SJC-11808

COMMONWEALTH vs. GERALD SULLIVAN.

Middlesex. April 7, 2017. - November 16, 2017.

Present: Gants, C.J., Lenk, Gaziano, Budd, & Cypher, JJ.

Homicide. Felony-Murder Rule. Armed Home Invasion. Deoxyribonucleic Acid. Practice, Criminal, Witness, Hearsay, Confrontation of witnesses, Disclosure of evidence, Capital case. Evidence, Hearsay, Expert opinion, Disclosure of evidence, Exculpatory, Qualification of expert witness, Impeachment of credibility. Witness, Police officer, Expert, Impeachment, Competency, Credibility. Constitutional Law, Confrontation of witnesses. Due Process of Law, Disclosure of evidence.

Indictments found and returned in the Superior Court Department on June 30, 2011.

The cases were tried before S. Jane Haggerty, J., and a motion for a new trial, filed on September 9, 2015, was heard by Edward P. Leibensperger, J.

Leslie W. O'Brien for the defendant.

Jessica Langsam, Assistant District Attorney (Elizabeth A. Dunigan, Assistant District Attorney, also present) for the Commonwealth.

GAZIANO, J. A Superior Court jury convicted the defendant of felony-murder, with the predicate felony of armed home invasion, in the shooting death of Johnny Hatch on February 18, 2011.[1] In this direct appeal, the defendant argues that the evidence was insufficient to support his convictions. He also challenges several evidentiary rulings concerning the introduction of testimony about deoxyribonucleic acid (DNA) found on objects at the crime scene, and testimony concerning the use of a DNA profile of the defendant stored in the Combined DNA Index System (CODIS) database, which was described to the jury as a "national database." In addition, the defendant maintains that the motion judge erred in denying his motion for a new trial on the ground that the Commonwealth did not provide exculpatory evidence concerning a forensic scientist's failure to pass required proficiency tests. We conclude that the evidence was sufficient to support the convictions, and that none of the asserted errors in the trial proceedings requires a new trial. Further, having carefully reviewed the record, pursuant to our duty under G. L. c. 278, § 33E, we discern no reason to exercise our extraordinary authority to grant a new trial or to reduce the verdict to a lesser degree of guilt.

1. Facts. We recite the facts the jury could have found,

[1] The defendant also was convicted of seven other related offenses. See part 2, infra.

reserving certain facts for later discussion.

At approximately 10 P.M. on February 18, 2011, John and Darlene Vieira[2] were in their apartment in West Medford. Vieira's adult son, Johnny Hatch, was staying with them that night. Hatch heard someone at the door and asked Vieira whether he was expecting anyone. Although he was not expecting visitors, Vieira walked to the front door and asked who was there. When he was unable to understand the response, he opened the door. As soon as Vieira opened the door, two men dressed in black, wearing ski masks and gloves, attacked and overpowered him. One said, "Where's the money and the jewelry?" or "We want your money and your jewelry." One of the men was stocky and shorter than the other, approximately five feet, nine inches tall; the other was tall and thin.

Vieira called to Hatch who ran into the living room, pulled the taller, thinner man away from Vieira, and fought with him, approximately seven or eight feet from where Vieira and the stocky man were struggling. Hatch used a mallet and a length of metal pipe to hit the taller man on the head and shoulders. Vieira then heard a shot and saw his son lying on the floor. The taller man looked at Vieira, who was on his knees, and shot him in the head. Vieira heard one of the men say, "They're

[2] We refer to John Vieira by his last name; his wife, Darlene Vieira, was present in the apartment but had little involvement in the incidents at issue.

dead," and felt his body being rolled away from the door, before he lost consciousness.

During the struggle, Darlene Vieira heard gunshots from her bedroom. She telephoned 911 while hiding on the side of her bed. Police arrived on the scene shortly after the gunshots were fired. Officers found Vieira bleeding from the side of his head. Vieira was transported to the hospital and recovered; Hatch was pronounced dead at the scene.

