

Berger,
Beachley,
Wells,

JJ.

Opinion by Beachley, J.

Filed: January 17, 2020

A jury in the Circuit Court for Prince George's County convicted Kobina Abruquah, appellant, of first-degree murder and use of a handgun in the commission of a crime of violence. The Court sentenced appellant to life plus twenty years. In this appeal, appellant presents four questions for our review, which we slightly rephrase as follows:

1. Did the hearing court err in placing the burden on appellant in a *Frye-Reed*[1]/Maryland Rule 5-702 hearing?

2. Did the hearing court err in allowing the State's firearms examiner to testify that, in his opinion, bullets found in the decedent's body had been fired from a gun that belonged to appellant?

3. Did the trial court err in excluding certain e-mails as hearsay?

4. Did the trial court err in allowing evidence of the decedent's alleged fear of appellant?

For reasons to follow, we answer all four questions in the negative and affirm the judgments of the circuit court.

BACKGROUND

In August of 2012, appellant lived in a rented house with several roommates. On August 8, 2012, one of appellant's roommates, Ivan Aguirre-Herrera, was found dead in the home, the cause of death being multiple gunshot wounds. A subsequent search of the home revealed two firearms belonging to appellant. One of those firearms, a Taurus revolver, was later tested by a firearms examiner with the Prince George's County Police,

[1] "[T]he standard enunciated in *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), and adopted by this Court in *Reed v. State*, 283 Md. 374 (1978), . . . makes evidence emanating from a novel scientific process inadmissible absent a finding that the process is generally accepted by the relevant scientific community." *Clemons v. State*, 392 Md. 339, 343-44 (2006). That standard is sometimes referred to as the "*Frye-Reed* standard."

who ultimately determined that the bullets recovered from Mr. Aguirre-Herrera's body were fired from appellant's gun. Appellant was arrested and charged.

Appellant's Challenge to the State's Firearms Expert

Prior to trial, appellant filed a "Motion *In Limine* to Exclude or Restrict Firearm or Toolmark Identification Testimony." In that motion, appellant argued that firearms toolmark examination, or "the practice of investigating whether a bullet, cartridge case, or other ammunition component or fragment can be traced to a particular suspect weapon," lacked "a scientific basis" and had been the subject of scrutiny in "the scientific community and the courts." Appellant argued that the circuit court should hold a hearing to assess the methodology's reliability. Appellant also argued that if the State were permitted to present testimony regarding firearms toolmark identification, the court "should restrict the level of 'certainty' with which the witness may testify" and "allow defense experts to testify about both the limitations of the methodology and the evidence in this case."

Following a preliminary hearing regarding appellant's motion, the hearing court found that "a *Frye-Reed* hearing [was] warranted," and rescheduled the matter to a later date. When the parties returned to court on that date, appellant requested a continuance, which the court granted, and the matter was again reset. Before the court ended the proceedings, the State raised an issue as to whether the matter was "really a *Frye-Reed* hearing." The State argued that the matter was "really a [Maryland Rule] 5-702 hearing" because firearms toolmark identification was not a new science, but rather had long been accepted by the scientific community and the courts. After defense counsel argued to the contrary, the court agreed with the State that firearms toolmark identification was "not a

new science," but noted that it had already "agreed to conduct a *Frye-Reed* hearing and that is what [it was] going to do."

On December 18, 2017, the parties returned to court for a full evidentiary hearing on appellant's motion. At the outset, the hearing court indicated that it had "received a myriad of pleadings and had a series of communications with counsel that were not recorded on the record" regarding its decision to conduct a *Frye-Reed* hearing. The court stated that, because of those pleadings and communications, it had decided that appellant's motion would be treated as "a motion *in limine* or, rather, an inverse *Frye-Reed* hearing."

Defense counsel objected to the hearing court's decision, arguing that a *Frye-Reed* hearing was more appropriate where "evidence that may have been admitted for years" was "now coming under scientific scrutiny." Defense counsel added that the State had "the burden to put their expert first and qualify him" and that the Defense would "probably be challenging his qualifications" and would "want to *voir dire* [him.]" At that point, the court interrupted defense counsel and stated:

> All right. Let me say this, as a preliminary matter, I am not precluding any witness, evidence or argument that the parties want to put forth with respect to this proceeding.
>
> What I am saying is is [sic] that I recognize that the information that [] is to be presented by the State has been universally accepted for quite a while now. I believe the burden is on the Defense to demonstrate to me via a *motion in limine* why the evidence should be precluded altogether and, certainly, also in the alternative I would also entertain any arguments as to information that they would want to put forth before the factfinder to challenge any evidence that is permitted at trial.

Following the court's ruling, William Tobin, a forensic metallurgist material

scientist, testified as a defense expert in forensic metallurgy.[2] Mr. Tobin explained that firearms toolmark examination, or the process of examining a bullet or cartridge and trying to match that sample to a sample from a suspect firearm, involves multiple stages. During the process, the samples are placed under a microscope and observed by a firearms examiner, who then looks for certain characteristics in the samples.