On a Friday night in February, 2011,[3] Sarah Rabbitt, a friend of the defendant, had planned to get together with the defendant and other friends, but had difficulty reaching him. When Rabbitt finally spoke with the defendant sometime between 11:30 P.M. and midnight, she asked where he had been. The defendant said that he had been at a friend's house. Rabbitt noted that the defendant had a "little cut" and "some blood" on his head. The defendant told her that he had been in a fight in East Boston.

Investigating officers seized a number of items from the crime scene, including a mallet and a length of metal pipe, a mask, a black hat, a blue hat, and a jacket hood. The investigation focused on individuals who might have had a connection to Vieira, who was known to investigators as a drug

[3] Rabbitt testified that she saw the defendant on a Friday in February, but did not provide a specific date.

dealer, but they were unable to develop any leads.

In March, 2011, a State police chemist conducted DNA testing of swabs taken from the black hat, the blue hat, the mallet head, and the length of pipe. She uploaded the profiles into the CODIS database to search for a match. The DNA on the black hat, the mallet, and the pipe matched the defendant's DNA profile.

Based on these results, police obtained a buccal swab from the defendant, which was submitted to the State police crime laboratory for DNA testing. A different State police chemist determined that the DNA on the mask matched the defendant's DNA, and that the defendant's DNA also matched the major profile from a mixed profile on the jacket hood; Hatch and Vieira were excluded from this profile. The defendant's DNA profile generated from this swab also matched the major profile on the black hat and the profiles of the DNA on the mallet and the length of pipe.

2. Prior proceedings. The defendant was arrested and indicted on charges of murder in the first degree, G. L. c. 265, § 1; armed assault with intent to murder, G. L. c. 265, § 18 (b); two counts of armed home invasion, G. L. c. 265, § 18C; assault and battery by means of a dangerous weapon, G. L. c. 265, § 15A (c) (i); armed assault with intent to rob, G. L. c. 265, § 18 (b); carrying a firearm without a license, G. L.

c. 269, § 10 (a); and possession of a firearm without a firearm identification card, G. L. c. 269, § 10 (h). On June 25, 2013, the jury returned guilty verdicts on all counts.[4] The jury found the defendant guilty of felony-murder in the first degree, with the predicate felony of armed home invasion of the Vieira home.

After the defendant filed his notice of appeal, the Commonwealth provided his counsel with a notice of postverdict discovery indicating that former State police crime laboratory criminalist Erik Koester had failed a number of proficiency tests. Based on this, in October, 2015, the defendant filed a motion for a new trial and a motion for discovery. In that motion, the defendant argued that evidence that Koester had failed the proficiency tests was relevant and exculpatory, and that this evidence would have been admissible as part of a Bowden defense. See Commonwealth v. Bowden, 379 Mass. 472, 485-486 (1980).

We allowed the defendant's motion to stay the proceedings in this court so that he could pursue his motion for a new trial in the Superior Court. A Superior Court judge (motion judge), who was not the trial judge,[5] denied the defendant's motion for a new trial, and we consolidated the defendant's appeal from the

[4] The Commonwealth dismissed the charge of armed assault with intent to rob, with respect to Hatch, before the jury began deliberations.

[5] The trial judge had retired.

denial of that motion with his direct appeal.

3. Discussion. The defendant argues that the evidence was insufficient to support his convictions because the Commonwealth did not prove that he was armed when he entered the victims' apartment. The defendant contends also that testimony that DNA taken from items found at the crime scene matched his DNA profile in the CODIS database was inadmissible hearsay and a violation of his right to confrontation. The defendant further argues that the motion judge erred in denying his motion for a new trial on the ground that evidence of a State police criminalist's failure to meet proficiency standards was exculpatory under Brady v. Maryland, 373 U.S. 83, 87-88 (1963).

a. Sufficiency of the evidence. In determining whether the record is sufficient to support a conviction, we consider "whether, after viewing the evidence in the light most favorable to the prosecution, any rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt." Commonwealth v. Latimore, 378 Mass. 671, 677 (1979), quoting Jackson v. Virginia, 443 U.S. 307, 318-319 (1979).

In order to prove that a defendant is guilty of felony-murder in the first degree, the Commonwealth must prove beyond a reasonable doubt that the victim was killed during the defendant's commission or attempted commission of a felony with a maximum sentence of life imprisonment. See Commonwealth v.

Scott, 408 Mass. 811, 821 n.10 (1990). See also Commonwealth v. Brown, 477 Mass. 805, 807–808 (2017) (prospectively requiring actual malice for conviction of felony-murder). "To find a defendant guilty of felony-murder, a jury are only required to find that the defendant intended to commit an underlying felony during which a death occurred." Commonwealth v. Petetabella, 459 Mass. 177, 191 (2011). "[I]n the context of felony-murder, a defendant who uses a deadly weapon in the course of committing [a felony] will be held responsible for the injuries or deaths that occur as a consequence, regardless of his intent to inflict those consequences." Id.

To prove that the defendant committed the offense of armed home invasion, the Commonwealth was required to prove beyond a reasonable doubt that he (1) entered the dwelling of another, (2) knowing, or having reason to know, that one or more persons were present within the dwelling house when he entered or remained in it; (3) was armed with a dangerous weapon at the time of entry; and (4) used force or threatened the imminent use of force on any person within the dwelling house, or intentionally caused injury to any such person. See Commonwealth v. Ruiz, 426 Mass. 391, 392-393 (1998) (Commonwealth must establish beyond reasonable doubt "that the defendant was armed with a dangerous weapon at the time of entry into a dwelling house").

Applying the familiar Latimore standard, we conclude that the Commonwealth presented sufficient evidence that the defendant was armed when he entered Vieira's apartment. See Commonwealth v. Dung Van Tran, 463 Mass. 8, 24 (2012), citing Latimore, 378 Mass. at 677. The Commonwealth established that two masked men entered the victims' apartment and attacked Vieira; Vieira struggled closely with the stocky man, and did not see or feel any weapons on him. After Hatch grabbed the taller man and struck him in the head with a mallet and a metal pipe, the taller man shot Hatch and then shot Vieira in the head.

Because the DNA on the pipe and the mallet matched the defendant's DNA, and because the defendant's friend noted a cut on his head at the relevant time period, the jury reasonably could have inferred that the defendant was the taller attacker who struggled with Hatch and fired the gun. See Commonwealth v. Pytou Heang, 458 Mass. 827, 835-836 (2011) (evidence sufficient to support conviction of felony-murder where armed, masked intruders entered house, defendant was near scene shortly after crime, forensic evidence tied him to clothing found with murder weapon, defendant made statements to codefendant's girl friend regarding shooting, and defendant gave false statement to

police).[6]

b. CODIS database. The defendant contends that a State police trooper's testimony that DNA collected from items found at the crime scene matched the defendant's DNA profile in the CODIS database constituted inadmissible hearsay, and that the judge's limiting instruction prejudiced him by highlighting that he previously might have been convicted of a crime. The defendant maintains that the trooper's testimony violated his rights under the confrontation clause, given the absence of testimony from anyone "responsible for creating and maintaining" the database.

After an extensive pretrial hearing, and a hearing at sidebar, the judge allowed the Commonwealth's motion in limine to admit the CODIS database evidence "to explain to the jury how the defendant became the focus [of the investigation]." She permitted the officer who submitted the DNA evidence to testify only to the fact that the DNA evidence matched DNA from a

[6] The Commonwealth also introduced evidence that Vieira did not have a gun and that he did not see Hatch with one. See Commonwealth v. Platt, 440 Mass. 396, 401 (2003) ("A conviction may be based on circumstantial evidence alone, as long as that evidence is sufficient to find the defendant guilty beyond a reasonable doubt"). The defendant argues that the physical struggle between the intruders and the victims indicates that the intruders were not armed, because, had they been armed, no hand-to-hand struggle would have been necessary. The defendant also argues that it was possible that Hatch was armed. The jury apparently did not, and were not required to, draw these inferences.