Mr. Tobin explained that the first characteristic, or "filter," is the "class characteristic," which is the "broadest class" and includes the caliber of weapon and the number of "lands and grooves." The second filter is the "subclass characteristics" and includes those characteristics "generated during the manufacturing process that would . . . generally belong to an entire production lot." The final filter is the "individual characteristics" that "supposedly are individual to each particular . . . firearm." Those characteristics include "striations," which are "linear scratches," and "impressions," which are "manifestations of compressive contact, typically forced contact."

Mr. Tobin testified that, after a firearms examiner examines two samples and compares their class, subclass, and individual characteristics, the examiner will generally make one of four conclusions: "identification, elimination, inconclusive, or insufficient." Identification occurs when a firearms examiner determines that a known sample can be attributed to a specific firearm based on his or her assessment that there is sufficient agreement of individual characteristics between the known sample and a sample taken from the suspect firearm.

[2] Mr. Tobin testified that metallurgy is "the science and engineering of solids and fluids and their interactions[.]"

Mr. Tobin explained that the problem with firearms toolmark examination lies in differentiating between a subclass characteristic and an individual characteristic. According to Mr. Tobin, there is no scientifically acceptable process for "subclass carryover." In other words, "the examiner is not in a position to be able to assess whether the characteristic he or she is looking at are individual to that firearm or belong to thousands of firearms that might have come from the same production line."

Mr. Tobin also testified that the "theory of identification" used by firearms examiners is scientifically flawed. According to Mr. Tobin, the theory assumes that every firearm is unique in that, when fired, it creates identifiable characteristics on a bullet or cartridge that is unique to that particular firearm. Mr. Tobin explained that such "uniqueness" had not "even been established to exist." Mr. Tobin added that the theory of identification also erroneously relied on the premise of "repeatability," which assumes that "repeated firings will result in the same characteristics transfer." Mr. Tobin explained that the premise of repeatability was an "irrational dichotomy" because, in assuming that the manufacturing process was so "volatile" that individual characteristics are imprinted on every firearm during the manufacturing process, it also assumes that these characteristics do not change over time, when the firearm is "in service."

Finally, Mr. Tobin testified that firearms toolmark examination was further flawed because it is a subjective practice. He explained that there were no significant studies indicating the certainty of the practice, unlike other accepted practices. Mr. Tobin further noted that some studies had shown high rates of error and numerous misidentifications relying on toolmark identification.

In conjunction with Mr. Tobin's testimony, the Defense submitted three reports for the hearing court's consideration. The first report, published in 2008 by the National Academy of Sciences (the "2008 NAS report"), found that "the validity of the fundamental assumptions of uniqueness and reproducibility of firearms-related toolmarks has not yet been fully demonstrated." The second report, published in 2009 by the National Academy of Sciences (the "2009 NAS report"), found that, although individual characteristics of firearms may be distinctive enough to suggest a particular source, "additional studies should be performed to make the process of individualization more precise and repeatable." That report also found that the "theory of identification" lacked "a precisely defined process" or "specific protocol" and that "the best guidance available for the field of toolmark identification . . . does not even consider, let alone address, questions regarding variability, reliability, repeatability, or the number of correlations needed to achieve a given degree of confidence." The third report, published in 2016 by the President's Council of Advisors on Science and Technology (the "2016 PCAST report"), noted that, of the relevant studies conducted to assess the scientific validity or reliability of toolmark examination, there was "only a single study that was appropriately designed to test foundational validity and estimate reliability." The report added that "the scientific criteria for foundational validity require more than one such study, to demonstrate reproducibility" and that, as a result, "firearms analysis currently falls short of the criteria for foundational validity."

At the conclusion of the Defense's case-in-chief, the State argued that the Defense had "failed to meet its burden." The State added that, if the hearing court determined that

the Defense's burden had been met, the State had "witnesses to go to the ultimate issue." The court ultimately determined that the Defense had made a *prima facie* case and had "raised a specter that this is an issue that must be examined and fully vetted out." Following the court's ruling, the State presented its evidence concerning firearms toolmark analysis.

Dr. James Hamby, the Laboratory Director for the International Forensic Science Laboratory and Training Center, testified for the State as an expert in firearms examination. Dr. Hamby testified that firearms toolmark examination was generally accepted in the relevant scientific community, which included members of academia, forensic scientists, researchers, statisticians, and metallurgists, and that firearms identification is taught and accepted at "numerous colleges and universities worldwide." Dr. Hamby further testified that the training process for firearms examiners was "very complex" and "lengthy" and acknowledged that there were "various standards controlling the techniques that firearms examiners use to do identifications[.]" Dr. Hamby stated that firearms identification utilizes an appropriate and generally-accepted scientific methodology, that the methodology is both repeatable and reproducible, and that some of Mr. Tobin's representations as to the reliability of that methodology were misleading. Dr. Hamby also stated that the rate of false positives and false negatives reported by Mr. Tobin was exaggerated and that recent studies had shown error rates of less than one percent. Dr. Hamby acknowledged that firearms toolmark examination was "generally accepted in all courts in the United States" and "all around the world." Dr. Hamby explained that Mr. Tobin belonged to one of "eight or ten" groups challenging firearms examination and that those groups represented a minority "of the people that are qualified examiners that have

been trained to do [the] job."