"national database," and precluded the Commonwealth from eliciting evidence that the national database only contained DNA from criminal offenders or that the database is maintained by law enforcement solely for purposes of law enforcement. The judge instructed the jury about the database at the time the trooper testified and in her final charge. At the end of the trooper's testimony, the judge instructed,

> "I'd like to interrupt [the prosecutor] for a moment just to instruct the jury as to this particular topic. You've now heard evidence that [the defendant] was identified as a suspect in the investigation by matching unknown DNA that police obtained from items at the scene with a DNA profile of [the defendant] in a national database. If you conclude that [the defendant's] DNA was in a database, a national database, you should not infer from that fact that the defendant committed the crimes alleged here or any other crime. The national database contains DNA samples of many people for many different reasons and pursuant to individual [S]tate's laws. You are not to speculate about what the reasons may have been in this case. In particular, it would be incorrect for you to infer that, if you believed that [the defendant's] DNA was included in a national database, he must have committed some other crime in the past. You should not assume that, conclude that, presume that. That would be highly improper speculation and you must not engage in any such conjecture or speculation in this case."

We conclude that there was no error in the judge's decision to allow evidence that investigators submitted crime scene DNA samples to "a national" DNA database. The test results obtained from that database inquiry, however, should not have been admitted. Nonetheless, in these circumstances, there was no prejudice to the defendant.

i. Hearsay objection. Because the defendant's objection to any reference to his DNA being in a database was preserved, we review to determine whether the introduction of the evidence was error, and if so, whether it was prejudicial. See Commonwealth v. Cruz, 445 Mass. 589, 591 (2005). See also Commonwealth v. Aviles, 461 Mass. 60, 66 (2011). "An error is not prejudicial if it 'did not influence the jury, or had but very slight effect.'" Cruz, supra, quoting Commonwealth v. Flebotte, 417 Mass. 348, 353 (1994).

"We have permitted the use of carefully circumscribed extrajudicial statements in criminal trials to explain the state of police knowledge." Commonwealth v. Rosario, 430 Mass. 505, 508 (1999). "[A]n arresting or investigating officer should not be put in the false position of seeming just to have happened upon the scene; he should be allowed some explanation of his presence and conduct." Commonwealth v. Cohen, 412 Mass. 375, 393 (1992), quoting McCormick, Evidence § 249, at 734 (E. Cleary ed., 3d ed. 1984). Accordingly, there was no error in the judge's decision to allow introduction of the trooper's testimony that investigators submitted samples from DNA found on the pipe, the mallet, and the black hat to the CODIS database.

Hearsay testimony to explain the reasons for police action, however, "carries a high probability of misuse, because a witness may relate 'historical aspects of the case, replete with

hearsay statements in the form of complaints and reports,' even when not necessary to show state of police knowledge." Rosario, 430 Mass. at 509, quoting McCormick, Evidence § 249, at 734. Accordingly, we have carefully circumscribed the use of such testimony, holding that it is admissible only if the testimony is based on the police officer's own knowledge, and is limited to the facts required to establish the officer's state of knowledge, and the police action or state of police knowledge is relevant to an issue in the case. See Rosario, supra at 509-510. See, e.g., Commonwealth v. Perez, 27 Mass. App. Ct. 550, 554-555 (1989), quoting McCormick, Evidence, supra ("The specific description of the defendant given to the investigator is . . . seldom needed and the likelihood of prejudice is great. For this reason a statement that an officer acted 'upon information received,' or 'as a consequence of a conversation,' or words to that effect -- without further detail -- satisfy the purpose of explaining police conduct").

Here, evidence that the DNA profile was extracted from the pipe, mallet, and hat, and that that profile matched a national database of DNA for a particular person (i.e., the defendant) was improperly admitted hearsay because those responsible for conducting the CODIS database testing did not testify and were not subject to cross-examination. Therefore, while the Commonwealth was permitted to offer testimony that a database

search was conducted, it was not permitted to offer testimony about the DNA match. The facts presented to the jury were not limited to those needed to establish the state of police knowledge.

We conclude, however, that the error was not prejudicial, because it "did not influence the jury, or had but very slight effect" (citation omitted). Cruz, 445 Mass. at 591. Apart from this testimony regarding the match to the defendant's DNA profile found using the database, State police crime laboratory chemists also testified to the match found using the defendant's DNA profile obtained from the buccal swab. Therefore, evidence of a match was independently before the jury.

Moreover, the jury instructions given contemporaneously with the testimony about the CODIS database, and in the judge's final charge, properly limited the jury's consideration of why the defendant's DNA was present in the database. See Commonwealth v. Corliss, 470 Mass. 443, 452 (2015).

ii. Confrontation clause. The defendant also contends that testimony about the CODIS database match constituted a violation of his rights to confrontation under the Sixth Amendment to the United States Constitution and art. 12 of the Massachusetts Declaration of Rights. We agree. Because the testimony involving the CODIS DNA match was testimonial hearsay admitted through a State police trooper without proper

foundation to establish personal knowledge, its admission violated the defendant's right of confrontation under the Sixth Amendment and art. 12. While erroneous, we conclude that the improper admission of this evidence was harmless error.

Under the Sixth Amendment and art. 12, a criminal defendant has the right to confront the government's witnesses. See Bullcoming v. New Mexico, 564 U.S. 647, 658 (2011); Melendez-Diaz v. Massachusetts, 557 U.S. 305, 329 (2009). See also Commonwealth v. Nardi, 452 Mass. 379, 388 n.10 (2008) ("the protection provided by art. 12 is coextensive with the guarantees of the Sixth Amendment" [citation omitted]). In addition, our common-law rules of evidence "afford a defendant more protection than the Sixth Amendment" (citation omitted). Commonwealth v. Tassone, 468 Mass. 391, 399 (2014). Under the common law, we require that a defendant be provided with a "meaningful opportunity to cross-examine the expert about her opinion and the reliability of the facts or data that underlie her opinion." Id. In Tassone, we held that the "'primary purpose' of [a commercial laboratory] report in the instant case was to accuse the defendant and create evidence for use at trial," and that such an admission violated the defendant's rights under the confrontation clause (emphasis omitted). Id. at 398, quoting Williams v. Illinois, 567 U.S. 50, 84 (2012).

Because the erroneous admission of the CODIS testimony is a

preserved constitutional error, we consider whether the error was harmless beyond a reasonable doubt. See Commonwealth v. Vasquez, 456 Mass. 350, 355 (2010). Under this standard, we ask "whether there is a reasonable possibility that the evidence complained of might have contributed to the conviction." Commonwealth v. Perez, 411 Mass. 249, 260 (1991), quoting Chapman v. California, 386 U.S. 18, 24 (1967). The following factors are relevant in making such a determination: "(1) the relationship between the evidence and the premise of the defense; (2) who introduced the issue at trial; (3) the weight or quantum of evidence of guilt; (4) the frequency of the reference; and (5) the availability or effect of curative instructions." Commonwealth v. Isabelle, 444 Mass. 416, 419 (2005), quoting Commonwealth v. Mahdi, 388 Mass. 679, 696-697 (1983).

Here, the content of the CODIS database, and any notices provided to criminal investigators regarding that content, were inadmissible without testimony from those responsible for creating and maintaining the database. The error nonetheless was harmless beyond a reasonable doubt, because the testimony was cumulative of other, properly admitted evidence that indicated a match between the DNA found on the items taken from the crime scene and the defendant's DNA profile. See Commonwealth v. Bizanowicz, 459 Mass. 400, 409 (2011), quoting

Commonwealth v. Guy, 454 Mass. 440, 447 (2009) ("Although [the CODIS database] 'hit' focused attention on the defendant and led to the Commonwealth's obtaining a new sample of his DNA which then was sent to the . . . laboratory, it was the comparison by the . . . laboratory of his known DNA sample with the male DNA samples from the crime scene that led to the critical match used at trial"). The testimony regarding the CODIS DNA match therefore did not materially alter "the weight or quantum of evidence of guilt" presented to the jury (citation omitted). Isabelle, 444 Mass. at 419. Further, with respect to "the relationship between the evidence and the premise of the defense," the defendant did not dispute the DNA match, and admitted to having been present in the Vieiras' apartment at the time of the events in question.[7]

In short, the Commonwealth is permitted to introduce evidence that an investigator submitted crime scene DNA samples to a national database. This testimony is admissible for the limited purpose of explaining the state of police knowledge. Upon its admission in evidence, the trial judge is required to provide the jury with a limiting instruction (like the