Torin Suber, a forensic scientist manager with the Maryland State Police, also testified for the State as an expert in firearms toolmark examination. As part of that testimony, Mr. Suber explained in detail the methodology used by a firearms examiner during toolmark examination. Mr. Suber testified that firearms toolmark examination had been generally accepted by the Association of Firearms and Toolmark Examiners.

Scott McVeigh, a firearms examiner with the Prince George's County Police Department, also testified for the State as an expert in firearms toolmark examination. Mr. McVeigh testified that firearms examination was a science, as it utilized "the scientific method," which he then explained in further detail. Mr. McVeigh testified that the Prince George's County lab where he worked was accredited by the Association of Crime Lab Directors and licensed by the Maryland Department of Health. Mr. McVeigh also testified that his laboratory was routinely reviewed for accreditation and that he, as a firearms examiner, was routinely "proficiency tested." Mr. McVeigh testified that he conducted the toolmark analysis in appellant's case and that his work in the matter had been "peer reviewed."

Mr. McVeigh then testified that he had "read many studies" concerning firearms examination, including the 2016 PCAST report. Mr. McVeigh stated that the 2016 PCAST report had been criticized because "there weren't enough vigorous third-party studies" in the report and because the report "made some generalizations about the science." Mr. McVeigh also noted that several reputable reports had shown "very low" error rates for firearms examination. Mr. McVeigh concluded that firearms toolmark examination was

"generally accepted as reliable" in the relevant scientific community.

In conjunction with the aforementioned testimony, the State presented a variety of studies and case law showing the reliability and general acceptance of firearms toolmark examination. The State also noted that toolmark examination evidence had been accepted "for 80 to 100 years" and that "no State or Federal Court [had] kept out a qualified firearms examiner in any case to date."

Following the hearing, the circuit court issued a written opinion and order denying appellant's motion in part and granting it in part. In that written opinion, the court found that "firearm and toolmark identification is still generally accepted and sufficiently reliable under the *Frye-Reed* standard" and that "the underlying firearms methodology has baseline reliability and validity to be admitted under *Frye-Reed*." The court also found that appellant had "failed to sufficiently undermine" the credibility of firearms examination and "failed to demonstrate that, after six decades, [the] practice is no longer widely accepted[.]"

The hearing court also determined that Mr. McVeigh, the State's expert who conducted the firearms examination in appellant's case, was "qualified through his education and training to give expert testimony in the field of firearms examination" and that his findings in the instant case were admissible at trial. The court did, however, prohibit Mr. McVeigh from qualifying his examination in terms of "absolute or scientific certainty." The court determined, rather, that Mr. McVeigh could "give his opinion" as to whether the bullets recovered from the victim could be attributed to the gun recovered from appellant.

Mr. McVeigh's Trial Testimony

At trial, Mr. McVeigh testified for the State as an expert in firearms examination. As part of that testimony, Mr. McVeigh stated that, in his opinion, the bullets recovered from Mr. Aguirre-Herrera's body were fired from appellant's Taurus revolver. As stated above, appellant was ultimately convicted of first-degree murder and use of a handgun in the commission of a crime of violence. Additional facts will be supplied below.

DISCUSSION

I.

Appellant first contends that the hearing court erred when, at the hearing on his Motion *In Limine* to Exclude or Restrict Firearm or Toolmark Identification Testimony, the court placed the burden of proof on appellant. Appellant maintains that, "[u]nder both the *Frye-Reed* standard and Md. Rule 5-702, the burden of proof rests on the *proponent* of the challenged evidence, regardless of whether the scientific method is novel or well-known."

"[T]he general test for determining whether to allow expert testimony is set forth in Md. Rule 5-702[.]" *Dixon v. Ford Motor Co.*, 433 Md. 137, 149 (2013). Under that Rule:

> Expert testimony may be admitted, in the form of an opinion or otherwise, if the court determines that the testimony will assist the trier of fact to understand the evidence or to determine a fact in issue. In making that determination, the court shall determine (1) whether the witness is qualified as an expert by knowledge, skill, experience, training, or education, (2) the appropriateness of the expert testimony on the particular subject, and (3) whether a sufficient factual basis exists to support the expert testimony.

"The admissibility of expert testimony is committed to the sound discretion of the trial court." *Bryant v. State*, 163 Md. App. 451, 472 (2005) (citing *Wilson v. State*, 370

Md. 191, 200 (2002)). "The court's action in admitting or excluding such testimony seldom constitutes ground for reversal." *Id.* (citing *Deese v. State*, 367 Md. 293, 302-03 (2001)). Nevertheless, "[t]he burden rests with the proponent of the expert testimony to demonstrate that [the requirements of Rule 5-702] have been met." *Rochkind v. Stevenson*, 454 Md. 277, 286 (2017) (citing *Bomas v. State*, 412 Md. 392, 417-18 (2010)).

In some instances, when a trial court is faced with determining the admissibility of scientific evidence and related expert testimony, the court must conduct a *Frye-Reed* analysis before exercising its discretion pursuant to Rule 5-702. *Dixon*, 433 Md. at 149-50. "Under the *Frye-Reed* test, a party must establish first that any novel scientific method is reliable and accepted generally in the scientific community before the court will admit expert testimony based upon the application of the questioned scientific technique." *Stevenson v. State*, 222 Md. App. 118, 132 (2015) (citing *Wilson*, 370 Md. at 201). Such reliability may be demonstrated by way of "testimony by witnesses, . . . law journal articles, articles from reliable sources that appear in scientific journals, and other publications which bear on the degree of acceptance by recognized experts that a particular process has achieved." *Clemons v. State*, 392 Md. 339, 364 (2006) (quoting *Wilson*, 370 Md. at 201). "Appellate review of a trial court's decision regarding the admissibility of expert scientific testimony under [*Frye-Reed*] is *de novo*." *Id.* at 359. Moreover, like Rule 5-702, "[i]t is the proponent's burden of satisfying *Frye-Reed* by a preponderance of the evidence[.]" *Savage v. State*, 455 Md. 138, 171 (2017).

Despite the fact that the proponent bears the burden for purposes of *Frye-Reed* and Rule 5-702, that party is not required to present witness testimony or other evidence before

the court can accept a particular scientific technique as reliable and generally accepted. Rather, "[w]here the validity and reliability is so broadly and generally accepted within the scientific community, as in the case of ballistic tests, blood tests, and the like, a trial court may take judicial notice of its reliability." *Clemons*, 392 Md. at 363 (quoting *Wilson*, 370 Md. at 201). When the court takes judicial notice of the reliability of a scientific technique, the proponent of the technique is subsequently relieved of its burden. *See Schultz v. State*, 106 Md. App. 145, 173-74 (1995); *Sharp v. Sharp*, 58 Md. App. 386, 396 (1984) ("[Use of judicial notice] excuses a party having the burden of proving a fact from the necessity of producing formal proof by sworn witnesses and authenticated documents or objective evidence.").

Here, the trial court expressly recognized that toolmark identification is reliable and generally accepted in the scientific community. At the hearing on December 18, 2017, the court explained:

> Let me say this, as a preliminary matter, I am not precluding any witness, evidence or argument that the parties want to put forth with respect to this proceeding.
>
> What I am saying is is [sic] that I recognize that the information that [] is to be presented by the State has been universally accepted for quite a while now. I believe the burden is on the Defense to demonstrate to me via a *motion in limine* why the evidence should be precluded altogether and, certainly, also in the alternative I would also entertain any arguments as to information that they would want to put forth before the factfinder to challenge any evidence that is permitted at trial.

The court's statement indicates that it took "judicial notice" of the reliability of toolmark identification, thus relieving the State of its burden of proving said reliability. Because the court took judicial notice of the reliability of toolmark identification, no *Frye*-

Reed hearing was required, and the State did not bear the burden of proving that toolmark identification is reliable and generally accepted. *See Markham v. State*, 189 Md. App. 140, 163 (2009) (stating that, where fingerprint identification evidence was reliable and admissible without a *Frye-Reed* hearing, the trial court was not required to revisit the issue "and expend scarce judicial resources on a *Frye-Reed* hearing").

Because the court took judicial notice of the fact that toolmark identification remains reliable and generally accepted in the scientific community, it did not err in declining to hold a *Frye-Reed* hearing. Accordingly, the court correctly placed the burden of proof on appellant to exclude toolmark identification evidence.[3]

II.

Appellant next contends that the hearing court erred in allowing Mr. McVeigh, the State's firearms examiner, to testify that, in his opinion, the bullets found in Mr. Aguirre-

[3] Although it had already accepted the scientific validity of firearms toolmark examination, the court held a full evidentiary hearing spanning several days, at which appellant was allowed to present extensive expert testimony and documentation in support of his argument that firearms toolmark examination was scientifically unreliable. Based on appellant's evidence, the court expressly found that the issue "must be examined and fully vetted out," which prompted the State to present its evidence, including the testimony of three experts, all of whom testified at length as to the science of toolmark identification and its general acceptance in the relevant scientific community. At the conclusion of that hearing, the court issued a written opinion detailing both the *Frye-Reed* standard and the requirements of Maryland Rule 5-702, outlining the various arguments and evidence presented by both parties. Ultimately, the court "agreed with the State" and concluded that "firearm and toolmark identification [was] still generally accepted and sufficiently reliable." *See generally Mathis v. Hargrove*, 166 Md. App. 286, 310 n.5 (2005) ("[A] preponderance of the evidence means such evidence which, when considered and compared with the evidence opposed to it, has more convincing force and produces in your minds a belief that it is more likely true than not true." (citations and quotations omitted)). We fail to see how appellant was harmed by the procedure employed by the trial court.