[7] The defendant testified that he entered Vieira's apartment to purchase drugs, and was pushed from behind by an unknown man who attacked the occupants. The assailant struck him on the head, and fired three shots at the occupants. During the struggle, he lost his black hat and a face protector he wore for outdoor work and kept in his pocket.

instruction in this case) to minimize the prejudice to the defendant. An investigator, however, may not testify that the crime scene DNA sample matched the defendant's DNA profile stored in the national database.

c. Nondisclosure of exculpatory evidence. Finally, the defendant contends that the motion judge erred in denying his motion for a new trial because the evidence was exculpatory and he was prejudiced by his inability to challenge the criminalist's qualifications or to use the evidence to bolster a Bowden defense. We conclude that there was no abuse of discretion in denying the defendant's motion for a new trial. Although evidence of the criminalist's failure to pass proficiency tests was, contrary to the motion judge's ruling, both exculpatory and admissible, its nondisclosure was not sufficiently prejudicial to warrant a new trial.

Approximately two years after the defendant's trial, the prosecutor notified the defendant's appellate counsel that State police criminalist Erik Koester had failed several proficiency tests in trace evidence collection and blood spatter analysis. The State police crime laboratory informed Koester of the results in April, 2012, and immediately took corrective action against him. Classified as committing Level I "nonconformities," which raised "immediate and validated concern regarding the quality of work produced," Koester was removed

from certain duties, and his prior casework was examined for possible errors.

In denying the defendant's motion for a new trial, the motion judge found that the evidence was not exculpatory and was inadmissible to impeach Koester as unrelated misconduct, pursuant to Mass. G. Evid. § 404(b) (2017). He also found that the defendant failed to establish that this evidence would have affected the jury's verdicts, given that Koester's involvement in the investigation was limited, and the defendant already had suggested at trial that Koester's work was not thorough.

In reviewing the denial of a motion for a new trial, we "examine the motion judge's conclusion only to determine whether there has been a significant error of law or other abuse of discretion." Commonwealth v. Grace, 397 Mass. 303, 307 (1986). "Judges are to apply the standard set out in Mass. R. Crim. P. 30 (b)[, as appearing in 435 Mass. 1501 (2001),] rigorously and grant such a motion only if it appears that justice may not have been done" (quotations and citation omitted). Commonwealth v. DiCicco, 470 Mass. 720, 728 (2015). Where, as here, the motion judge was not the trial judge, and where there was no evidentiary hearing, we are in "as good a position as the motion judge to assess the trial record" (citation omitted). Commonwealth v. Phinney, 446 Mass. 155, 158 (2006), S.C., 448 Mass. 621 (2007).

In Brady v. Maryland, 373 U.S. at 87, the United States Supreme Court concluded that the government is constitutionally obligated to disclose material, exculpatory evidence for which a defendant has made a specific request. In United States v. Agurs, 427 U.S. 97, 107 (1976), this obligation was extended to material, exculpatory evidence for which the defendant has made only general requests, or even no request. To obtain a new trial on the basis of nondisclosed exculpatory evidence, a defendant must establish (1) that "the evidence [was] in the possession, custody, or control of the prosecutor or a person subject to the prosecutor's control"; (2) "that the evidence is exculpatory"; and (3) "prejudice." Commonwealth v. Murray, 461 Mass. 10, 19, 21 (2011). See Strickler v. Greene, 527 U.S. 263, 281-282 (1999) (evidence is favorable to accused if it is either exculpatory or impeaching).

i. Possession by the prosecution team. As the motion judge found, Koester was a member of the prosecution team and was aware when he testified that he had failed his proficiency tests. See Commonwealth v. Martin, 427 Mass. 816, 823-824 (1998) (prosecution's duty to disclose exculpatory evidence to defense extended to evidence in possession of chemist at State police crime laboratory who "has participated in the investigation or evaluation of the case and has reported to the prosecutor's office concerning the case").

ii. Exculpatory nature of evidence. "The Brady obligation comprehends evidence which provides some significant aid to the defendant's case, whether it furnishes corroboration of the defendant's story, calls into question a material, although not indispensable, element of the prosecution's version of the events, or challenges the credibility of a key prosecution witness." Commonwealth v. Ellison, 376 Mass. 1, 22 (1978). "Evidence may be favorable or exculpatory, and thus required to be disclosed, although it is not absolutely destructive of the Commonwealth's case or highly demonstrative of the defendant's innocence" (quotations and citation omitted). Commonwealth v. Laguer, 448 Mass. 585, 595 (2007). Rather, "exculpatory" in this context comprehends all evidence that tends to "negate the guilt of the accused" or support the accused's innocence (citation omitted). Id.