Herrera's body came from appellant's gun. This argument essentially continues appellant's position in Part I that toolmark identification is neither reliable nor generally accepted in the scientific community, and should have been excluded under *Frye-Reed*. Relying on the testimony of his expert witness, William Tobin, and the three reports presented in conjunction with that testimony (the 2008 NAS report, the 2009 NAS report, and the 2016 PCAST report), appellant asserts that "there is a genuine dispute in the relevant scientific community regarding whether firearm tool-mark examiners utilize reliable methodology when conducting their analyses." Appellant argues that that methodology, and more specifically, the practice of analyzing the individual characteristics of a bullet or cartridge to determine whether that bullet or cartridge was fired from a particular firearm, has "recently come under scrutiny," as there is "insufficient empirical evidence establishing validity and estimating reliability." Appellant also maintains that there exists an "analytical gap between the process of visually inspecting two bullets and concluding that they were fired from the same gun" and that this gap has yet to be bridged "because of unproven foundational premises and the lack of an established error rate." Appellant asserts that the "only aspect of firearm toolmark analysis that is supported by reliable methodology and does not suffer from an analytical gap is the assessment of class characteristics," *i.e.*, the caliber of weapon and the number of lands and grooves on a sample. Appellant maintains, therefore, that Mr. McVeigh's expert opinion "should have been limited to the only portion that was supported by a reliable methodology: that the test-fired bullets from the Taurus revolver were of the same caliber and had the same number

of lands and grooves, with the same twist, as the bullets found in Mr. Aguirre-Herrera's body." We disagree.

The hearing court did not err in refusing to limit Mr. McVeigh's testimony in the manner suggested by appellant. To begin with, we do not agree with appellant's contention that Mr. McVeigh's opinion lacks validity and is not generally accepted in the relevant scientific community. In 2010, after the publication of the 2008 and 2009 NAS reports, this Court concluded in *Fleming v. State*, 194 Md. App. 76 (2010), that firearms toolmark identification was reliable and generally accepted within the relevant scientific community.[4] *Id.* at 100-08. In so concluding, this Court addressed many of the arguments and supporting evidence now raised by appellant, including the 2008 and 2009 NAS reports and the fact that toolmark examination is inherently subjective. *Id.* at 102-09. Despite those arguments, the *Fleming* Court rejected the contention that "traditional firearm toolmark pattern comparison no longer is accepted within the scientific community[.]" *Id.* at 109.

[4] Appellant argues that *Fleming* is not applicable here because our conclusions in that case "were mere dicta," as the primary holding concerned whether the admission of toolmark evidence was harmless error. We disagree. The issue presented in that case was whether the trial court erred "by admitting expert opinions based on a fundamental assumption and methodology that the scientific community does not generally accept as reliable." *Id.* at 79-80. In addressing that issue, this Court deliberately and methodically discussed the reliability and general acceptance of toolmark examination. *Id.* at 100-09. Thus, our conclusions in that case were not "mere dicta." *See Piney Orchard Cmty. Ass'n v. Md. Dep't of the Env't*, 231 Md. App. 80, 106-07 (2016) ("When a party raises a legal issue properly before the court, and that court gives a 'deliberate expression of its opinion upon that question, such opinion is not to be regarded as *obiter dictum*, although the final judgment in the case may be rooted in another point also raised by the record.'" (emphasis removed) (quoting *Bowers v. State*, 227 Md. App. 310, 321-22 (2016))).

Then, in 2016, this Court again noted that toolmark identification was "still generally accepted within the scientific community and is, for that reason, admissible under the *Frye-Reed* standard for evaluating the introduction of expert testimony." *Patterson v. State*, 229 Md. App. 630, 642 (2016) (citing *Fleming*, 194 Md. App. at 107). As in *Fleming*, this Court in *Patterson* considered many of the arguments and evidence raised by appellant in the instant case. *Id.* at 639-42. Nevertheless, we observed that toolmark examination was "generally accepted within the scientific community even in 2016[.]" *Id.* at 642.

To be sure, both *Fleming* and *Patterson* were decided prior to the publication of the 2016 PCAST report, which did conclude that, due to the lack of "appropriately designed stud[ies] to measure validity and estimate reliability," toolmark examination "currently falls short of the criteria for foundational validity." *See* Executive Office of the President, President's Council of Advisors on Science and Technology, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods*, p. 112 (2016). That report, however, did not conclude that toolmark examination was wholly unreliable or that it should be excluded as evidence in judicial proceedings. To the contrary, the report expressly stated that the admissibility of firearms analysis "is a decision that belongs to the courts." *Id.*

In any event, appellant fails to cite, nor could we find, any case in which a court has held that the underlying methodology of toolmark examination was no longer generally accepted in the relevant scientific community. Furthermore, all of the evidence presented by appellant, including the 2016 PCAST report, was directly refuted by the State's three

experts, all of whom categorically testified that toolmark identification was still generally accepted in the relevant scientific community. That testimony was bolstered by various studies and case law provided by the State, which, as noted by the hearing court, examined the current validation studies regarding firearms toolmark examination and found that admissibility was appropriate.

Finally, we cannot say that the hearing court erred in accepting Mr. McVeigh's expert testimony. In its written opinion, the court recognized that toolmark examination had been the subject of increased scrutiny in the scientific community and that some courts were "calling for further studies and restrictions on admissibility." The court also recognized that firearms examination is largely subjective in nature and that, due to the subjective nature of the practice, no expert could testify to any level of practical or scientific certainty. After acknowledging that scrutiny, the court permitted Mr. McVeigh to give his opinion, but restricted him from qualifying that opinion in terms of absolute or scientific certainty. Thus, although the court did not limit Mr. McVeigh's testimony to the extent championed by appellant, the court exhibited sound discretion in setting forth certain safeguards to combat some of the alleged flaws in the process of toolmark examination and identification. Moreover, the court's actions in that regard were consistent with the prevailing sentiment, found primarily in the federal district courts that, according to appellant, "have taken account of changing attitudes in the scientific community and have limited firearm examiners' testimony on the basis of reliability concerns." *See*, *e.g.*, *Williams v. United States*, 210 A.3d 734, 742-43 (D.C. 2019) (holding that trial court erred, not in admitting toolmark examiner's testimony generally, but rather in allowing the

"examiner to provide *unqualified* opinion testimony that purports to identify a specific bullet as having been fired by a specific gun via toolmark pattern matching" (emphasis added)); *U.S. v. Ashburn*, 88 F. Supp. 3d 239, 249 (E.D.N.Y 2015) (permitting firearms examiner "to offer an expert opinion regarding a potential ballistics match" but precluding him from testifying "that he is 'certain' or '100%' sure of his conclusions."); *U.S. v. Willock*, 696 F. Supp. 2d 536, 546-47 (D. Md. 2010) (adopting recommendations of then Chief Magistrate Judge Paul Grimm "that toolmark examiners must be restricted in the degree of certainty with which they express their opinions"); *U.S. v. Taylor*, 663 F. Supp. 2d 1170, 1179-80 (D.N.M. 2009) (permitting firearms examiner to give "his expert opinion" that there was a "match" between two samples but precluding him from testifying "that his methodology allows him to reach this conclusion as a matter of scientific certainty" or "that there is a match to the exclusion, either practical or absolute, of all other guns"); *U.S. v. Glynn*, 578 F. Supp. 2d 567, 575 (S.D.N.Y. 2008) (limiting firearms examiner's opinion to "terms of 'more likely than not,' but nothing more"); *U.S. v. Monteiro*, 407 F. Supp. 2d 351, 355 (D. Mass. 2006) (disallowing firearms expert from testifying "that there is a match to an exact statistical certainty"); *U.S. v. Green*, 405 F. Supp. 2d 104, 124 (D. Mass. 2005) (precluding firearms examiner from testifying that a match was to "the exclusion of all other guns").

III.

Appellant's next contention concerns the trial court's exclusion of certain e-mails he sought to admit into evidence at trial. During trial, the Defense argued that the victim, Mr. Aguirre-Herrera, had been murdered by an unidentified man who had responded to

one of several online advertisements Mr. Aguirre-Herrera posted wherein he solicited sex from anonymous men. Those advertisements were admitted into evidence to show that, in the days leading up to the murder, "there was a[n] open invitation for strangers to come into the home." Although the advertisements themselves were admitted into evidence, appellant unsuccessfully attempted to introduce into evidence three exhibits containing e-mail communications between the victim and people who responded to his advertisements.

On appeal, appellant argues that the trial court erred in excluding these e-mails because they did not constitute hearsay and "were instead merely records of verbal acts." The State responds that the e-mails were inadmissible, but even if the e-mails were improperly excluded, that any error was harmless.

In *Dionas v. State*, the Court of Appeals explained the test for harmless error:

> [W]hen an appellant, in a criminal case, establishes error, unless a reviewing court, upon its own independent review of the record, is able to declare a belief, beyond a reasonable doubt, that the error in no way influenced the verdict, such error cannot be deemed 'harmless' and a reversal is mandated. Such reviewing court must thus be satisfied that there is no reasonable possibility that the evidence complained of—whether erroneously admitted or excluded—may have contributed to the rendition of the guilty verdict.

436 Md. 97, 108 (2013) (alteration in original) (quoting *Dorsey v. State*, 276 Md. 638, 659 (1976)). Here, even assuming that the trial court erred in excluding the e-mails, we readily conclude that there is no reasonable possibility that this exclusion influenced the verdict. Accordingly, any error was harmless beyond a reasonable doubt. We explain.

The substance of the e-mails the trial court excluded from evidence can be summarized as follows:

1) Communications between Mr. Aguirre-Herrera and another individual, discussing where Mr. Aguirre-Herrera lived, with the individual indicating that he would arrive in twenty minutes.

2) Mr. Aguirre-Herrera telling another individual his home address and indicating that he would be alone in the afternoon.

3) Mr. Aguirre-Herrera providing his home address to another individual, and indicating that he had "a place to hook up."

We note that none of these e-mails indicate that the individuals actually visited Mr. Aguirre-Herrera. Rather, they indicate that Mr. Aguirre-Herrera made efforts to meet with men in the future, and one individual stated that he would "be there in 20 minutes."