We agree, as the defendant argues, that this evidence was exculpatory. See id. "'[E]xculpatory . . . . is not a narrow term connoting alibi or other complete proof of innocence . . . ." Commonwealth v. Healy, 438 Mass. 672, 679 (2003), quoting Ellison, 376 Mass. at 22 n.9. This evidence falls under Brady; it could have been used to question Koester's competence as an expert witness, and to bolster the defendant's Bowden defense that the investigation was generally inadequate. See Bowden, 379 Mass. at 485-486.

We do not agree with the motion judge that admission of this evidence was barred by Mass. G. Evid. § 404(b)(1) for use by the defendant to contradict or discredit Koester on cross-examination. Section 404(b) provides that "[e]vidence of a crime, wrong, or other act is not admissible to prove a person's character in order to show that on a particular occasion the person acted in accordance with the character." "It is well established that impeachment by prior misconduct is not permissible." Commonwealth v. Andrews, 403 Mass. 441, 459 (1988). See Commonwealth v. Sleeper, 435 Mass. 581, 605-607 (2002) (applying rule of evidence to prior misconduct of expert witness).

The defendant, however, does not seek to impeach Koester for prior misconduct per se, but, rather, for misleading the jury. Koester testified to his qualifications and described the "extensive" training and the rigorous testing he was required to pass to attain his position at the laboratory. He described his duties as including the examination of "trace evidence." He did not mention his failure to pass a proficiency test in trace evidence collection, or his other deficient testing results.

Evidence tending to impeach an expert witness for incompetence or lack of reliability falls within the ambit of the Commonwealth's obligations under Brady. "The evidence [to be disclosed] must be favorable to the accused, either because

it is exculpatory, or because it is impeaching . . . ." Strickler, 527 U.S. at 281-282. See United States v. Bagley, 473 U.S. 667, 676 (1985) (both exculpatory and impeachment evidence may be favorable to accused under Brady standard). In Murray, 461 Mass. at 20, we held that the evidence at issue was potentially exculpatory because it could be used to impeach a witness by contradiction and for bias.

To a lesser extent, this evidence also was exculpatory because it bolstered the defendant's Bowden defense. See Bowden, 379 Mass. at 486 ("The fact that certain tests were not conducted or certain police procedures not followed could raise a reasonable doubt as to the defendant's guilt in the minds of the jurors"). "[E]xculpatory evidence includes evidence whose value allows a defendant to attack the thoroughness and good faith of an investigation, . . . typically in cases where the suppressed evidence is needed to impeach a government witness." Pham vs. Terhune, U.S. Dist. Ct., No. C 02-1348 PJH (N.D. Cal. Mar. 20, 2008). See United States v. Howell, 231 F.3d 615, 625 (9th Cir. 2000), cert. denied, 534 U.S. 831 (2001) (factual errors in police reports were exculpatory, requiring disclosure under Brady; errors raised opportunity for defendant to attack thoroughness and good faith of investigation, and mistakes constituted "textbook examples" of impeachment evidence).

iii. Whether the nondisclosure was prejudicial. We turn

to whether the nondisclosure of this evidence was so prejudicial as to warrant a new trial. The motion judge concluded that, as the defendant had presented no evidence that he had made any specific request for information concerning Koester's proficiency tests, the standard of prejudice is "the same standard used to assess the impact of newly discovered evidence, that is, 'whether there is a substantial risk that the jury would have reached a different conclusion if the evidence had been admitted at trial." Murray, 461 Mass. at 21, quoting Commonwealth. v. Tucceri, 412 Mass. 401, 413 (1992). To be granted a new trial, a defendant must establish that there is a reasonable possibility that the evidence would have made a difference in the jury's verdicts. See Laguer, 448 Mass. at 594. If the nondisclosed evidence, "in an over-all assessment, . . . does not carry a measure of strength in support of the defendant, the failure to disclose that evidence does not warrant the granting of a new trial." Tucceri, supra at 414.