In his brief, appellant states:

> [Appellant] was significantly prejudiced by the exclusion of the emails. The trail [sic] judge recognized when ruling on the admissibility of the [online] postings that it was imperative for the fact finder to understand that there was an open invitation for strangers to come into the home in the days leading up to the murder. This rationale applied with increased emphasis to the emails, because they showed that people were responding to Aguirre-Herrera's open invitations. This was crucial to the defense theory that one of these strangers murdered Aguirre-Herrera.

As we shall explain, other evidence introduced at trial undermines appellant's concerns.

Although the trial court excluded e-mails between Mr. Aguirre-Herrera and individuals responding to his online postings, the court admitted other evidence indicating that Mr. Aguirre-Herrera solicited sex online, and that strangers or random men were seen entering Mr. Aguirre-Herrera's room. First, the court admitted into evidence four online postings Mr. Aguirre-Herrera made in the month before his murder. The postings indicate that Mr. Aguirre-Herrera was looking for male sexual partners. Next, Patrick Lynch, one of Mr. Aguirre-Herrera's roommates at the time of the murder, testified that Mr. Aguirre-

Herrera had showed him an online posting for "male-for-male" prostitution, that Mr. Aguirre-Herrera "was selling himself for sex[,]" and that he was a prostitute. Additionally, Mr. Lynch testified that he recalled two instances in which "random people came in the door, went into [Mr. Aguirre-Herrera's] room." In fact, Mr. Lynch acknowledged that he felt unsafe living at the house "because of these strange, random men coming into the house[.]"

In light of the fact that Mr. Lynch's testimony was much stronger and more direct than the inference to be taken from the excluded e-mails—that strangers were entering the home in response to Mr. Aguirre-Herrera's male prostitution advertisements—we conclude that the trial court's exclusion of the e-mails was harmless error beyond a reasonable doubt.

IV.

Appellant's final contention is that the trial court erred in admitting evidence that the victim appeared to be afraid of appellant shortly before the murder. At trial, the State produced evidence showing that appellant and the victim, who were roommates, had been involved in an ongoing feud for months which apparently culminated on August 3, 2012, when the police were called to appellant and the victim's home on three separate occasions prior to the victim's murder. In support of that theory, the State presented the testimony of the two Prince George's County Police officers who responded to the house as a result of the third call that night for "a roommate dispute." Both officers testified that, in responding to the home, they encountered Mr. Aguirre-Herrera and appellant outside of the home. One of the officers, Corporal Michael Gainey, testified as follows:

[STATE]: Can you describe physically how the victim appeared that night?

[WITNESS]: He was grabbing on the other officer's arm, so he looked pretty scared to me.

[DEFENSE]: Object. Move to strike . . . .

THE COURT: Overruled.

[STATE]: Thank you. As the victim was grabbing at the other officer's arm, what was [appellant] doing?

[WITNESS]: Walking towards him.

[STATE]: Walking towards him?

[WITNESS]: Yes.

[STATE]: What, if anything, happened at that point?

[WITNESS]: He was told -- [appellant] was told to stay on the stairs of the residence.

Later in the trial, the other officer, Belinda Nichols, testified as follows:

[STATE]: What were your physical observations? What did you actually see the victim do and how did he react as [appellant] was coming down the steps toward him?

[WITNESS]: His eyes got bigger and he grabbed my arm and he was clinging to me. He was like huddling behind me. He just kept grabbing on to me.

[STATE]: Any other physical observations that you noted?

[WITNESS]: His voice.

[STATE]: And what was different about his voice?

[WITNESS]: At first I could make out what he was saying and then he just -- it was -- he was very soft-spoken after a while.

He didn't want to tell me what was going on in front of the suspect.

[DEFENSE]: Objection. Move to strike.

THE COURT: Overruled.

Appellant argues that the trial court erred in permitting the officers to testify that the victim looked scared and was afraid to talk in front of appellant. Specifically, appellant argues that the officers' testimony was irrelevant and prejudicial.

Evidence is relevant if it makes "the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." Md. Rule 5-401. Establishing relevancy "is a very low bar to meet." *Williams v. State*, 457 Md. 551, 564 (2018). We review the court's determination of relevancy under a *de novo* standard. *State v. Simms*, 420 Md. 705, 725 (2011) (citing *Parker v. State*, 408 Md. 428, 437 (2009)).

Even if legally relevant, "evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice[.]" Md. Rule 5-403. "We determine whether a particular piece of evidence is unfairly prejudicial by balancing the inflammatory character of the evidence against the utility the evidence will provide to the jurors' evaluation of the issues in the case." *Smith v. State*, 218 Md. App. 689, 705 (2014). In so doing, "[w]hat must be balanced against 'probative value' is not 'prejudice' but, as expressly stated by Rule 5-403, only 'unfair prejudice.'" *Newman v. State*, 236 Md. App. 533, 549 (2018). Moreover, "[t]o justify excluding relevant evidence, the 'danger of unfair prejudice' must not simply outweigh 'probative value' but must, as expressly directed by

Rule 5-403, do so 'substantially.'" *Id.* at 555. "This inquiry is left to the sound discretion of the trial judge and will be reversed only upon a clear showing of abuse of discretion." *Malik v. State*, 152 Md. App. 305, 324 (2003) (citing *Martin v. State*, 364 Md. 692, 705 (2011)). As we shall explain, evidence that Mr. Aguirre-Herrera appeared fearful of appellant shortly before his death was relevant to show motive.