In the circumstances here, the nondisclosure of Koester's failure to pass the proficiency tests did not rise to the requisite level of prejudice. Koester's involvement in the investigation of the defendant was limited; he collected evidence, tested items for the presence of human blood, and sent the samples along to the DNA laboratory. He was not directly responsible for the DNA testing that implicated the defendant in

the crimes. As the motion judge found,

> "[Koester] collected certain objects and impressions at the crime scene and later tested them for traces of human blood. His work did not directly match [the] defendant to those items -- other [State police] laboratory chemists did that through DNA analysis. His investigation did not link [the] defendant to the scene of the crimes --- [the] defendant's own testimony did that by his admission that he was present during the crimes and was involved in physical altercations at the Vieiras' apartment. The extent, not the fact, of [the] defendant's involvement in the events of February 18, 2011, was the central issue at trial. Koester's work neither proves nor disproves that issue."

The judge also noted that Koester's work had been reviewed by State police administration to determine if reexamination of evidence was required, and corrected reports would be issued where inaccurate information was noted; no corrected reports had been issued for this case.

Moreover, while the evidence of Koester's test failures was admissible and exculpatory, it would not have made a difference in the jury's thinking or verdicts. The actual DNA testing, in which Koester had no direct role, likely did the most damage to the defendant's case. We held in Sleeper, 435 Mass. at 607, that an expert witness's misrepresentation of his credentials does not typically create a "substantial risk that the jury would have reached a different conclusion" (citation omitted). "Newly discovered evidence that tends merely to impeach the credibility of a witness will not ordinarily be the basis of a new trial." Commonwealth v. Lo, 428 Mass. 45, 53 (1998),

quoting Commonwealth v. Ramirez, 416 Mass. 41, 47 (1993).

In addition, the nondisclosure of evidence of Koester's failed proficiency testing did not preclude the defendant from raising a Bowden argument. We agree with the motion judge's observation that the defendant "was able to make his general point to the jury without the evidence of nonconformities." Defense counsel questioned the competence of Koester's crime scene investigation by pointing out that he failed to find certain key items of evidence during his search of the apartment. See Commonwealth v. Elangwe, 85 Mass. App. Ct. 189, 196 (2014) ("Even if the impeachment of [witnesses] at trial on the bias at issue was not as effective or potent as it might have been [had the exculpatory evidence been offered at trial], that purpose was in fact accomplished" where jury were generally aware of witnesses' bias).

The facts here are not akin to those in Martin, 427 Mass. at 817, where we affirmed the allowance of a motion for a new trial because the nondisclosed evidence concerned the testing of lysergic acid diethylamide (LSD), the drug compound that caused the victim's death. The nondisclosed evidence here concerns an analyst's failings not directly related to the crimes at issue. Contrast Murray, 461 Mass. at 22-23 (affidavit of police officer who investigated street gang to which victim belonged where statements in affidavit contradicted testimony of gang-member

witnesses at trial); Commonwealth v. Gallarelli, 399 Mass. 17, 22–24 (1987) (laboratory report confirming absence of blood on knife seized from defendant arrested for stabbing); Commonwealth v. Bennett, 43 Mass. App. Ct. 154, 158–163 (1997) (evidence showing defendant could not have made telephone calls to victim because defendant was detained in correctional facility); Commonwealth v. Vaughn, 32 Mass. App. Ct. 435, 439–440 (1992) (information that detective would testify to seeing three sets of footprints at the crime scene, when detective initially reported that there were two sets of footprints).

d. Review pursuant to G. L. c. 278, § 33E. The defendant asks that we exercise our extraordinary power pursuant to G. L. c. 278, § 33E, and order a new trial or reduce his murder conviction to murder in the second degree. After carefully reviewing the record pursuant to our duty under G. L. c. 278, § 33E, we conclude that none of the asserted errors, standing alone or cumulatively, requires a new trial, and that there is no other basis on which to disturb the jury's verdicts.

Judgments affirmed.

Order denying motion for a new trial affirmed.