In *dicta* in *Snyder v. State*, 361 Md. 580, 589 (2000), the Court of Appeals provided guidance to the trial court regarding the admissibility of Snyder's "stormy relationship" with his wife prior to her murder. There,

> A friend of the victim testified that she had a telephone conversation with the victim the night before the murder and that the victim stated in that conversation that she "just had a fight" with [Snyder], during which [Snyder] "told her that she was a dead woman." The friend also stated that, at the time of this conversation, the victim "was crying and real excited." "She was upset." "She was scared."

Id. at 587-88. The Court noted, "[e]vidence of previous quarrels and difficulties between a victim and a defendant is generally admissible to show motive." *Id*. at 605 (citing *Jones v. State*, 182 Md. 653 (1944)). Finding guidance from other jurisdictions, the Court recognized the rationale that "[e]vidence concerning the previous relations between a defendant and a victim is relevant and admissible for the purpose of proving ill-will, motive or malice." *Id*. at 607 (quoting *Commonwealth v. Chandler*, 721 A.2d 1040, 1044-45 (Pa. 1998)). Applying this principle to Snyder, the Court of Appeals stated that the evidence of disharmony in the household "was probative of a continuing hostility and animosity, on the part of [Snyder], toward the victim and, therefore, of a motive to murder, not simply the propensity to commit murder." *Id*. at 608-09.

Following *Snyder* and the cases cited therein, we hold that evidence Mr. Aguirre-Herrera appeared frightened of appellant prior to the murder was admissible to show motive. Appellant specifically disputes the admissibility of Officer Gainey's testimony that "[Mr. Aguirre-Herrera] looked pretty scared to [Officer Gainey][,]" and Officer Nichols's testimony that "[Mr. Aguirre-Herrera] didn't want to tell me what was going on in front of the suspect." Because the evidence pertained to Mr. Aguirre-Herrera's fear of appellant, like in *Snyder*, this evidence was admissible to show "a continuing hostility and animosity, on the part of [appellant], toward [Mr. Aguirre-Herrera]." *Id*. at 609. Indeed, during closing arguments, the State stressed that there had been "a lot of contention" between appellant and Mr. Aguirre-Herrera, that the police had been called to the house three times in a single night shortly before Mr. Aguirre-Herrera's body was discovered, and that appellant hated and was obsessed with Mr. Aguirre-Herrera. Officer Gainey's and Officer Nichols's observations that Mr. Aguirre-Herrera appeared to be scared of appellant constituted "evidence of previous quarrels and difficulties between [Mr. Aguirre-Herrera] and [appellant]," and were therefore relevant to show motive. *Id*. at 605 (citing *Jones* 182 Md. at 656-57). [5]

[5] In his brief, appellant relies on *Banks v. State*, 92 Md. App. 422 (1992) to argue that evidence of the victim's state of mind was both irrelevant and unfairly prejudicial. There, this Court noted that the victim's "state of mind as a victim was irrelevant to the commission of the crime. (It was only [Banks's] state of mind that was relevant.) Further, any probative value of the statements as to the *victim's* state of mind would be outweighed by the extremely prejudicial nature of the evidence." *Id*. at 435.

We distinguish *Banks* from this case because *Banks* concerned the inadmissible hearsay statements from the victim himself stating that Banks had attacked him, whereas here, the evidence simply concerned the officers' observations that the victim "looked pretty scared."

Finally, we conclude that evidence of the hostile relationship and Mr. Aguirre-Herrera's apparent fear of appellant prior to his murder was not unfairly prejudicial under Rule 5-403. Generally, evidence is unfairly prejudicial when "it might influence the jury to disregard the evidence or lack of evidence regarding the particular crime with which [the defendant] is being charged." *Burris v. State*, 435 Md. 370, 392 (2013) (quoting *Odum v. State*, 412 Md. 593, 615 (2010)). This typically occurs when the evidence "produces such an emotional response that logic cannot overcome prejudice or sympathy needlessly injected into the case." *Odum*, 412 Md. at 615 (quoting Joseph F. Murphy Jr., Maryland Criminal Evidence Handbook § 506(B) (3d ed. 1993 & Supp. 2007)). Evidence indicating that Mr. Aguirre-Herrera appeared to be afraid of appellant prior to his murder is not the type of evidence that "produces such an emotional response that logic cannot overcome prejudice." *Id*. Accordingly, we perceive no error in the admission of the officer's testimony.

JUDGMENTS OF THE CIRCUIT COURT FOR PRINCE GEORGE'S COUNTY AFFIRMED; COSTS TO BE PAID BY APPELLANT.